Profiles of Local Clean Air Innovation

Empowering Communities to Meet the Air Quality Challenges of the 21st Century

National Association of Local Government Environmental Professionals 2000

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Table of Contents

EXECUTIVE SUMMARY

Local governments across the nation are seeking new ways to clean the air and preserve local quality of life as they face tough air pollution challenges. Although Clean Air Act regulatory mandates since the early 1970s have resulted in substantial progress toward cleaner air, lasting approaches to improved air quality will require local innovation through the use of smart growth, transportation choice, clean energy, pollution prevention, regional collaboration, public participation, and other practices that current regulations do not foster. The National Association of Local Government Environmental Professionals (NALGEP) launched the Clean Air Partnership Project in 1999 to identify promising approaches to cleaner air at the local level and to promote federal and state policies and programs that can foster those approaches. This report, *Profiles of Local Clean Air Innovation*, presents the perspectives of local government officials who work every day to combat air pollution and create innovative programs to improve air quality.

Localities recognize that clean air is a foundation for preserving local quality of life, remaining economically competitive, and protecting the health of citizens

Across America, local governments play a key role in improving air quality in their communities. These localities recognize that clean air is a foundation for preserving local quality of life, remaining economically competitive, and protecting the health of citizens. However, localities face increasing air quality challenges from sprawl, mounting traffic congestion and vehicle emissions, and widespread emissions from industrial sources. There are increasing examples of local innovation taking place to address these air pollution challenges. This report profiles a number of innovative community-based initiatives and demonstrates the need for more incentives for these local activities.

Despite the progress achieved through controlling large smokestack and car emissions under the Clean Air Act, local environmental officials believe that one half of the clean air equation is still missing: incentives that empower communities to make innovative clean air practices a standard way of doing business at the local level. In fact, most localities believe that, although traditional Clean Air Act controls have led to cleaner air, federal and state air quality regulations must be coupled with innovative approaches to reducing emissions that involve shaping the way our communities grow and develop, transport citizens, power our homes and businesses, and manufacture and consume goods. By combining Clean Air Act controls with incentives for local innovation, America can better achieve clean air and healthy communities into the 21st century.

Local officials are ready to work in partnership with the U.S. Environmental Protection Agency (EPA) and other federal agencies, state governments, regional bodies, environmental organizations, and the private sector to launch a new approach to cleaner air. Local governments are uniquely situated to lead clean air strategies because they understand local conditions and can best influence local practices that connect environmental, economic development, and community goals. NALGEP has identified a number of ideas that can help empower localities to adopt new air quality strategies, create new resources and incentives for clean air innovation, foster regional cooperation on air quality goals, and enhance communication among all levels of government and the public. By

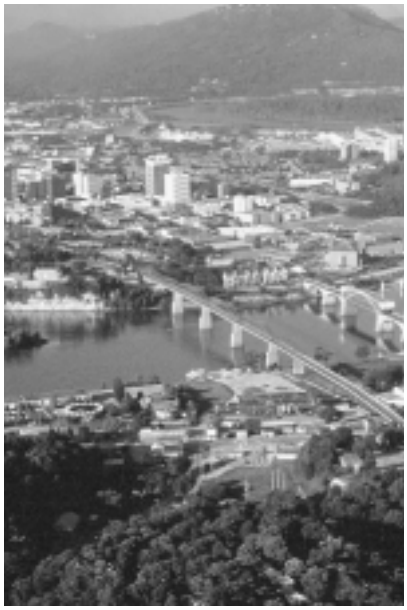
complementing the command-and-control requirements of federal law, this community-based approach to clean air can ensure the health and prosperity of American communities for the long term.

Profiles of Local Clean Air Innovation includes 20 findings that present the views of local government officials on new approaches and partnerships for clean air communities. Key conclusions that emerge from this report include:

- **LOCAL GOVERNMENTS ARE PLAYING A KEY, EMERGING ROLE** in air quality improvement.
- Local government officials believe that lasting **CLEAN AIR PROGRESS REQUIRES NEW, COMMUNITY-BASED APPROACHES** that complement traditional Clean Air Act controls.
- Localities need more Clean Air Act **FUNDING TO SUPPORT LOCAL CLEAN AIR INNOVATION** as well as stable sources of **FUNDING TO SUPPORT ONGOING AIR QUALITY PROGRAMS.**
- Localities need improved **TOOLS TO MEASURE THE EMISSION BENEFITS OF INNOVATIVE, COMMUNITY-BASED PRACTICES** such as smart growth, clean energy, alternative transportation, pollution prevention, and public outreach.
- EPA and the states should provide **REGULATORY CREDIT UNDER THE CLEAN AIR ACT FOR INNOVATIVE AIR QUALITY PRACTICES.**
- Localities need state and federal support to establish **REGIONAL AIR PARTNERSHIPS TO COORDINATE** air monitoring, planning, and control measures **ACROSS METROPOLITAN REGIONS** with common air pollution issues.
- EPA should launch **NEW OUTREACH AND TECHNICAL ASSISTANCE PROGRAMS TO ASSIST LOCAL GOVERNMENTS** in promoting innovative air quality projects.

To produce this report, NALGEP convened a Clean Air Task Force of 32 of the nation's leading local government environmental officials. NALGEP interviewed more than 85 local environmental, economic development, and transportation officials in cities, counties, and regional entities nationwide. The findings in this report propose many promising ideas for empowering local communities to achieve lasting air quality progress. From these ideas, NALGEP has identified 10 recommended actions for promoting community-based air innovation through new partnerships among local, state, and federal government as well as the private sector and nonprofit organizations.

Clearly, local innovation for cleaner air can make a major difference. For example, if all commercial and industrial building owners implemented existing strategies for energy-efficient buildings, they would shrink their cumulative energy bills by $130 billion by 2010



CHATTANOOGA, TN

and reduce greenhouse gas emissions by more than 350 million metric tons of carbon equivalent, eliminating emissions equivalent to those produced by 20 million to 30 million cars. (See EPA's *1998 Annual Report on Energy Star and Other Voluntary Programs.*) Likewise, new studies show that the redevelopment of urban infill areas with efficient designs could reduce energy use by 50 percent, decrease vehicle miles traveled by as much as 62 percent, reduce nitrogen oxide (NOx) emissions by as much as 87 percent, and reduce volatile organic compounds (VOCs) by up to 73 percent, compared to conventional development in greenfield areas . In this report, local officials explain that communities have only begun to tap the potential of these innovative strategies in smart growth, clean energy, transportation choice, and pollution prevention.

Rising public concern and the emergence of innovative partnerships, technologies, and strategies for reducing air pollution have created new opportunities to encourage innovative air quality practices at the local level. Moreover, many local clean air practices can result in benefits beyond public health and environmental achievements by promoting better patterns of growth, cleaner industry, more choices for consumers, and opportunities for collaboration. Without the dedication of all levels of government as well as the private sector, however, many American communities will remain teetering on the brink of dirty and unhealthy air, barely in compliance with complicated regulatory mandates. Local officials are eager for a more sustainable approach to clean air, and hope that this report will enhance the national dialogue on these increasingly important issues and spark further leadership to promote clean air communities.

SUMMARY OF NALGEP PROJECT FINDINGS

Interviews with local government environmental, air quality, transportation, planning, and economic development officials yielded 20 findings on fostering innovative clean air practices at the local level.

Cleaning the Air from the Ground Up: The Important Role of Local Governments

Local governments can serve as the foundation of a new approach to cleaner air, one that is based on innovative local practices that enhance and go beyond regulatory compliance.

FINDING 1: Local governments increasingly recognize that healthy air is fundamental to quality of life and economic progress.

FINDING 2: Local environmental officials believe that new, community-based approaches are needed to supplement command-and-control requirements.

FINDING 3: Local governments are uniquely suited to implement community-based clean air solutions.

FINDING 4: Local governments face a number of difficult barriers to clean air innovation, including lack of funding, lack of integrated air quality strategies, lack of regional cooperation, lack of measurement and credit for innovative air practices, and lack of information and outreach.

Empowering Clean Air Communities

To empower clean air communities, all levels of government must foster community-based innovation, promote regional cooperation among localities, expand public funding for local clean air projects, and enhance intergovernmental communication.

Fostering Community-Based Innovation: Smart Growth, Clean Energy, Transportation Choice, and Pollution Prevention

Finding 5: Local governments seek ways to improve air quality through smart growth practices that decrease sprawl and associated air emissions.

Finding 6: Local governments seek incentives for green building and clean energy practices.

Finding 7: Localities seek increased federal resources and incentives to provide transportation choices that reduce vehicle miles traveled and automobile emissions.

Finding 8: Local air improvements require additional efforts to promote pollution prevention by municipalities and businesses.

Finding 9: Local environmental officials seek regulatory credit for voluntary local air practices along with tools for measuring the emission benefits of those practices.

Clean Air Cooperation across Local Boundaries: The Need for Regional Approaches

Finding 10: Air quality planning must be addressed at metropolitan and regional levels and integrated with development, transportation, and other cross-boundary issues.

Finding 11: Airshed planning and control boundaries should coincide with regional sources of air quality problems.

Finding 12: Additional air monitoring is needed to determine the regional sources of local air quality problems.

Cincinnati, OH

Funding Local Clean Air Innovation: The Need for More Clean Air Resources

Finding 13: Local governments need direct federal funding for innovative local air quality projects.

Finding 14: Local environmental officials face increasing responsibility for meeting air quality mandates, even as Clean Air Act Section 105 funding decreases.

Finding 15: Local governments are concerned about the loss of funding that results from reaching attainment goals and seek more resources to preserve clean air.

Finding 16: Local environmental officials believe that the CMAQ process must be improved so that more funds are directed toward air quality initiatives rather than road-upgrade projects.

Finding 17: Local officials are developing new mechanisms to obtain local funding for innovative air improvement programs.

Spread the Word: The Need for Improved Communication and Public Education

Finding 18: Local governments seek improved communication with federal, regional, and state air officials as well as better access to information on emerging air quality issues and innovations.

Finding 19: Local air officials need to improve both local interagency coordination, and communication to local elected officials about the benefits of continued air quality improvement.

Finding 20: EPA, states, and local governments seek improved communication tools to inform the public about the link among citizen practices, clean air,

RECOMMENDED ACTIONS TO PROMOTE CLEAN AIR COMMUNITIES

NALGEP and the Clean Air Task Force found that local government officials are eager to work with EPA and the states to launch new strategies for cleaner air — strategies based on fostering innovative local air practices in smart growth, clean energy, pollution prevention, and citizen participation. NALGEP presents the following recommended priority actions that EPA, states, and local governments can implement in partnership.

and quality of life.

Action Item 1

EPA should establish a federal fund under Section 103 of the Clean Air Act for local clean air demonstration projects that promote cleaner air through smart growth, vehicle emission reductions, pollution prevention, clean energy, multi-pollutant reduction strategies, and other innovative approaches to meeting clean air mandates and objectives. The proposal for a "Clean Air Partnership Fund" under Section 103 is strongly supported by local governments.

Action Item 2

EPA should finalize guidance providing State Implementation Plan (SIP) credit and other regulatory incentives for community-based practices that reduce air pollutant emissions. EPA already has issued guidance that allows voluntary vehicle emission-reduction measures taken at the local level to count for up to 3 percent of the reductions required in SIPs. In addition, EPA is considering guidance that would allow localities to receive credit for better land use policies and practices in SIPs and transportation conformity determinations. EPA has also issued draft guidance allowing voluntary actions by local sources of pollution — such as retail stores, farms, municipalities, and individual consumers — to count for another 3 percent of the reductions required in SIPs. NALGEP found that local environmental officials strongly support the EPA guidances providing Clean Air Act credit for smart growth and voluntary local practices and urge them to be finalized. For all of these potential policies aimed at providing incentives for local clean air practices, NALGEP urges EPA and the states to provide outreach and technical assistance to local governments on their use as well as funding for pilot demonstration projects by localities.

Action Item 3

EPA, states, and academic institutions should develop better tools to help localities quantify the emission benefits of smart growth, alternative transportation, clean energy, public outreach, and pollution prevention practices. Without improved modeling tools to determine the emission benefits of community-based, innovative air practices, local governments will not be able to use those practices effectively or get regulatory credit for their implementation. Several tools are currently under development at EPA. NALGEP encourages EPA's Office of Research and Development and Office of Air and Radiation to continue to work with academic institutions and other credible entities to establish enhanced modeling tools. EPA also should work with its regional offices to consider how modeled emissions reductions from innovative local practices can be incorporated into air quality planning. In addition, EPA should widely disseminate information about the modeling tools developed to measure innovative local air practices, and provide technical assistance and training to state and local air planners on the use of these new mod-

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Recommended Actions to Promote Clean Air Communities
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eling tools.

Action Item 4

EPA AND THE STATES SHOULD IDENTIFY ADDITIONAL FUNDING TO SUPPORT LOCAL AIR QUALITY PROGRAMS, PARTICULARLY FOR MONITORING URBAN AIR TOXICS, PM-2.5, AND TRANSPORTED OZONE POLLUTION IN METROPOLITAN REGIONS. Local governments expect to face a number of new air quality responsibilities associated with the new PM-2.5 standard, the developing Urban Air Toxics Strategy, and the pending designation of 8-hour ozone standard areas. However, localities will be unable to effectively monitor for these pollution concerns without a dedication of adequate Clean Air Act resources for additional monitoring. Localities need additional federal and state resources for these clean air priorities, in addition to the commitment of local resources.

Action Item 5

EACH REGIONAL EPA OFFICE SHOULD DESIGNATE A STAFF PERSON AS A "CLEAN AIR COMMUNITY LIAISON" TO PROVIDE TECHNICAL ASSISTANCE AND OUTREACH TO LOCAL GOVERNMENTS ON CLEAN AIR ACT COMPLIANCE AND INNOVATIVE APPROACHES TO CLEAN AIR. These coordinators would help connect local officials with useful contacts in the federal government, private sector and nonprofit organizations, and other communities; provide education and outreach to help local officials implement clean air projects; and spend significant time in the field working with localities.

Action Item 6

EPA SHOULD ESTABLISH A NATIONAL "CLEAN AIR SHOWCASE COMMUNITIES" PILOT PROGRAM THAT PROVIDES GRANT FUNDING, STAFF, TECHNICAL ASSISTANCE, AND FEDERAL INTERAGENCY RESOURCES TO SUPPORT INNOVATIVE AIR QUALITY INITIATIVES IN A TARGETED NUMBER OF LOCAL GOVERNMENTS. Modeled on the Brownfields Showcase Communities initiative, EPA would provide each pilot community with a federal staff person under the Intergovernmental Personnel Act. Clean Air Showcase pilots also would receive Clean Air Act Section 103 research grants to help support innovative air quality projects. In addition, Clean Air Showcase pilots would receive coordinated interagency assistance from federal agencies whose actions can influence local air quality, including EPA, the Departments of Transportation, Energy, Housing and Urban Development, the Economic Development Administration, the General Services Administration, the National Institute for Environmental Health Sciences, and other appropriate agencies.

Action Item 7

EPA AND THE STATES SHOULD SUPPORT THE ESTABLISHMENT OF "REGIONAL CLEAN AIR PARTNERSHIPS" AT THE METROPOLITAN LEVEL TO COORDINATE AIR MONITORING, PLANNING, AND CONTROL MEASURES ACROSS LOCAL BOUNDARIES. Regional Clean Air Partnerships would convene local air quality, transportation, planning, and development officials along with state officials to identify strategies for reducing air emissions associated with expanding metropolitan areas and their bedroom communities. The Regional Clean Air Partnerships could be convened and promoted through existing bodies such as councils of government or metropolitan planning organizations, or could be newly created, as appropriate for local and regional circumstances. With EPA seed funding and facilitation, the partnerships could develop regional air action plans and identify areas for further federal and state support.

Action Item 8

The U.S. Department of Transportation (DOT) should issue rules to prioritize Congestion Mitigation and Air Quality (CMAQ) funding for local air improvement projects over road-upgrade projects. Local environmental officials need CMAQ funding to pursue local reductions in vehicle miles traveled and other air quality strategies. But in many localities the criteria and practices used for the award of CMAQ funding are skewed toward road projects. DOT should work with EPA, local governments, and other stakeholders to identify how CMAQ funding can be directed to local air quality projects. One DOT priority could be the issuance of regulations or guidance directing state and local funding agencies to dedicate some portion of CMAQ funding to local projects that focus on the "AQ" aspect of the program. DOT could also direct CMAQ funding organizations to revise their funding criteria to eliminate the bias against air quality projects that are not designed to relieve traffic congestion. Any DOT action should be accompanied by efforts to educate state and local funding organizations about the benefits of local clean air projects and air quality improvement.

Action Item 9

The federal and state governments should establish fueling stations for alternative fuel vehicles at government facilities and other strategic locations that are accessible to municipal and private sector alternative fuel vehicle fleets. The establishment of these fueling centers can help overcome a major hurdle to increased local use of alternative fuel vehicles and help stimulate the markets for these vehicles. A comprehensive effort by EPA, DOT, and allied federal and state agencies to establish a nationwide network of compressed natural gas, electric charging, biofuel, and other alternative fueling stations could provide a backbone of infrastructure for one of the most promising clean air options available to local communities. Coupled with ongoing local, state, and federal efforts to convert vehicle fleets to alternative fuels, this infrastructure network could make a major improvement in local air quality. Furthermore, by using strategically located federal and state facilities to place these alternative fueling stations, the effort could send a strong signal to citizens about the importance of the effort. Other strategic locations for fueling stations could include "USTfields," which are abandoned gas stations in local communities that have been contaminated by leaking underground storage tanks.

Action Item 10

Local governments should form a "Clean Air Communities Network" to share information about promising local air innovations, promote new air quality initiatives, and coordinate among local, regional, state, and federal air quality officials. The network would ensure that the recommended actions in this report are actually implemented. The network should include local officials from a broad cross-section of areas, including officials from environmental, air quality, transportation, planning, public health, public works, and economic development departments. A focus of the network would be to promote cleaner air through innovative local practices in smart growth, transportation choice, clean energy, and pollution prevention. Once established at a national level, the network could serve as a model for the establishment of similar air quality networks for localities at the regional level.

PROJECT METHODOLOGY

NALGEP launched the Clean Air Partnership Project because its local government members believe that the challenge of achieving healthy air quality in the 21st century requires new approaches that complement traditional Clean Air Act controls.

NALGEP first convened a Clean Air Task Force of 32 local government environmental officials from across the nation to guide and oversee the project. After the Clean Air Task Force identified the primary issues for research and analysis, NALGEP staff conducted more than 85 telephone interviews with local government environmental, economic development, and transportation officials throughout the nation to gather their perspectives on air quality issues. The officials were selected so as to provide diverse perspectives from a variety of geographic locations, population sizes, and disciplines.

Based on the results of these interviews, NALGEP developed the findings and action items contained in this report. The findings were reviewed and refined through consultations with organizations that included the State and Territorial Air Pollution Program Administrators and the Association of Local Air Pollution Control Officials (STAPPA/ALAPCO), the EPA Office of Air and Radiation, the EPA brownfields office, the U.S. Conference of Mayors, the National Association of Counties, the Center for Clean Air Policy, the International City/County Management Association, the American Public Power Association, the National Association of Regional Councils, and the Association of Municipal Planning Organizations. The findings and recommendations in this report emphasize the priority issues for local government officials on the subject of maintaining healthy air quality at the local level.

INTRODUCTION

In Anytown, USA, Mayor Clene Aer struggles with the challenges that the nation's booming economy, sprawling development, and increasing vehicle use pose to her community's health and quality of life. Although the air is much safer to breathe than it was in 1970 when the Clean Air Act was enacted, an air quality monitor has recently measured several unhealthy ozone levels. Smog hangs over Anytown on most summer days and Mayor Aer has no answers for residents who ask whether poor air quality is the cause of asthma attacks and other health problems. Mayor Aer is concerned that her local government will soon fall into noncompliance with federal air quality standards, bringing economic restrictions that would harm business and cost jobs.

Since the industrial shift from heavy manufacturing to high-tech in Anytown, smokestacks are no longer the primary source of pollution and traditional air quality controls do not address the community's long-term air quality challenges. Moreover, the funding Anytown receives to comply with federal air quality mandates has diminished in the past decade.

Mayor Aer is searching for innovative solutions and wants to work in partnership with Anytown's neighboring municipalities to develop strategies that manage regional growth, provide transportation choices, use clean new technologies, and improve public outreach. However, resources and incentives do not currently support Mayor Aer's plans. Federal, state, and local air quality staff are consumed with the paperwork necessary to meet command-and-control requirements. Mayor Aer's ideas enjoy widespread public support, making Anytown ideally situated to launch innovative air quality initiatives, but the town is not yet empowered to alter its course.

Many local officials want a new approach to cleaner air — one that couples community-based innovation with traditional Clean Air Act controls.

The plight of Anytown could describe many American communities today. The 21st century presents new challenges for local communities seeking to achieve and maintain healthy air quality. Great progress has been achieved since the Clean Air Act was passed in 1970, and the air quality in many local communities is becoming steadily cleaner. However, despite continued improvements in air quality across America, more than 130 million people still lived in counties with unhealthy air in 1998, and the total number of days with unhealthy air quality values increased for most cities across America between 1989 and 1998, according to EPA's 1998 *National Air Quality and Emissions Trends Report*. The EPA report also indicates that emissions of nitrogen oxides (NOx), which contribute to the formation of smog, increased 11 percent between 1970 and 1997. Many rural areas and national parks have experienced high levels of some air pollutants which have been transported many miles from their original source. Between 1950 and 1990, passenger vehicle miles grew at a rapid rate of 4.2 percent each year. In June 2000, hundreds of localities are expected to report that their air does not meet the recently established, health-based standard for ozone.

The progress achieved since the passage of the Clean Air Act is being undermined by the emissions from booming industry and burgeoning vehicle use. New environmental and regulatory challenges loom as the nation seeks to address ozone, fine particulate matter, air toxics, and increasing greenhouse gas emissions. Although many stationary sources of air pollution are controlled, the toughest challenges of air pollution still require fundamental changes in

practices by citizens, small businesses, and dispersed area sources.

Cities and counties experience firsthand the results of air pollution: public health threats, polluted neighborhoods, slowdowns in economic development, and regulatory complexities that come from dirty air. Faced with these environmental consequences, many local officials want a new approach to cleaner air — one that couples community-based innovation with traditional Clean Air Act controls.

NALGEP's interviews with local environmental officials revealed strong local support for the current Clean Air Act as well as for action by EPA and the states to implement national and regional control measures for emission reductions. For instance, most local government environmental officials believe that EPA's "NOx SIP Call" rule should be implemented on time in order to reduce regional ozone transport through emission reductions from electric generators and industrial boilers. Although many local officials lament the amount of time and resources that have been expended in disputes and litigation over the SIP Call, they support EPA's commitment to this effort.

Likewise, local environmental officials strongly support the implementation of the Phase II tailpipe, sport-utility vehicle (SUV) emission standards, heavy-duty truck standards, and low sulfur gasoline requirements. For instance, the State and Territorial Air Pollution Program Administrators and the Association of Local Air Pollution Control Officials (STAPPA/ALAPCO), which has represented state and local air managers for more than 25 years, has issued a number of statements supporting national and regional air control measures as necessary to support local air quality objectives.

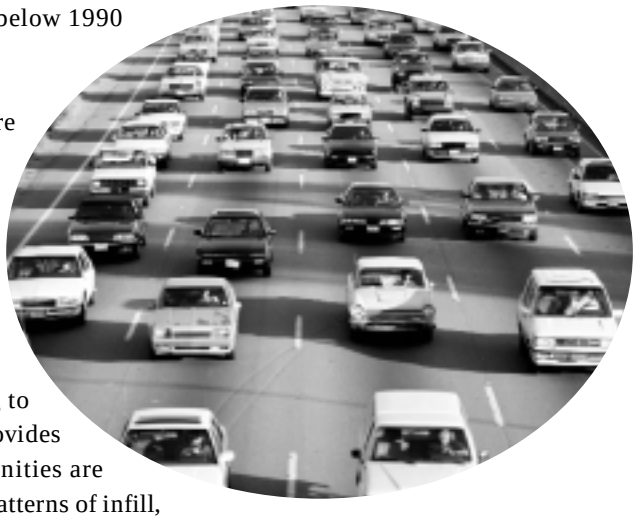
As Art Williams of Jefferson County, Kentucky, made clear, "Local governments cannot clean the air alone and cannot control the pollution that transcends our political and local boundaries. We need a dedicated approach to Clean Air Act controls from EPA and all of our states."Indeed, NALGEP's interviews showed that many local environmental officials believe that additional national and regional measures are justified, including controls on mobile and area sources of air toxics as well as higher vehicle efficiency standards. NALGEP therefore encourages EPA to pursue reasonable national and regional controls on the sources that are most cost-effective to control and urges states to support and enhance these measures.

At the same time, local environmental officials know that lasting progress on air quality requires new strategies that enhance traditional Clean Air Act controls. Regardless of the official regulatory requirements that may be established under

the Clean Air Act, local officials know that more progress needs to be made in improving air quality. As Chicago Mayor Richard Daley has stated:

> No one can argue with the goal of improving the quality of our air. Whether for health, quality-of-life, or economic reasons, the fact is that all of us — especially residents of urban areas, where pollution problems are most critical — want less soot and smog…. The major source of smog and soot is no longer big industry. Right now, over half of our air pollution comes from emissions from cars, trucks, and boats.

Many localities are looking for a new approach to clean air and healthy communities. One example of an important initiative that has spurred local action on air quality improvement is the Cities for Climate Protection Campaign, sponsored by the International Council for Local Environmental Initiatives (ICLEI). This initiative, under which communities establish targets for reduction of greenhouse gases, has helped more than 65 cities and counties in America to pursue emission reduction projects. ICLEI is recruiting cities that together account for 10 percent of global anthropogenic emissions and encouraging them to reduce certain greenhouse gas emissions by 20 percent below 1990 levels by the year 2010.



Local officials are also encouraged that EPA and many states are taking positive steps to promote sustainable local air quality projects. This report describes recent EPA and state policy and programmatic efforts that support local smart growth, brownfields redevelopment, vehicle travel reduction, and other voluntary pollution-reducing projects. NALGEP commends these efforts and urges further progress in these areas.

NALGEP has also found that America's new economy is leading to a new brand of economic competition among localities that provides great opportunity for air quality improvement. Many communities are now competing for environmentally preferable industry; better patterns of infill, brownfields, and mixed-use development; and new transit projects. This emphasis on economic development that meets local environmental goals represents a shift away from traditional economic development and its impact from new smokestacks and traffic. The City of Chattanooga, Tennessee, for example, has focused its recent economic development on tourism, technology innovation, and concepts like zero-emissions manufacturing in order to attract global capital while maintaining livability. In Washington County, Oregon, officials negotiated an innovative deal with the Intel Corporation that will promote economic development within the county while preventing overdevelopment pressures that would threaten the region's character and environmental quality. The deal includes a provision that would require Intel to pay a "growth impact fee" of $1,000 per excess worker if the company surpasses a limit of 1,000 new manufacturing jobs.

Unfortunately, these innovative approaches remain the exception rather than the rule. Most communities report that the traditional economic competition among localities often leads to development that conflicts with environmental goals.

CHATTANOOGA, TN

Local governments across America seek to integrate environmental concerns, economic development, and quality of community life. New tools are emerging in the areas of smart growth, environmental technology, industrial ecology, and pollution prevention. The new economy provides a chance for increased coordination on a regional basis. Citizens at the local level are using the Internet and innovative forms of grassroots participation to shape the way their communities move toward environmental and quality of life objectives. Those trends and opportunities make the beginning of the 21st century an ideal time for communities to work in partnership with each other as well as with state, regional, and federal government to achieve cleaner air and healthier communities.

BASICS OF THE CLEAN AIR ACT

THE CLEAN AIR ACT WAS PASSED IN 1970 AND AMENDED IN 1977 AND 1990. It establishes a cooperative regulatory system among the federal EPA, state governments, and local agencies. EPA establishes overall National Ambient Air Quality Standards (NAAQS) for seven criteria air pollutants, including ozone, volatile organic compounds (VOCs), nitrogen dioxide (NO_x), carbon monoxide (CO), particulate matter (PM), sulfur dioxide (SO_2), and lead. States take the lead role in developing State Implementation Plans (SIPs) which determine the strategies and controls that will be put in place to attain the EPA standards for criteria air pollutants. EPA approves the SIPs and can also require states to take further action to prevent air pollution from crossing state boundaries and contributing to nonattainment in other states. EPA also sets emissions standards and specifies control technologies for sources of 188 hazardous air pollutants or "air toxics." The air pollution programs are implemented by states and local entities through regulatory tools that include operating permits for sources of pollution, inspections, enforcement, public participation processes, technology and emission offset requirements for new and modified stationary sources, and a pollution "cap-and-trade" program for acid rain and NO_x emissions from utility and industrial boilers. EPA provides Clean Air Act funding to states and localities to conduct the programs, including program management money under Section 105 of the Act, and research and demonstration project funding under Section 103.

EPA also plays a lead role in regulating air emissions from mobile sources of pollution, including cars, trucks, buses, off-road vehicles, and other sources. Regulatory programs include requirements for cleaner vehicle fuels, requirements for cleaner cars and vehicle fleets, requirements for vehicle inspection and maintenance programs, standards for non-road vehicles, and transportation policies to reduce vehicle miles traveled and encourage transportation demand management.

Several major developments that may affect local governments have taken place under the Clean Air Act in recent years:

- **In 1997, EPA established a new, more stringent 8-hour ozone standard and will require designations of ozone nonattainment areas in 2000 and 2001, although the implementation of the standard is under review in the federal courts.**
- **EPA established a new standard for fine particulate matter or "PM-2.5" in 1997, although that standard has also been set aside in federal court.**
- **In 1998, EPA established a series of rules to reduce the transport of ozone pollution across state lines to take effect in 2003. These rules include "new source performance standards" for new utility boilers, and the "NO_x SIP Call" and Section 126 rules, which are aimed at NO_x emissions from existing and new power plants and large industrial boilers.**
- **In 1999, EPA finalized a "Regional Haze" rule that will improve visibility in national parks and wilderness areas by requiring states to establish visibility goals and emissions reduction strategies, develop visibility monitoring, and require certain industrial sources to apply "best available retrofit technologies" on their plants.**
- **Also in 1999, EPA launched an "Integrated Urban Air Toxics" strategy, which will establish a comprehensive framework for identifying and reducing air toxics pollution in urban areas. This strategy will work to set standards and emission reduction strategies for 33 hazardous air pollutants from 16 specified stationary and mobile source categories.**
- **In 1999, EPA established the "Tier II Tailpipe and Low Sulfur Gasoline" rule, which will set uniform tailpipe emission standards for all passenger cars, light trucks, vans, minivans, and sport-utility vehicles operating on any fuel. The rule also requires petroleum refiners to reduce the level of sulfur in gasoline nationwide.**

SECTION 1: CLEANING THE AIR FROM THE GROUND UP

THE IMPORTANT ROLE OF LOCAL GOVERNMENTS

Local environmental officials and air programs play a key role in keeping air quality healthy at the local level. As the front line in air planning, implementation, and public outreach, local governments understand local conditions and how to influence citizens and businesses to take steps to reduce unhealthy air pollution emissions. As partners with the states and EPA in the implementation of Clean Air Act requirements, local officials help maintain progress in air pollution reduction. And, as the sponsors of innovative new approaches to pollution prevention and clean development in their communities, local environmental officials are poised to foster long-term improvements in the quality of life and health of citizens.

Following are NALGEP's findings on the important role of local governments in clean air.

FINDING 1

Local governments increasingly recognize that healthy air is fundamental to quality of life and economic progress.

The foundation of the local government commitment to cleaner air is the growing realization that healthy air is essential to quality of life and economic competitiveness in the new economy, in which businesses, workers, and capital are mobile. Local government officials rate clean air as one of the top factors in local quality of life. In a 1999 report by the American Institute of Architects, *Survey of State and Local Officials on Livable Communities*, municipal officials rated air and water quality as the most important factor in what makes a community "livable," ranking this factor higher than quality of educational facilities, affordable housing, availability of quality commercial development, quality of public transportation, and other factors.

The view that air quality is key to local quality of life is emphasized by the experience of communities with significant air pollution challenges, where problems like numerous "ozone red alert" days or perceived impacts of air toxics emissions on local neighborhoods can lead to strife, health problems, stifled economies, and job relocation. Citizens suffering from these air pollution problems often perceive that their locality is in decline or "going in the wrong direction," even if the local economy is strong.

This recognition that economic and environmental progress are intertwined has led to a shift in attitudes among many local officials on the role of the environmental regulatory system. Local environmental officials increasingly see the role of environmental protection as going beyond a costly, compliance-focused activity to a value-added component of protecting the local quality of life. Many municipalities that take an active role in local air quality improvement believe that the benefits to health, environmental quality, and economic competitiveness outweigh the costs of compliance and regulation. Indeed, NAL-

GEP has found that communities across America are going beyond mere compliance strategies to use cleaner air as a focal point for quality of life and economic progress. This view is particularly strong where local governments feel empowered to adopt local air quality strategies, rather than merely forced to meet uniform federal and state mandates. Dennis McLerran of the Puget Sound Clean Air Agency observed that "localities need to break out of the box set by federal air regulations and set their sights on going beyond compliance with innovative air quality programs."

CHICAGO, IL

CLEAN AIR IS GOOD BUSINESS

Local environmental officials — and their elected leaders — see clean air as key to economic competitiveness because air quality has a direct impact on business recruitment and retention, the ability of local businesses to attract qualified labor, and the stringency of the regulatory climate. As Bill Abolt of the Chicago Department of Environment stated, "Chicago sees clean air innovation as an economic strategy that we will use to create, attract, and keep business and jobs in our city."

The local desire to achieve cleaner air is highlighted by examples of communities losing business as a result of air quality problems. Recently, the Hewlett-Packard company announced that it would not expand a major corporate facility within Atlanta, in large part because of the traffic congestion and unhealthy air quality that would affect its workers. The City of Indianapolis, which has struggled with ozone attainment, reports that it has lost steel manufacturers, painting facilities, and automobile manufacturing facilities because of business concerns with the stringency of Clean Air Act requirements within the city limits. NALGEP found similar struggles in many other local communities, where the perception or reality of unhealthy air quality plays a role in business decision-making. Although environmental regulation is not necessarily a "deal-breaker" in business locational decisions, local officials widely perceive the quality of the local environment and the regulatory climate as significant influences on business decision-making. Moreover, it cannot be estimated how many businesses decided against even initially approaching a particular local community because of a perception of environmental and regulatory barriers to locating new facilities.

> **"Chicago sees clean air innovation as an economic strategy that we will use to create, attract, and keep business and jobs in our city."**
>
> **Bill Abolt**
> **Chicago, IL**

With local public health and quality of life increasingly recognized as vital to the economic progress of communities, it is clear why so many local environmental officials are eager for innovative strategies for sustaining clean air quality.

FINDING 2

Local environmental officials believe that new, community-based approaches are needed to supplement command-and-control requirements.

Local environmental officials seek opportunities to implement new approaches for cleaner air to supplement the Clean Air Act regulatory system. Local government environmental officials believe that current Clean Air Act regulatory programs will not achieve their long-term air quality objectives. Many localities report that they teeter on the brink of attainment with national air quality standards and that they fear an inability to maintain healthy air "as the economy booms and the cars zoom." Many local officials echo the lament of Jacqueline Lentz of the Houston Air Quality Control Bureau, who said that "the low-hanging fruit of stationary sources is almost gone. We need creative new strategies or we will never reach healthy air quality levels."

> "Our communities have not yet made clean air decisions the common practice for people… We need a new approach to make clean air decisions second nature."
>
> Jim Caldwell
> Montgomery County, MD

In addition to controls on large smokestacks and automobiles, lasting progress in air quality will require a shift in the way that local communities grow and develop, consume and conserve energy, provide transportation choices, and foster pollution prevention activities at the local level. However, NALGEP's interviews confirm a widespread view that sustainable local practices in these areas have not become the standard way in which most communities function. Local environmental officials note that institutional, economic, and information barriers have kept innovative clean air practices from becoming more widespread. Jim Caldwell with the Montgomery County, Maryland, Department of Environmental Protection noted, "Our communities have not yet made clean air decisions the common practice for people, the way things like recycling are now common practice. We need a new approach to make clean air decisions second nature."

FINDING 3

Local governments are uniquely suited to implement community-based clean air solutions.

Local governments are ready to take the lead in fostering a new approach to air quality and are ideally situated to promote the changes among businesses and citizens that are needed to achieve continuing clean air progress. For instance, in the fast-growing community of Alachua County, Florida, the County Commission has made sustainable growth and clean air policies its top priority. Chris Bird with the Environmental Protection Department explained that the county wants to be active in fostering better patterns of development and the use of pollution prevention to achieve air emission reductions that cannot be obtained through federal or state regulation. "The county realizes that its destiny is in our own hands and that we have limited opportunities to preserve our resources and quality of life. We are going to make use of this opportunity."

Local governments have a long-standing history of protecting the public health and environment from air pollution. However, with the emergence of state air regulation and, in the early 1970s, Clean Air Act requirements, the focus of air quality improvement shifted to an emphasis on uniform, command-and-control requirements on stationary and mobile sources of air pollution. This Clean Air Act regime of the last quarter of the 20th century has made a tremendous, positive difference for the public health and environment.

"Clean air must stand on two legs — the leg of national regulatory controls and the leg of innovative community practices. We have been standing on one leg for too long in America. We need to put the other leg of local innovation firmly down upon the foundation of the Clean Air Act."

Bill Anderson
Minneapolis, MN

In fact, localities are integrally involved in the implementation of Clean Air Act mandates. More than 220 counties, cities, and local air quality districts take a lead role in air quality regulation and improvement. In addition, hundreds of localities support Clean Air Act implementation through compliance assistance and public education programs aimed at reducing emissions of criteria, hazardous, and greenhouse gas air pollutants.

Empowering Local Communities on Clean Air

However, with the focus on national Clean Air Act mandates over the past few decades local flexibility, resources, and involvement have suffered. As local officials have struggled to help implement federal and state regulatory requirements on stationary sources, they have not been sufficiently empowered to promote innovative community-based practices in energy conservation and efficiency, land use, alternative transportation, and pollution prevention.

Nevertheless, NALGEP found a strong desire on the part of many local governments to be empowered to improve air quality and take a larger role in clean air practices that can complement command-and-control requirements. "Clean air must stand on two legs," said Minneapolis Environmental Services Supervisor Bill Anderson, "the leg of national regulatory controls and the leg of innovative community practices. We have been standing on one leg for too long in America. We need to put the other leg of local innovation firmly down upon the foundation of the Clean Air Act."

Local governments are well positioned to lead such initiatives for many reasons:

- Local officials understand and track local conditions, including air pollution sources, growth patterns, transportation planning, and geographic and meteorological conditions.
- Local governments often have established relationships and shared objectives for improved air quality with the local business community, industry, nonprofit organizations, and other key stakeholders.

- Local governments are best situated to conduct public outreach and citizen participation programs that match local conditions and needs.
- As the manager of stationary, mobile, and area sources of air pollution such as utilities, vehicle fleets, buildings, and other municipal operations, local governments can take advantage of innovative, cost-effective environmental technologies and pollution prevention practices. In this way, localities can reduce air emissions, provide a positive example to the business community, and promote markets for environmentally preferable products.
- Local officials are best able to integrate economic development, public health, environmental, and social goals in their own communities.

The increasingly important role of localities in clean air innovation is highlighted by a recent report, *Air Quality Tools: Local and Regional Strategies to Reduce Air Pollution*, issued by the International City/County Management Association (ICMA). The report profiles examples of proactive local and regional programs that address air quality and provides information on the results achieved by these programs, with a focus on the areas of mobile sources, transportation, land use management, energy efficiency, and community and business programs.

FINDING 4

Local governments face a number of difficult barriers to clean air innovation, including lack of funding, lack of integrated air quality strategies, lack of regional cooperation, lack of measurement and credit for innovative air practices, and lack of information and outreach.

Local governments are eager to implement new, innovative air quality approaches, but significant barriers threaten to undermine the progress achieved with the Clean Air Act.

Lack of Funding

Financial and technical resources from federal and state air programs are not adequate to support air quality progress at the local level. Funding for regulatory, monitoring, and compliance programs is decreasing, even as federal and state mandates increase. Furthermore, local governments lack the resources to promote community-based innovation in air quality.

Lack of Integrated Air Quality Strategies

At all levels of government, a detrimental lack of coordination exists among environmental, economic development, and transportation strategies for multi-pollutant air quality goals. Likewise, many local governments are not adequately included in federal and state air quality planning, policy development, and implementation. In addition, many local environmental managers have not communicated effectively with other key municipal and county officials whose decisions directly impact air quality.

Lack of Regional Cooperation

Jurisdictional, regulatory, and economic impediments to regional cooperation on air quality issues persist. Although automobiles, sprawling development, and area and industrial source pollution are crossing jurisdictional lines, local governments have not achieved the level of partnership necessary to address these problems on a regional basis.

Local governments are eager to implement new, innovative air quality approaches, but significant barriers threaten to undermine the progress achieved with the Clean Air Act.

Lack of Measurement and Credit for Innovative Air Practices

Localities lack the tools for measuring the emission benefits of voluntary local practices, and regulatory policies have failed to credit those emission reducing strategies. Although smart growth, clean energy, environmental technology, pollution prevention, regional cooperation, public education, and other innovative strategies certainly contribute to improved air quality, the inability to measure and model the benefits of those practices has frustrated local governments seeking credit in SIPs and transportation conformity negotiations.

Lack of Information and Outreach

Local environmental officials experience difficulty obtaining information on successful air quality practices in other communities. Although local officials network successfully on traditional Clean Air Act issues, few localities have access to information on how other local governments are using innovative, community-based practices to improve air quality. Local air officials also acknowledge that public outreach and local education on air quality must improve to affect citizen behavior.

SECTION 2: EMPOWERING CLEAN AIR COMMUNITIES

The growing challenge of creating healthy communities and clean air in the 21st century calls for innovative, community-based approaches that complement federal regulatory requirements. This section of the report presents findings on the local view that lasting progress toward clean air requires more support for community-based innovation in land use, energy, transportation, and technology; increased regional cooperation among localities; new funding mechanisms to support local innovation; and better intergovernmental communication and public outreach.

Fostering Community-Based Innovation: Smart Growth, Clean Energy, Transportation Choice, and Pollution Prevention

FINDING 5

Local governments seek ways to improve air quality through smart growth practices that decrease sprawl and associated air emissions.

A top concern of local officials in all types of communities across the nation is that sprawling development patterns will make lasting clean air quality impossible. Sprawling growth is increasing vehicle traffic, placing new emissions sources beyond the control of local jurisdictions, and thwarting effective inter-jurisdictional coordination. As Doug Kukino of Glendale, Arizona, observed, "Continued progress needs to be made in improving air quality. We cannot simply rest on our laurels because the rapid pace of urban growth means more vehicle miles traveled."

Smarter Growth for Cleaner Air

Many local communities are exploring new growth management strategies as an air quality tool. In particular, localities seek ways to decrease the growth of vehicle miles traveled (VMTs) and vehicle emissions through better growth patterns that are less automobile-dependent. As EPA has recognized, some types of development patterns necessitate the use of a car, while other types can reduce reliance on cars and trucks for transportation. In some cases, such development patterns can mean shorter and fewer trips, thus reducing VMTs by cars and trucks and improving air quality; other development patterns have the potential to improve or mitigate air quality problems by providing and promoting alternatives to vehicular travel, such as mass transit, walking, or biking.

Metropolitan Washington, DC

Examples of better local practices are emerging. In places like Puget Sound and Vancouver, Washington, regional air quality agencies integrate air quality planning with comprehensive growth plans established by localities, which are required by the state's Growth Management Act. In Minneapolis, Minnesota, the city is using the rezoning process to promote infill development and discourage the siting of facilities with high air pollution emissions. And in Chicago, Illinois,

Mayor Daley has coordinated efforts of the Environment, Planning, Industrial Development, Housing, and Transportation Departments to use environmentally preferable infill and brownfields development to decrease sprawl and vehicle traffic for explicit air quality goals. The state of Oregon has created an urban growth boundary (UGB) that, by limiting development outside the City of Portland, 23 other cities, and the urban portions of three counties, fosters efficient use of existing land while preserving rural land and preventing urban sprawl in a fast-growing, economically vibrant region. Portland anticipates the UGB will improve the region's air quality by reducing automobile congestion and its resulting air pollution by 11 percent. According to Metro, the elected regional government that maintains the UGB, reductions in NOx emissions associated with the UGB played a significant role in Portland's recent attainment of the 1-hour ozone standard.

Many local communities are exploring new growth management strategies as an air quality tool.

The Air-Brownfields Connection

Hundreds of local communities are implementing brownfields and community revitalization programs to attract investment and development back to established city centers. Recognizing the air quality benefits that can result from infill development strategies that reduce emissions through VMT reductions and promote the development of "clean industry," some localities, including Atlanta, Baltimore, Charlotte, Chattanooga, Chicago, Dallas, Detroit, Miami-Dade County, and Portland, Oregon, have explicitly connected their brownfields revitalization initiatives to local air quality programs. Likewise, in 1998 EPA launched a project in cooperation with the U.S. Conference of Mayors and the Department of Commerce, called the Air-Brownfields Partnership, which will identify how urban brownfields revitalization in the cities of Baltimore, Chicago, and Dallas can be conducted in ways consistent with Clean Air Act objectives. These pilot projects are intended to serve as models for urban redevelopment.

Smart growth and brownfields revitalization hold great promise for reducing urban air pollution emissions. A 1997 study modeled air quality, traffic congestion, energy use, and infrastructure costs of hypothetical mixed-use development projects in San Diego, California; Montgomery County, Maryland; and West Palm Beach, Florida.[1] Modeling the results of the infill

CHICAGO USES THE SUN AND TREES TO CLEAN AIR AND BROWNFIELDS

A key component of the City of Chicago's clean air strategy is the revitalization of urban brownfields to help reduce the sprawling of the Chicago metropolitan region. One exciting project was launched in 1998 when the U.S. Department of Energy recognized and helped fund a Chicago brownfields project as the first "Brightfields Initiative" pilot. DOE's Brightfields Initiative is working with local governments and industry to link solar energy technologies to brownfields redevelopment. With the support of DOE, the City of Chicago and the Spire Corporation, a solar equipment manufacturer, will develop a solar energy products factory on the site of a former industrial facility, creating 100 new jobs. The new development will incorporate photovoltaic and other clean power designs as well as house Chicago's community gardening program. "This development will clean up an abandoned dump, attract an environmentally friendly industry to Chicago, and create jobs for neighborhood residents," said Mayor Daley. "The city and its partners are ensuring energy efficiency and reliability, and improved air quality."

"Through efforts such as our Brightfields Initiative project, the city is seeking to maximize the air quality benefits of smart urban redevelopment," said Bill Abolt, commissioner of the Chicago Department of Environment. "We want to show how downtown revitalization provides a new tool to meet Chicago's twin goals of cleaner air and economic development."

For more information, contact Bill Abolt with the City of Chicago at (312) 744-5714. Additional information is available online at www.ci.chi.il.us/Environment/Brownfields.

[1]William Schroeer and Eliot Allen, "The Impacts of Infill vs. Greenfield Development: A Comparative Case Study Analysis," U.S. Environmental Protection Agency, Office of Policy, EPA 231-R-99-005 (September 2, 1999).

development against the same type of developments located at the outer fringe of these localities, the study found drastic air quality improvements and other benefits from locating developments in the center cities. For example, the models showed a 48 to 62 percent reduction in VMTs and an associated 27 to 42 percent reduction in NOx emissions from the infill development projects. Another EPA-sponsored study in Dallas indicated that one infill development would yield a 73 percent reduction in volatile organic compounds (VOCs) and an 87 percent reduction in NOx emissions, compared with a representative development in a greenfield location. Tucson, Arizona, one of the fastest growing cities in the nation, is participating in the design and construction of a smart growth subdivision called Civano. The new development is expected to use 50 percent less energy, consume 54 percent less potable water, and produce 30 percent less waste than a subdivision built using standard development practices.

TUCSON, AZ

TOOLS ARE NEEDED TO MEASURE THE AIR BENEFITS OF SMART GROWTH

Local communities need better methods for quantifying the air emission benefits of urban revitalization strategies. The localities interviewed by NALGEP lack the capacity and tools to undertake such measurements. In a recent policy, EPA has recognized that the ability to quantify the emission-reduction benefits of land use policies and projects in air quality planning would encourage further dedication of funding for research into the impacts of such policies; educate local and state government officials about land use planning as a tool for transportation and emission control; add support to these kinds of policies in regional and local debates; and get people to start to think about the trade-offs between these and other measures.

Local officials are encouraged by recent efforts of the EPA Office of Air and Radiation and the Office of Development, Community, and Environment to develop smart growth and air quality measurement tools, such as the Smart Growth Index (see box), a model for measurement of the emission benefits of commuter choice programs, and a proposed guidance on "Recognizing the Air Quality Benefits of Local and State Land Use Policies and Projects in the Air Quality Planning Process." NALGEP encourages EPA to distribute those products widely and provide localities with technical assistance on their use.

EPA'S SMART GROWTH INDEX

Local communities seeking to use smart growth and better land use to improve air quality just got another tool — EPA's Smart Growth Index. The index is a geographic information system (GIS) sketch model for evaluating alternative land use and transportation scenarios on the basis of their land use, transportation, and environmental performance. The index allows the user to enter land use plans, transportation and infrastructure systems, and growth projections for an area. Individual, parcel-level land use plans or urban designs then can be entered along with transportation system characteristics. The plan is scored according to 24 performance indicators, which include outcomes such as land use consumption, housing and employment density, proximity to transit, travel costs, and pollution emissions.

The Smart Growth Index generates predictions that can help localities understand the environmental implications of different development plans, such as brownfields or infill development versus development on the ex-urban fringe. In this way, local planners and environmental officials can help shape land use decisions to meet air quality goals as communities grow. Although the index can be used with more sophisticated tools to determine the emissions benefit of various land planning approaches, it provides an excellent starting point for discussion between local governments and state and federal air planning authorities about innovative land use in SIP development. NALGEP and the Clean Air Task Force encourage EPA to distribute the Smart Growth Index broadly, provide technical assistance on its use to local governments, and work to develop additional air emissions modeling tools to complement the index.

Local governments seek incentives for green building and clean energy practices.

FINDING 6

Municipalities can play a key role in promoting environmentally sound, resource-efficient green building and clean energy practices.

Green Buildings and Clean Communities

Whether through the use of green building practices in public buildings or through incentives for green construction by private businesses and builders, local governments can foster major decreases in air pollution through resource-efficient development. According to DOE, buildings account for 49 percent of sulfur dioxide emissions (SO_2), 25 percent of nitrogen oxides (NO_x) pollution, and 10 percent of particulate emissions, all of which damage urban air quality. In addition, buildings produce 35 percent of carbon dioxide (CO_2)emissions, the chief pollutant blamed for climate change. (*See* DOE's Center for Excellence in Sustainable Development Web page at www.sustainable.doe.gov.) DOE further explains that

> [g]reen buildings promote resource conservation, including energy efficiency, renewable energy, and water conservation features; reduce environmental impacts and minimize waste; create a healthy and comfortable environment; reduce operation and maintenance costs; and address issues such as historical preservation, access to public transportation, and other community infrastructure systems.

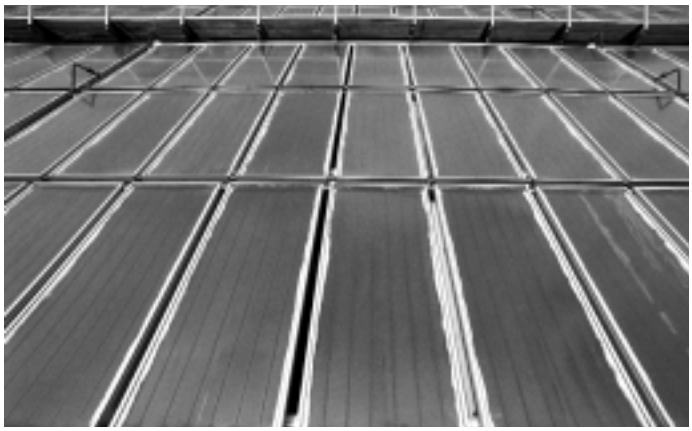
Many local governments reported participating in several federal green building initiatives. For example, local elected leaders strongly support federal programs such as EPA-DOE's Energy Star and Green Lights programs, which support community-based efforts to reduce energy consumption in buildings. The programs provide local governments with information to improve procurement practices. In addition to the environmental benefit of improved air quality, energy efficiency produces cost savings.

Indeed, according to EPA's 1998 annual report on Energy Star and other voluntary programs, *Driving Investment in Energy Efficiency*, federal voluntary programs for energy efficiency and environmental technology have produced millions of tons of emission reductions and millions of dollars in savings. In 1998 alone, programs including Energy Star Buildings, Green Lights, Energy Star Products, the EPA Methane Partnerships, and the Environmental Stewardship Programs resulted in reductions of 17 million metric tons of carbon equivalent (MMTCE), 130,000 tons of SO_2, and 70,000 tons of NO_x. These voluntary programs also saved 12 billion kilowatt hours (kWh) of energy and produced cumulative energy bill savings for consumers and businesses of more than $18 billion in 1998. Moreover, EPA predicts that investments made in these voluntary programs have "locked in" benefits through 2015 that include more than 300 MMTCE and more than $40 billion in energy bill savings. EPA estimates that if all commercial and industrial building owners implemented the Energy Star Buildings strategy, they would shrink their cumulative energy bill by $130 billion by 2010 and reduce greenhouse gas emissions by more than 350 MMTCE, eliminating emissions equivalent to those produced by 20–30 million cars.

A number of local governments are implementing aggressive green building

practices that can support substantial emission reductions in the public and private sector. For example, Montgomery County, Maryland, has established minimum energy performance and design standards for the construction or renovation of all county buildings. Jim Caldwell of Montgomery County's Department of Environmental Protection explained that "the other side of smart growth is the environmental design of the buildings that are developed. Montgomery County is determined to show other public and private sector builders that the environmental way of building can also be the smart, cost-effective way to build." Under the Austin Green Builders program in Texas, the city has set voluntary ratings for energy-efficient residential construction. Wendy Richmond-Powers of Austin stated that "without support for these concepts by the public sector, private builders often just don't think about the benefits of green building. Local government can help point the way." The City of Minneapolis, Minnesota, has worked with the local utility to achieve more than $750,000 in annual energy savings and to reduce annual greenhouse gas emissions by more than 10,000 tons through the energy-efficient retrofit of municipal buildings.

Despite the tangible local benefits that green building practices can produce, local environmental officials report that the potential for these practices has barely been tapped. Many localities report that incentives for green building practices often are not captured by municipalities. For instance, emission reductions from energy efficiency gains are not credited to the entities that create those reductions. Instead, SO_2 Acid Rain Trading credits under the Clean Air Act are credited to the utility generator that serves the load. Likewise, EPA's plan for a federal NO_x Trading Program does not provide any NO_x trading credit for NO_x reductions created through verifiable energy efficiency measures conducted by local governments and public power entities. Although EPA is encouraging states to provide such NO_x trading credit in certain circumstances, and the states of New York and New Jersey have done so, localities are not aware of whether such programs are likely to be implemented in most states or how municipalities will be able to participate. Certainly, a need exists for expanded outreach and information to local governments about how they can obtain pollution trading credit for energy efficiency activities in those states that are establishing such programs.



Municipalities also face a lack of financial resources to undertake aggressive green building programs. Local government reluctance to pursue such programs is exacerbated by the uncertainties of electric industry restructuring, which may discourage utility and customer investments in efficiency unless adequate regulatory requirements and resources exist for such measures.

Clean Energy and Clean Communities

Another example of local energy innovation is in Chicago, where the city's Department of Environment has launched a "brightfield" project in partnership with DOE, the local utility, and other parties. On a brownfield in downtown Chicago, the city will develop an energy-efficient building that uses innovative solar technologies and rooftop garden techniques to reduce energy use. The site

will include a new photovoltaic panel manufacturing facility, to be developed by the Spire Corporation, which will sell solar panels to the City of Chicago, Commonwealth Edison, and other buyers. From this brightfield, Chicago hopes to shine a light on solar energy, community and rooftop gardening, energy efficiency, and brownfields renewal to other parts of the community.

Other brightfield projects are in the works in communities across the nation:

- Stamford, Connecticut, seeks to use photovoltaic technologies to light municipal parks and walkways along the city's waterfront, where Stamford and other private and public partners are revitalizing brownfields into new housing, retail, office, and manufacturing sites.
- Cape Charles, Virginia, has established an ecological-industrial park that includes a solar panel manufacturing facility and solar-powered buildings, many built on brownfields.
- Babylon, New York, is assessing a utility-scale wind power project on an abandoned landfill on Long Island.
- Other localities are pursuing renewable energy strategies to use solar photovoltaic and other sources of clean power on municipal buildings and operations. More than a dozen localities are partners in DOE's "Million Solar Roofs" initiative.

In addition, municipalities and public power utility associations and systems are achieving substantial environmental and economic benefits through the use of combustion turbines and fuel cells powered by the recovery of landfill gases. Landfill gas, such as methane and carbon dioxide emitted from decomposing garbage, is a reliable and renewable fuel option that remains largely untapped at most landfills across the United States, despite its many benefits. Fuel cells are an innovative technology that work much like a battery fueled by landfill gas. By extracting hydrogen and mixing it with oxygen, a fuel cell produces electricity, heat, and water — but no harmful pollution. There are now more than 270 landfill-gas-to-energy (LFGTE) projects in the United States as well as 60 more projects under construction and at least another 95 in exploration. Moreover, nearly 40 local governments have joined in partnership with EPA to develop LFGTE programs. For example, the Sanitation District of Los Angeles County has developed a Clean Fuels Facility that uses landfill gas to fuel an 11-vehicle municipal fleet of passenger vans, cars, and large on-road tractors. In Braintree, Massachusetts, the town's Electric Light Department installed a fuel cell at the local landfill that generates 200 kilowatts of electricity — enough to meet the electric needs of 144 households. Likewise, in Maryland Heights, Missouri, the Ecology Club at Pattonville High School came up with an idea that resulted in action by the school to run a 3,600 foot pipeline between the local landfill and the school's two basement boilers that heat the building. Although the project cost $175,000, the school anticipates that it will save $40,000 in fuel costs and recapture its investment within five years.

Currently, LFGTE projects have prevented the release of 1.5 MMTCE into the atmosphere — the equivalent of reducing 1.1 million cars from the road. EPA estimates that about 500 other landfill sites present attractive opportunities for project development. The American Public Power Association (APPA) and many of its members strongly support the development of additional incentives for LFGTE projects, and NALGEP emphasizes that local environmental officials also value and support this opportunity.

Despite the tangible local benefits that green building practices can produce, local environmental officials report that the potential for these practices has barely been tapped.

Clean Utilities on Brownfields

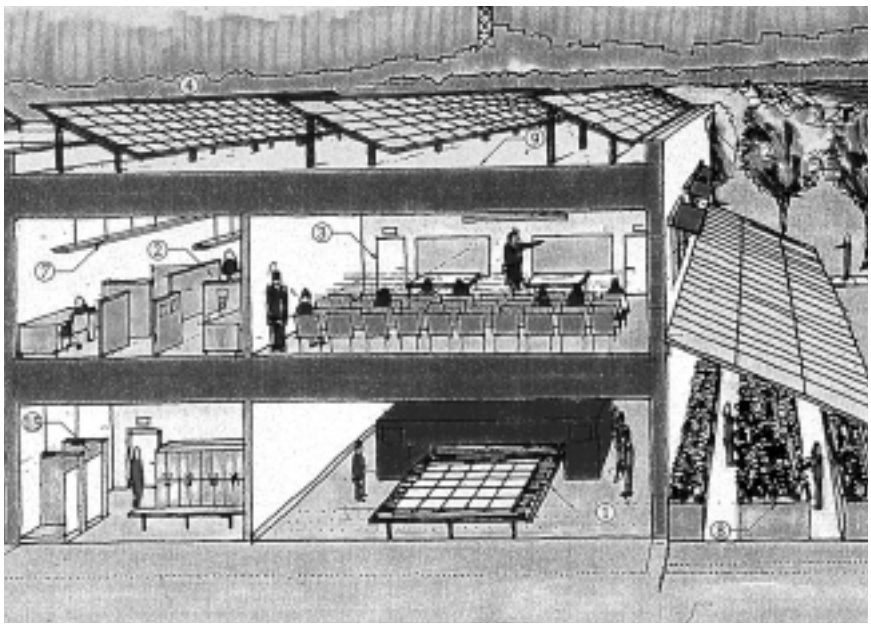
EPA is exploring the use of regulatory incentives for the location of clean energy sources on urban brownfields. A project conducted by the Center for Clean Air Policy (CCAP), titled *Promoting Clean Power, Clean Air, and Brownfield Redevelopment*, demonstrates that the location of state-of-the-art, natural gas-fired, combined cycle generating plants, and combined heat and power plants on urban brownfields or infill areas can help reduce air emissions from less efficient, more polluting power plants located in greenfield areas. By locating cleaner generation plants within urban areas, the costs of delivering power over clogged transmission lines from distant electric plants are reduced, and cleaner energy can displace power coming from less efficient, higher emitting generation. The CCAP study showed that every ton of NO_x emitted by the cleaner brownfields plants offset between 3 and 15 tons in the broader region. The emissions offset for SO_2 was even more dramatic —1:1000 in some cases — and the CO_2 emissions were offset by at least a 1:1 ratio.

EPA is exploring the use of regulatory incentives for the location of clean energy sources on urban brownfields.

CCAP, however, also found regulatory hurdles to siting clean generation plants in nonattainment areas. Notably, such plants may face New Source Review (NSR) rules, which require any new source of emissions to obtain emission offsets from other sources and require the application of the most advanced, expensive control technology. Coupled with the barriers associated with redeveloping brownfield and infill areas, this Clean Air Act disincentive may make it much less expensive and time-consuming to site plants in previously undeveloped greenfield areas.

For this reason, the CCAP study calls on EPA and the states to consider providing incentives for cleaner utility plants in urban brownfields and infill areas. These cleaner utility plants also could serve as anchors for clean, eco-industrial parks, where environmental technology and design are used to reduce energy, materials, and waste. For instance, the City of Baltimore is exploring how to establish an eco-industrial park on abandoned brownfield areas in the city's federal Empowerment Zone. CCAP cited incentives for such clean generation plants including expedited permitting processes, the set-aside of emission offset and allowance credits for these sources, and flexibility under NSR emission offset requirements for utility units located in targeted urban economic development zones. For example, the states and EPA could make use of Section 173(a)(1)(B) of the Clean Air Act, which allows new facilities in targeted economic development zones to obtain NSR offsets from a state growth allowance pool, shifting the burden from the utility and the locality to the state to ensure no net increase in emissions. In fact, EPA has announced that it intends to pilot the Section 173 program in the City of Chicago and will consider implementing a nationwide program to support clean air flexibility in local areas targeted for economic development.

The development of cleaner electric facilities in a manner that benefits established localities is a promising and valuable approach. Municipalities and public power communities may be well-suited to lead such efforts to locate clean utilities on brownfields. NALGEP's Clean Air Task Force encourages EPA and CCAP to continue pursuing the strategies described above and to launch pilot projects to provide actual regulatory credit for those activities. In addition, EPA and CCAP should consider expanding their studies to determine how regulatory and financial incentives can be provided for efforts to locate zero-



FUTURE CHICAGO BRIGHTFIELD

emission power generation facilities, such as photovoltaic and fuel cell systems, in urban brownfield and infill areas.

PROPOSALS FOR FEDERAL AND STATE INCENTIVES

Local officials interviewed by NALGEP suggested a number of ways in which the federal and state governments can support further local action to promote renewable energy and energy-efficient projects. Many localities want to implement innovative energy technologies in their communities. For example, the City of Houston seeks to deploy zero-emission fuel cell power generators to distributed energy users, including municipal buildings, hospitals, and airport facilities. The City of Anaheim is seeking resources to place photovoltaic solar panels on roofs of municipal buildings. And the District of Columbia is interested in using ultra-low-NOx gas-fired burners in municipal and government buildings. However, Robert Fulp of the Forsyth County, North Carolina, Department of Environmental Affairs reported that "alternative energy sources cannot break through the barriers created by long-standing policies that favor fossil fuels. Seed money is needed to develop economically viable alternative energy sources."

Local officials whom NALGEP interviewed supported a number of federal and state incentives for local renewable energy and energy efficiency programs, including:

- Demonstration of innovative renewable energy and efficiency technologies on federal- and state-owned buildings and dissemination of information about the costs, benefits, and environmental results of those efforts to public works directors and local environmental managers.
- Additional federal funding support and tax and financial incentives (or their equivalent for non-taxable entities such as public power systems, in the form of refundable or tradable tax credits) for the installation of renewable and energy-efficient products and technologies at municipal buildings.
- Additional federal funding support for the Renewable Energy Power Incentive (REPI), a DOE program that provides financial incentive payments for elec-

tricity produced and sold by new qualifying renewable energy electric generation facilities that are owned by states, municipal utilities, and not-for-profit electric cooperatives. Qualifying facilities must use solar, wind, geothermal, or biomass generation technologies and are eligible for annual incentive payments for ten fiscal years. However, funding for REPI has been decreasing and inconsistent. For example, federal REPI funding dropped from $4 million in 1999 to $1.5 million in 2000. APPA has reported that REPI needs to be funded at the annual level of $20 million to meet the demand for this incentive in communities across America.

- An expansion of resources under DOE's Brightfields Initiative so that additional communities can obtain funding and technical assistance for renewable energy demonstration projects on community brownfields.
- Federal support for clean power in the restructuring of the retail electric industry by states. To the extent that federal law is passed that facilitates the restructuring of the retail electric industry, such law could support the establishment of charges on utility load, which would be directed to "public benefit" programs that provide funding for energy efficiency and renewable energy projects and programs by states, local governments, and qualifying private entities. NALGEP interviewees also supported the inclusion of substantial renewable energy portfolio standards and electric "green labeling" requirements in federal electric restructuring legislation. Moreover, NALGEP is encouraged by the recent announcement by DOE that it will soon begin purchasing a minimum level of renewable power to meet the agency's own electricity needs. This DOE initiative should be followed by other federal agencies and could serve as a model for the purchase by states and localities of environmentally preferable "green power."

FINDING 7

Localities seek increased federal resources and incentives to provide transportation choices that reduce vehicle miles traveled and automobile emissions.

Many local governments report that controlling mobile source emissions and reducing VMTs are their largest priorities — and toughest challenges. Although air quality has improved in many communities since the enactment of the Clean Air Act and today's cars are much less polluting than the vehicles of a generation ago, the increasing use of automobiles throughout the United States threatens to eliminate the gains. Vehicle miles traveled in America have almost doubled since 1970. The market explosion of low-mileage sport utility vehicles (SUVs) and the prevalence of low-density development promise to complicate air quality improvement." Our nation's economic prosperity and the consumers' choice of heavy, inefficient vehicles is reminiscent of the early 1960s," stated Bob Elliott of the Southwest Air Pollution Control Authority in Washington. "It is sad to see that the participants in the first Earth Day now drive SUVs with little thought about their impact."

Local air officials are interested in continuing to work with federal and state government to shift resources to address vehicle use. As Jeff Harn of the Arlington County, Virginia, Department of Environmental Services noted, "The major sources of possible emission reductions are utilities and vehicles. Mobile source emissions must be tackled next."

Local governments want EPA to play a much larger role in controlling mobile source emissions. With the changing economy, heavy industry is no longer a

major contributor of air pollutants in many regions. Local air officials understand that reducing vehicle use and mobile source emissions must be the foundation for managing ground-level ozone in the long term. "The ozone problem requires us to do more to reduce VOCs. EPA could achieve greater ozone reductions by focusing on vehicles," stated Robert Fulp with the Forsyth County Environmental Affairs Department in North Carolina.

A number of local communities have made progress in air quality improvement through local programs to reduce vehicle emissions:

- Colorado Springs, Colorado, was redesignated as a maintenance area for carbon monoxide (CO) after the city established a vehicle inspection and maintenance program, transitioned to oxygenated fuels, and replaced the municipal utility's vehicles with an alternative fuel fleet.
- Tempe, Arizona, instituted a ride-reduction program that offers free bus passes to city employees, awards prizes to municipal personnel who carpool, and provides bike lockers.
- Glendale, Arizona, mandated travel-reduction programs for facilities with more than 25 employees.
- Arlington County, Virginia, purchased automated traffic signals that move traffic more efficiently.
- Chattanooga, Tennessee, substantially reduced air pollution by offering free downtown shuttle service with a fleet of low-emission electric buses.
- Portland, Oregon, developed a Transportation Demand Management (TDM) program to reduce VMTs through parking restrictions and innovative transit programs, including the development of walkable neighborhoods and low-emission bus transit services.

PORTLAND, OR

Although many communities have initiated voluntary programs to address increased vehicle use, local officials clearly stated that they need help to develop practicable transportation choices. Too few local governments offer citizens the option of leaving their automobiles in the driveway and choosing alternative transportation to work, run errands, and play.

CMAQ Funds Could Be Better Spent

Local government environmental officials expressed concern that transportation policies and practices could better support local efforts to reduce vehicle emissions and improve air quality. NALGEP found many local officials echoing the frustration that the U.S. Department of Transportation's (DOT) Congestion Mitigation and Air Quality (CMAQ) funding is too often devoted to road-building projects rather than air quality improvement projects. Indeed, in many localities, if a proposed air improvement project does not have the effect of reducing traffic congestion, CMAQ funding criteria typically ensure that the air projects will not be funded. Angel Martinez, Air Quality Chief for the fast-growing City of Albuquerque, stated that transportation officials "have a strong 'add another lane' mentality" and commented that "adding more lanes to fix a traffic congestion problem is like loosening your belt to fix a weight problem." An environmental official from one major city reported that he had to oppose a plan by the local metropolitan planning organization to send out a mailing

> **"Transportation officials have a strong 'add another lane' mentality, but adding more lanes to fix a traffic congestion problem is like loosening your belt to fix a weight problem."**
>
> **Angel Martinez**
> **Albuquerque, NM**

seeking citizen support for additional road-building projects because the mailing asked, "Would you rather have clean air or jobs?"

The local officials whom NALGEP interviewed would like to see a re-orientation of transportation funding and policies to support better clean air and transportation practices at the local level. In particular, localities support a shift of more CMAQ funds to TDM efforts, and programs to support bicycle and pedestrian mobility. The officials suggested that CMAQ funding policies be improved to ensure that funding criteria do not discriminate against air quality projects. Many local officials supported the idea of setting aside specific portions of CMAQ funding for local air initiatives. Local officials also called for much more training and education for regional, state, and local transportation officials from DOT on the link between better transportation practices and local air quality. In addition, local environmental officials urged EPA to encourage its regional offices and the states to promote TDM projects to meet "Transportation Control Measure" requirements of the transportation conformity program.

PIONEER VALLEY PLANNING COMMISSION PROMOTES ALTERNATIVE TRANSPORTATION

Charged with the task of reducing air pollution in the highly automobile-dependent Springfield, Massachusetts region, the Pioneer Valley Planning Commission (PVPC) is working with local communities to implement strategies that promote more air-friendly modes of transportation. As the planning body of a region with many small cities, PVPC is efficiently using limited funds to decrease vehicle miles traveled and improve air quality.

PVPC's *Pedestrian, Transit and Bicycling Workbook***, funded by the American Institute of Certified Planners, presents a collection of tools for municipal officials to use in establishing environments that support alternative transportation choices. The workbook highlights that well-designed communities "provide an experience of place that is just that—an experience of the place, the built environment, rather than the interior of one's car."The workbook contains "how-to" information for municipalities and other community organizations on planning tools, regulatory measures, developer incentives, physical improvement projects, model zoning laws, and available sources of funding.**

Another PVPC initiative, Bike Commute 2000, is an effort to improve air quality in the region by facilitating bicycle use. To that end, PVPC sponsored a bicycle commute week in May 2000. In addition, PVPC is promoting the development of bicycle infrastructure in targeted municipalities. PVPC has also developed the "Do the Math …Don't Drive Alone" public outreach program that tracks individual travel habits for a week. On the basis of this information, participants can calculate and compare the costs of driving versus biking in terms of time, calories, air pollution, and money.

For more information, contact Catherine Ratte of the Pioneer Valley Planning Commission at (413) 781-6045. Additional information is available online at www.pvpc.org.

Boosting Investment in Transit Options

Local officials also reported that annual appropriations for DOT's Federal Transit Administration (FTA) are woefully inadequate to meet current and future community transit demands. Transit ridership and demand in America are at their highest levels since the Eisenhower Administration, and transit use is increasing at a faster pace than automobile and highway use. Transit systems need to be established and expanded, however, and communities often wait years before mass transit projects receive FTA funding. Stamford, Connecticut, for example, has struggled to secure FTA funding to complete a major improvement to its train station — the second busiest on the east coast after Grand Central Station in New York. Moreover, the transit project will provide access from Interstate Route 95, which bisects the community, to the city's south side, which is largely a brownfield that the city wants to redevelop into housing, retail, and manufacturing uses. Stamford and dozens of other communities, however, must compete with the backlog of authorized projects seeking funding from FTA's limited budget. This one example is typical of the need for

increased transit dollars in scores of other local communities. Local governments clearly have a need for increased FTA appropriations for mass transit.

Looking for Fuel Alternatives

Many local governments are interested in purchasing alternative fuel vehicles (AFVs) as a key air quality strategy. However, the fueling stations, maintenance and storage facilities, and other infrastructure required to operate electric and natural gas fleets is cost prohibitive for many communities. Local officials look to the federal government to devote resources to and provide incentives for the transition to alternative fuels, particularly given the concern that America is too dependant on foreign oil. For example, John Hausbeck of the Madison Department of Public Health in Wisconsin pointed out that "Madison is interested in converting its municipal vehicle fleet to alternative fuels, but cannot afford the fueling stations required with the transition. The federal government should provide financial resources and incentives to local governments to develop the appropriate infrastructure."

The cost of building fueling stations has been a common barrier to local government conversion of vehicle fleets.

Several local air officials whom NALGEP interviewed mentioned their communities' participation in DOE's Clean Cities program. The Clean Cities program encourages the use of AFVs and their supporting infrastructure throughout the nation. Unlike traditional command-and-control programs, the Clean Cities program takes a unique, voluntary approach to AFV development, working with coalitions of local stakeholders to help develop the AFV industry and integrate this development into larger planning processes. The program is advancing clean air objectives by facilitating AFV production and conversion, expanding local refueling infrastructure, supporting regulated fleets, and increasing public awareness. In Oklahoma, for example, the Tulsa Public School District was recognized by DOE's Clean Cities program for purchasing 147 alternative fuel buses that run on compressed natural gas. Tulsa's compressed natural gas buses represent one of the nation's largest alternative fuel fleets.

The cost of building fueling stations has been a common barrier to local government conversion of vehicle fleets. A promising idea to promote greater alternative fuel vehicle use would be to build fueling stations at government facilities and other strategic locations. The establishment of fueling centers accessible to municipal and private sector alternative fuel fleets can help stimulate the markets for these vehicles. A comprehensive effort by EPA, DOT, and allied federal and state agencies to create a nationwide network of compressed natural gas, electric charging, biofuel, and other alternative fueling stations could provide a backbone of infrastructure for one of the most promising clean air options available to local communities. Furthermore, by using strategically located federal and state facilities for alternative fueling stations, the effort could be less costly and could send a strong signal to citizens about the importance of the effort. Other strategic locations for fueling stations could include "UST-fields," which are abandoned gas stations in local communities that have been contaminated by leaking underground storage tanks.

State Leadership Is Needed on Transportation and Air Quality

Local officials also believe that state government must be more active in addressing vehicle emissions. Although many states have included programs to reduce vehicle emissions within their SIPs, some states still do not support vehicle

inspection and maintenance. In Texas, for example, the state has prohibited local governments from establishing emission reduction programs unless and until cities are designated as nonattainment for ozone. Because Austin currently meets federal air quality standards for ozone, the city is constrained from taking preventive action. Although nearly half of Austin's emissions that form ground-level ozone are from automobiles, the city is prevented by state law from requiring emissions testing. Texas law also prevents Austin and other cities from requiring gas stations to install equipment to capture the vapors that are released when underground storage tanks are filled (Stage I Vapor Recovery) and when vehicles are refueled (Stage II Vapor Recovery).

Local officials also seek more state and federal resources to educate citizens and businesses on the effects of automobile use on air quality. Education is the key to altering public behavior and promoting practices that provide positive air quality benefits, such as carpooling and telecommuting. "Citizens do not understand the huge impact that driving has on air quality and have not taken personal responsibility for their transportation choices and the consequences," stated Alice Guthrie of the Boulder, Colorado, Office of Environmental Affairs. In addition, better public education will support the efforts of local environmental officials to steer a greater percentage of CMAQ funding to air quality

ANAHEIM PROMOTES INNOVATIVE ENERGY TECHNOLOGIES

Under California's electric restructuring legislation, all utilities are required to collect a 2.85 percent Public Benefits Program Fee as part of their customers' electric bills. Anaheim Public Utilities, a municipally-owned utility serving more than 300,000 residents and businesses, has earmarked $1 million of its collected fees to launch a new Innovative Energy Technologies (IET) program, which provides competitive funding for alternative energy and energy-efficient projects with commercial appeal far beyond the borders of the city.

IET seeks to support the development and demonstration of new technologies and products for business opportunities. IET grants are available to businesses that propose methods to increase energy efficiency in transportation, buildings, or industrial processes. In addition, IET can finance initiatives that will reduce energy consumption by Anaheim Public Utilities' customers.

Anaheim Public Utilities recently announced the first set of IET projects to receive grants. The funded projects represent a broad cross section of initiatives, such as:

- Sonfarrel Inc**. received $100,000 to convert existing steam-heated and -controlled rubber molding process equipment to new, electrically-heated and -operated equipment. The new equipment increases productivity and reduces NOx emissions by 10,000 lbs. per year;**
- **Anaheim High School received $25,000 to develop a curriculum to educate students about renewable energy and alternative fuel transportation.**

For more information, contact Marianne Long with the City of Anaheim at (714) 765-4251. Additional information is available online at www.anaheim.net/utilities/index.html.

PUGET SOUND BUSINESSES ACHIEVE EARLY EMISSION REDUCTIONS

One excellent example of the ability of local governments to promote business actions that go beyond regulatory compliance took place in Puget Sound, Washington. There the local air agency's concern about ozone led to a voluntary partnership with five oil refineries. According to Puget Sound Clean Air Agency executive director Dennis McLerran, the local agency met with the refineries and told them that fuel controls would be a major target of EPA if the region went into ozone nonattainment. Instead of going through the process established by the Clean Air Act for fuel control measures, which would have required petition to EPA through the state governor — and a long, drawn-out process — the refineries voluntarily removed butane from their gasoline and solved the problem — in less than 6 months. This voluntary program reduced mobile source emissions by about ten percent when evaporative and tail pipe emission reductions are taken into account. The region may well have fallen into ozone nonattainment without the program. The action by the five refineries was fueled by the prospect of a quicker, less regulated solution that produced good public relations benefits for the companies, which in this case included a nomination for the Governor's Pollution Prevention Award. This example shows how local governments can promote private-sector emission reductions if they have flexibility and support for their efforts. For more information, contact Dennis McLerran at the Puget Sound Clean Air Agency at (206) 343-8800, or see the Web at www.pscleanair.org

rather than road-building projects. NALGEP supports efforts such as EPA's mobile source outreach grant program, which provides funding to local and state government to develop public awareness materials focusing on consumer and technician automobile maintenance, efficient transportation choices, and overall mobile source-related environmental education.

Local air improvements require additional efforts to promote pollution prevention by municipalities and businesses.

FINDING 8

Many localities view pollution prevention as a priority for improving air quality. Through pollution prevention, which uses environmentally preferable changes in design, processes, or materials, localities can reduce or eliminate waste at the source rather than control it at the end of a smokestack. Local air quality can be preserved when resources are used more efficiently and hazardous substances are substituted with less harmful ones. However, because of lack of funding and the need for more information about promising approaches, pollution prevention has not been implemented in all the places in which it could be.

A key role for municipalities is to establish business compliance assistance centers that promote pollution prevention through audits, technology transfer, technical assistance, and funding assistance. In Boulder, Colorado, for exam-

ple, the Office of Environmental Affairs instituted the Partners for a Clean Environment (PACE) program to assist and reward small business owners that meet established pollution prevention criteria. Similarly, in Nebraska, the Lincoln-Lancaster County Health Department established a program to conduct non-regulatory on-site business visits to identify options for preventing pollution, reducing the use of toxic materials, and cutting costs. All findings of the pollution prevention visits are confidential and do not lead to fines or other penalties.

Local air officials seek additional resources at the ground level to prevent air pollution before it becomes a problem in their communities. Federal and state pollution prevention efforts need to be expanded to provide localities with more technical assistance. The technical assistance center model of the U.S. Department of Commerce's Manufacturing Extension Partnership (MEP) program is a promising approach. The MEP program consists of a nationwide network of more than 400 locally-managed extension centers offering technical assistance and information on the latest business practices to help the nation's smaller manufacturers improve their competitiveness through pollution prevention. Federal pollution prevention efforts such as the MEP program need to be expanded and integrated with local environmental agencies. States also can play a more active pollution prevention role by dedicating personnel to pollution prevention compliance and technical assistance, and incorporating pollution prevention requirements into air permitting and enforcement.

FINDING 9

Local environmental officials seek regulatory credit for voluntary local air practices along with tools for measuring the emission benefits of those practices.

Local officials making innovative, community-based air practices a large part of their air quality improvement strategy clearly believe that regulations must recognize and credit those practices under the Clean Air Act. Unless EPA and the states are willing to work with localities to overcome the difficulties of quantifying emission reductions from innovative local practices and to provide SIP and other regulatory credit for those practices, innovative approaches will remain only a marginal part of the nation's clean air strategy. "EPA should encourage best management practices and provide local governments with SIP credit for procedures that produce air quality benefits," said Doug Kukino with the City of Glendale, Arizona.

Cities Want Credit for Innovative Local Actions

NALGEP's interviews found that localities would like to see Clean Air Act regulatory credit for municipal efforts to reduce emissions through innovative land use, energy efficiency and renewable energy, pollution prevention, vehicle traffic reduction, and economic incentive and public outreach programs for emission reductions. All of these activities can produce substantial emission reductions; few of these activities are currently credited in SIPS or other Clean Air Act regulatory programs. Art Williams, director of the Jefferson County Air Pollution Control District in Kentucky, declared about voluntary emissions reduction approaches at the local level, "They are effective, they are popular, they make a difference, they are implementable, they are quantifiable, they are relatively easy

to do, and they are supported by industry. EPA should identify how these approaches can be given regulatory credit."

For example, the City of Chicago, which faces severe ozone nonattainment, wants SIP credit for its efforts to

- redevelop brownfields and thus reduce ex-urban development and VMT emissions;
- reduce energy use through its Chicago Urban Heat Island Initiative, which seeks to lower summertime temperatures (and thus reduce energy use associated with air conditioning) through tree planting, rooftop gardens, and the use of light-colored roofing and paving surfaces;
- administer a Chicago Emissions Reduction Credit Banking and Trading Program, which will help new and existing businesses reduce emissions of VOCs and trade them to businesses that need VOC reductions to obtain Clean Air Act construction and operating permits;
- establish a regional alternative fueling station network; and
- promote energy efficiency and renewable energy by utilities and utility customers, in the context of new retail electric competition in Illinois.

Overcoming the Measurement Hurdle

Local officials recognize the difficulty of accurately quantifying the emissions-reduction benefits of many local air practices. Localities do not have the capability of measuring the impacts of those practices, and few localities report a willingness by state or federal air quality offices to experiment with these approaches in the development of SIP controls. Many localities have suggested that, although the emission benefits of many local practices cannot be quantified exactly, they are "directionally sound" and should be credited in SIPs and transportation conformity negotiations, even if on a conservatively estimated basis.

NALGEP found a strong desire among local officials for EPA to research, develop, and distribute better modeling tools so that localities can begin to quantify their efforts to reduce air pollution. In addition, local environmental officials reported the need for much more flexibility by EPA regional air offices in the crediting of these local practices in SIPs, and urged EPA's Office of Air and Radiation to provide additional guidance to regions on the incorporation of voluntary local air practices into SIPs. NALGEP's Clean Air Task Force also reiterates the strong local view that EPA should issue its proposed guidances on providing SIP credit for sustainable land use and voluntary local practices and that the Agency should consider similar guidance documents for local efforts in clean energy, pollution prevention, and public outreach.

> "Voluntary local air practices are effective, they are popular, they make a difference, they are implementable, they are quantifiable, they are relatively easy to do, and they are supported by industry. EPA should identify how these approaches can be given regulatory credit."
>
> Art Williams
> Jefferson County, KY

EPA CONSIDERS CLEAN AIR CREDIT FOR INNOVATIVE LOCAL PRACTICES

In coming years, EPA may be more willing to provide credit in the SIP development process for local measures to reduce air emissions through alternative transportation, pollution prevention by businesses, smart growth projects, and other local innovations:

- **In 1997, EPA issued guidance on Incorporating Voluntary Mobile Source Emission Reduction Programs in State Implementation Plans, which provides that states may use voluntary efforts to reduce vehicle emissions to account for up to 3 percent of the required reductions for each criteria pollutant in their SIPs. The policy allows states to take up-front SIP credit based on realistic estimates of the emissions impact of the voluntary programs and a commitment to monitor the success of the program and remedy any shortfalls in a timely manner. In addition, the policy indicates that EPA will provide technical assistance for the quantification of emission benefits of voluntary mobile source programs.**

  There are a number of voluntary mobile source emission reduction programs that may be eligible for credit under the EPA policy, such as

  - **employer-based transportation management programs such as vanpooling, carpooling, subscription buses, walking, shuttle services, guaranteed rides home, alternative work schedules, transit passes and subsidies, and on-site support for transportation demand management;**
  - **work schedule flexibility to commute outside peak travel periods such as telecommuting, flextime, compressed work weeks, and staggered work hours;**
  - **area-wide ridesharing incentives such as marketing of ridesharing services, transit station shuttles, computerized carpool matching, vanpool matching, parking management such as preferential parking locations or prices for carpools and vanpools, fee structures to discourage commuter parking, or reduced parking requirements for new developments;**
  - **travel demand management for special events;**
  - **restrictions and limitations on vehicle use such as auto restricted zones, pedestrian malls, traffic calming, no-drive days, or restrictions on the parking or idling of commercial trucks;**
  - **measures to reduce vehicle idling such as reduced operations at drive-thru facilities; and**
  - **measures to reduce emissions from small engine and recreational vehicle use such as programs to shift the time of lawn mowing and landscaping.**

  For more information, see www.epa.gov/oms/transp/traqvolm.htm.

- **EPA has issued a draft policy on Recognizing the Air Quality Benefits of Local and State Land Use Policies and Projects in the Air Quality Planning Process. The guidance would help EPA, state, and local air officials identify and provide regulatory credit for innovative smart growth activities in the air planning process because of their potential to reduce air pollution associated with vehicle emissions. The guidance would be most valuable to localities designated nonattainment or maintenance for NOx, ozone, CO, or PM-10. Credit could be given for adoption of sustainable land use activities as SIP control measures, the use of emissions reductions from smart growth practices in transportation conformity determinations, and the inclusion of emissions in SIP baselines that reflect the benefits of smart growth measures. Potential smart growth tools that could form the basis for regulatory credit include transit-oriented development, infill development, a shift in the jobs-housing balance in metropolitan areas, mixed-use development, and neotraditional design development. Credit could also be available for smart growth programs implemented through state growth controls, government incentives for better development patterns, local zoning controls or design standards, and local government incentives. Individual smart growth development projects are also eligible for credit under the guidance. For more information, see www.epa.gov/oms/transp/traqsusal.htm**

- **EPA has issued a draft Stationary Sources Voluntary Measures Policy that would allow localities and states to take regulatory credit for voluntary actions by a variety of air pollution sources. A voluntary measure is one taken by a source that will reduce air pollution that the state could claim as an emission reduction for up to three percent of its requirements in its SIP for the purposes of demonstrating attainment or maintenance of the NAAQS, reasonable further progress, or rate of progress, but that is not directly enforceable against the source. Sources under this policy could include retail businesses, farms, or even individual consumers.**

  Examples of creditable voluntary measures could include:

  - **retail operations agreeing not to sell high-emitting VOC products during the ozone season;**
  - **consumer-oriented programs to reduce the use of high emitting paints or other consumer products during the ozone season, or no paint days during Ozone Action Days;**
  - **deferring or reducing both consumer or industry maintenance involving high emitting chemicals;**
  - **improving operating practices or use of pollution prevention approaches to reduce emissions, such as covering containers, reducing waste from operations, or using water based systems for cleaning operations at stationary sources;**
  - **no burn days for wood stoves or agricultural operations for PM programs;**
  - **the location of clean utilities on brownfields;**
  - **programs to reduce electricity usage;**
  - **or heat island programs to encourage activities that will reduce center-city temperatures during the summer, such as reflective roofs or shade trees.**

  For more information about EPA's voluntary measures policy, see www.epa.gov/ttn/oarpg/tipgm.html

- **In fall of 1999, EPA released draft guidance for states that want to use economic incentive programs (EIPs) to improve air quality. The guidance provides that states may incorporate certain voluntary economic incentives into State Implementation Plans (SIPs), such as attainment plans, maintenance plans, reasonable-further-progress determinations, or rate-of-progress determinations. EIPs can include emission trading programs, financial incentives, clean air investment funds, and public information programs. Local governments may be well suited to establish EIPs as local air improvement strategies, especially in the areas of financial incentives and public information EIPs. Financial incentives can include fees, taxes, or subsidies targeted at promoting pollution-reducing activities or produces, such as a fee on emissions, a subsidy for the purchase of zero-emitting vehicles, transportation pricing, or monetary rewards to developers of smart growth projects that promote infill, transit-oriented development, or mixed use designs. Public information EIPs provide information including product certifications, product labels, or other information that people may want to consider when making a decision that has air quality consequences, such as consumer labeling on products like paints, or public information campaigns aimed at getting people to reduce emission producing activities.**

  EPA's draft EIP guidance provides that, in order for a financial or public information EIP to be credited in a SIP, it must produce emissions reductions that are enforceable, quantifiable, and permanent. In many cases, localities lack the capacity to accurately quantify the emissions impact of these measures. Many localities interviewed by NALGEP are seeking technical assistance from EPA and the states in such quantification techniques. In addition, localities believe that financial and public information EIPs should be allowed SIP credit without exact quantification, by conservatively estimating the emissions reductions based on degree of predictive uncertainty and experience from other similar projects. For more information, see EPA's Web page at www.epa.gov/ttn/oarpg.

Clean Air Cooperation across Local Boundaries: The Need for Regional Approaches

Despite the axiom that air pollution does not respect political boundaries, significant barriers remain to cooperation among cities, counties, and other local government institutions for improving air quality on a regional level. Although cars, sprawling development, and area and industrial source pollution are crossing jurisdictional lines, localities have not achieved the level of partnership necessary to address the problems on a regional basis. Local officials interviewed for this project emphasized that localities will not be able to successfully achieve air quality mandates and objectives without addressing air quality problems from a metropolitan or regional standpoint.

Many localities have been unable to adequately coordinate with other local governments in their state and region with respect to air quality planning, monitoring, stationary source controls, and mobile source emission reduction strategies. Local governments also have been unable to achieve adequate coordination with other localities to control air emissions related to regional growth and development.

In this context, NALGEP has found that better regional air quality cooperation requires strong state laws and government support along with local elected leaders' acknowledgment of the regional nature of air quality problems. NALGEP provides the following findings on how regional air quality challenges can be addressed.

FINDING 10

Air quality planning must be addressed at metropolitan and regional levels and integrated with development, transportation, and other cross-boundary issues.

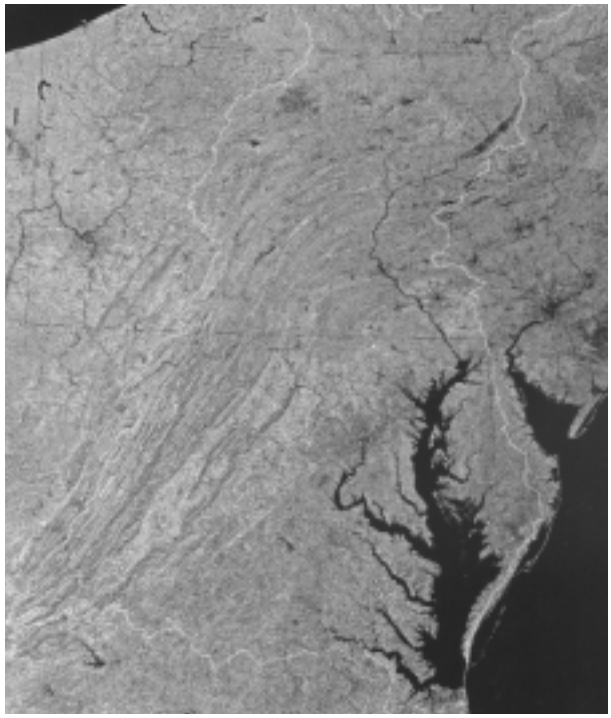
Air pollution does not respect political boundaries, and many localities recognize the benefits of taking a regional approach to air quality. Pollutants such as ozone may have effects far beyond the locality in which they are emitted. Many of the factors that affect air quality — both positively and negatively — are regional or metropolitan in character, and local governments understand that any air quality progress they achieve can be negated if they are not working regionally to decrease pollutants. It follows that regions must develop strategies to cooperatively tackle air quality issues. Although local government officials appreciate the importance of working cooperatively across jurisdictions, few communities have established effective clean air partnerships with their neighboring municipalities. Local sovereignty and competition between local governments for economic development have hindered many regional efforts.

Linking Land Use, Transportation, and Regional Air Quality

Land use and transportation are the key issues that communities must begin to address at metropolitan and regional levels. Land use and transportation decisions traditionally are issues of local importance, but recognition of their regional consequences is growing. Many local officials believe the "turnip has been squeezed" on industrial source emissions and thus are interested in working in partnership to establish patterns of metropolitan growth that protect air quality, and to develop strategies which decrease VMTs. Although individual municipalities have seen some level of air quality improvement with stand-alone

land use or transportation initiatives, local officials believe more comprehensive regional efforts could provide significant air quality benefits.

Metropolitan planning organizations (MPOs) and regional councils of government (COGs) are heavily engaged in transportation planning, but many of them may operate without express air quality objectives. As existing regional entities, MPOs and COGs can provide an institutional framework within which to address air quality issues. Also, as multi-purpose agencies, MPOs and COGs are well poised to incorporate air quality goals throughout their organizations. In San Antonio, Texas, for example, the Alamo Area Council of Governments chose to purchase clean-energy buses for a regional transportation service for the elderly. The Alamo Area Council of Governments was not mandated to consider alternative transportation for the elderly program, but clean-energy buses complemented the COG's institutional air quality goals.



CHESAPEAKE BAY WATERSHED

Some local governments are working cooperatively with their MPOs and COGs to improve regional air quality. For example, in the Phoenix, Arizona metropolitan region, the Maricopa Association of Governments (MAG) has successfully coordinated the air quality activities of municipalities. Cities submit transportation projects to MAG, which models improvements to determine whether they meet conformity. Cities and counties in the Washington, DC metropolitan region also participate with the Metropolitan Washington Council of Governments in conducting the END-ZONE Partners program, which promotes ozone awareness in the Maryland-Virginia-DC region. Municipalities and counties that have not yet worked cooperatively with their MPOS and COGs to address air quality problems should look to these successful regional efforts as models.

Localities also reported that some states care little about MPOs' local planning efforts unless action by the MPO is necessary to achieve a transportation conformity decision that allows a road project to progress. Other localities reported that state land use planning efforts, where they exist, are not well coordinated with local transportation planning.

THE ROLE OF EPA AND THE STATES IN PROMOTING REGIONAL SOLUTIONS

EPA can develop better opportunities for regional input on clean air policy. Because EPA tends to deal with states on air quality issues, regional organizations, which often have been delegated clean air authority, do not have the opportunity to influence policies they later will be required to enforce. To enact policies that enjoy the broadest range of support, EPA must seek input beyond its traditional state government constituency. "While EPA promotes regional cooperation on air quality, regional organizations have not been invited to participate in the policy dialogue," stated Joan Rohlfs of the Metropolitan Washington Council of Governments. "Regional councils of governments with air quality authority are thus mandated to implement EPA policies they were unable to shape." The perspective of regional organizations must be identified and solicited in the policy development process.

"The reality of the future is that air quality issues will need to be resolved within metropolitan regions."

Bill Anderson
Minneapolis, MN

Many local environmental officials seek better incentives from federal and state air quality programs for regional coordination among localities. A search of the EPA Office of Air and Radiation's organization directory and Web site does not produce any information or point of contact on regional air quality cooperation. Most local officials whom NALGEP interviewed were not aware of any regional air quality initiatives being sponsored or supported by EPA regional offices or their states. In addition, a review of EPA spending on Clean Air Act Section 103 research grants in the late-1990s indicates that few grants have been provided for projects that seek to promote regional air cooperation among localities.

EPA can foster local cooperation by serving as a catalyst for bringing local governments together to discuss regional air quality issues. "The reality of the future is that air quality issues will need to be resolved within metropolitan regions,"stated Bill Anderson of the Minneapolis Department of Operations and Regulatory Services. "EPA needs to pay more attention to those areas and develop the relationships with those regions that they have reserved in the past for states. EPA should be fostering new models to strengthen regional cooperation." As Michael Naylor of the Clark County Health District's Air Quality Division in Nevada stated, "EPA could help local governments network with other municipalities so they are not reinventing the wheel."

COGS AND REGIONAL COORDINATION

Regional councils of government are multi-purpose, multi-jurisdictional, public organizations. They are created by local governments to respond to federal and state programs and bring together participants at multiple levels of government to foster regional cooperation, planning, and delivery of services. They go by many names, including "councils of government," "planning commissions," and "development districts." Regional councils are typically governed by a board of elected officials and other community leaders and have an executive director and staff. They provide a forum on regional issues, conduct regional planning, provide information and technical assistance to local governments, and administer federal and state programs, including senior citizen, environmental planning, job training, housing, community development, and disaster assistance programs. Some regional councils are the designated air quality planning agency in their area and, increasingly, these regional organizations are becoming involved in clean air programs.

Although local governments do not favor mandates requiring regional cooperation on air quality issues, communities would be likely to participate in regional efforts if there were incentives for them to do so, according to NALGEP interviewees. EPA therefore should encourage such participation through existing and new programs that offer financial or other regulatory incentives by prioritizing air quality projects that are supported by more than one municipality. "The federal government could provide funding for land use planning

with requirements for regional cooperation," stated David Padgett, director of the Colorado Springs Utilities Environment, Health, and Safety Department. EPA also must shift away from its traditional focus on state programs and begin to invest in regional air quality strategies. In addition, EPA could issue guidance to states encouraging consultation in the SIP development process with regional entities, including regional development councils, councils of government, and metropolitan planning organizations.

State leadership is also instrumental in launching regional cooperation among units of local government. In the Madison, Wisconsin metropolitan area, local governments had difficulty establishing a regional planning body to address air quality. Jurisdictional issues and sovereignty prevented local governments from participating in regional efforts, and establishing the Madison Regional Planning Commission required the intervention of the governor. Such state efforts can remove intergovernmental conflict and pave the way toward local cooperation.

Local Initiative in Regional Efforts

Local governments can initiate regional collaborative efforts by improving outreach to neighboring communities and establishing regular communication among regional air quality officials. Local governments also can support existing regional entities by contributing staff time and resources. For example, the City of Colorado Springs, Colorado, has played a vital role in the success of the Pike's Peak Area Council. Established in 1979 by the governor, the Pike's Peak Area Council serves as the region's lead air agency. Since then, Colorado Springs has contributed a full-time employee to staff the agency. Colorado Springs' continued support of the Pike's Peak Area Council has enabled the agency to conduct a series of voluntary initiatives to improve the region's air quality. Likewise, in the Chicago area, Mayor Richard Daley has joined with mayors from 269 other area localities in a Metropolitan Mayors Caucus, with the support of EPA and the State of Illinois, to make clean air and economic development a key policy priority.

Airshed planning and control boundaries should coincide with regional sources of air quality problems.

FINDING 11

The nonattainment status of certain areas—central cities in particular—often is exacerbated by pollution sources located in outlying areas. Outlying areas may not have sufficient incentives to address air pollution sources if they themselves are in attainment. According to Wendy Richmond-Powers of the Planning, Environmental, and Conservation Services Department in Austin, Texas, "incorrectly drawn airshed boundaries may be a hindrance to true regional cooperation." This problem is increasing as metropolitan areas sprawl beyond the air quality control boundaries now in place, and as air pollution is

EPA'S BOUNDARY GUIDANCE SUPPORTS REGIONAL STRATEGIES

A recent EPA guidance document may support the development of better regional strategies for ozone control by setting air planning and control boundaries that coincide with the regional air impacts of sprawling metropolitan communities. In April 2000, EPA issued its *Boundary Guidance on Air Quality Designations for the 8-Hour Ozone National Ambient Air Quality Standards***. This document provides guidance to state and local air pollution control agencies and tribes on designating areas as attainment or nonattainment for the 8-hour ozone standard, and encourages the establishment of nonattainment boundaries to match the regional sources and effects of ozone pollution. The guidance provides that ozone nonattainment boundaries should be set over a larger regional area because of the pervasive nature of ground-level ozone, and the transport of ozone and its precursors. By encouraging states and localities to set ozone boundaries over metropolitan statistical areas (MSAs) or consolidated MSAs — and to draw the boundaries even larger or across state lines to account for regional ozone pollution problems — EPA's guidance will "best ensure public health protection from the adverse effects of ozone pollution caused by population density, traffic and commuting patterns, commercial development, and area growth."**

EPA's guidance requires states and localities to submit recommended nonattainment boundaries and designations by June 30, 2000, followed by EPA comment and discussion with state and local air officials through the year 2001 prior to final designations. For a state or tribe wishing to propose a larger, regional boundary area, EPA suggests 12 factors for identifying the proper area:

- **Emission and air quality in adjacent areas**
- **Population density and degree of urbanization, including commercial development**
- **Monitoring data representing ozone concentrations in local areas and larger areas (urban or regional scale)**
- **Location of emission sources**
- **Traffic and commuting patterns**
- **Expected growth, including extent, pattern, and rate of growth**
- **Meteorology (weather and transport patterns)**
- **Geography and topography**
- **Jurisdictional boundaries**
- **Level of control of emission sources**
- **Regional emission reductions (e.g., NO_x SIP Call or other enforceable regional strategies).**

To assist states, tribes, and localities with their boundary recommendations, EPA has created a Web site [www.epa.gov/ttn/rto/areas] that includes data on MSAs, monitoring data, modeling predictions, sources of emissions, and other information that will help communities determine the regional scope and pattern of ozone pollution.

transported across the boundaries of existing air quality control regions.

In Fort Worth, Texas, for example, pollution sources outside the SIP boundary are significantly affecting air quality readings within the boundary. Fort Worth's surrounding counties are designated in attainment, but little monitoring data supports that status. To reach ozone attainment status, Fort Worth is compelled to convince communities located outside the airshed to reduce pollution. Fort Worth and its surrounding counties are working effectively to improve the region's air quality, but many local governments have not been as successful in working with communities that have little incentive to act.

In Chattanooga, Tennessee, the bedroom communities beyond the airshed boundary contribute to the region's air pollution. As Robert Colby of the Air Pollution Control Bureau in Chattanooga pointed out, EPA's ongoing ozone and PM-2.5 redesignations provide an opportunity to establish metropolitan airshed boundaries. "In the upcoming redesignations for ozone and PM-2.5, EPA should work with states and localities to make sure that nonattainment areas include cross-boundary bedroom communities," he stated. Other local officials pointed out the need for more frequent designations of nonattainment boundaries to meet the needs of sprawling metropolitan regions.

"EPA should work with states and localities to make sure that nonattainment areas include cross-boundary bedroom communities."

Robert Colby
Chattanooga-Hamilton County, TN

Another problem some local officials cited is that their airshed-planning boundaries are split between more than one state — or even more than one EPA region. Unfortunately, in many cases the states do not effectively collaborate in air planning and controls, such as when one state has a vehicle inspections and maintenance program, but the other states in the control region do not. For example, the City of Cincinnati not only must deal with the states of Ohio, Kentucky, and Indiana for its interstate air quality control region but also must coordinate across EPA regional lines — Ohio and Indiana are in EPA Region 5 but Kentucky lies in EPA Region 4. These localities report the need for much greater communication among states and EPA regions to address regional air pollution problems and for additional resources to support this communication.

FINDING 12

Additional air monitoring is needed to determine the regional sources of local air quality problems.

Monitoring data is essential to establish a base level of understanding for regional air quality planning efforts. Without a base level of understanding, efforts to develop strategies targeting specific pollution reductions are not grounded in fact. Only when local governments understand both how they impact surrounding communities and how surrounding communities affect their air quality can informed cooperation occur.

Better information about the extent and sources of regional air quality problems would foster inter-jurisdictional cooperation at the metropolitan or regional scale. Given the current impediments to regional air cooperation, particularly for localities that may be asked to take on a greater responsibility for improving air quality, good information must underlie any effort at regional air cooperation.

A major concern identified in NALGEP's interviews is the lack of monitoring for criteria pollutants in areas surrounding metropolitan regions. When only the

center city is monitored for criteria pollutants, but traffic and development in the ex-urban areas contribute to center city pollution or nonattainment, it is difficult to obtain needed emission controls from outlying jurisdictions. Particularly in fast-growing bedroom communities, this lack of monitoring information has made regional air planning difficult. Moreover, the lack of regional monitoring data can place a disproportionate burden for controls and emission reductions on cities that lie at the center of these metropolitan regions. For example, the absence of adequate air quality monitoring in the nine counties surrounding Indianapolis, Indiana, has thwarted the city's attempts to seek emission reductions from the counties, despite clear evidence that regional transportation and development patterns are contributing substantially to ozone exceedances in Indianapolis. Indeed, the city has called for implementation of the 8-hour ozone standard because it could lead to nonattainment designations for surrounding areas, resulting in much-needed monitoring and controls in those areas. Similar concerns have made it difficult for the City of Fort Worth, Texas, to obtain needed emission reductions from the areas surrounding that city, which is in serious nonattainment for ozone. In NALGEP's interviews, localities across the nation echoed this concern, particularly in fast-growing areas.

NALGEP found solid support among local environmental officials for EPA and states to provide adequate funding for regional air quality monitoring. In addition, localities seek technical assistance from EPA and the states in using modeling tools to assess the regional sources and transport of air pollution. They also would like to see a willingness by federal and state regulators to use modeled data as a basis for air quality planning and controls. For instance, the states and EPA should be willing to use data modeled over a regional basis in the establishment of the 8-hour ozone National Ambient Air Quality Standards (NAAQS) nonattainment boundaries.

Of course, effective regional monitoring and modeling in metropolitan areas will require strong leadership at the state level to address airshed pollution problems that cross local boundaries. Many localities reported to NALGEP that it was difficult to get usable air monitoring data from their state offices. The NALGEP Clean Air Task Force urges state air quality officials to focus attention on the need for better monitoring and monitoring tools to address regional problems. NALGEP also urges state and local leaders to make use of a new ozone modeling tool that EPA has established. (See EPA's ozone modeling Web page at www.epa.gov/ttn/rto/areas.)

Funding Local Clean Air Innovation: The Need for More Clean Air Resources

NALGEP found a clear consensus among local environmental officials that more resources are needed to clean the air. Localities face two interconnected challenges with respect to the funding of local air quality improvement: funding for basic air quality programs is steadily decreasing while regulatory mandates are increasing, and funding to support clean air innovation is insufficient to meet local clean air challenges. Local governments face the task of improving local air quality while traffic, energy use, land development, industrial production, consumer consumption, and federal environmental mandates steadily

increase. Marcia Willhite, assistant chief of the Lincoln-Lancaster County Health Department and the president of ALAPCO, affirmed that "clean air funding is a solid investment in communities with a high payoff. But localities are lacking funding for basic regulatory compliance, let alone more innovative approaches that are necessary for healthy air in the long term."

"Clean air funding is a solid investment in communities with a high payoff"

Marcia Willhite
Lincoln-Lancaster County, NE

Local environmental officials seek innovative clean air approaches, including those that are based on environmental technologies, pollution prevention, innovative transportation and energy practices, smart growth, and public-private partnerships. Localities generally lack the ability to adopt and promote new approaches to air quality improvement, because they may lack institutional capacity, local staff, or resources for investments in capital equipment. The findings in this section reflect the strongly held view of local government officials that increased federal and state resources for local air programs and demonstration projects are investments in public health and quality of life that are worth making.

FINDING 13

Local governments need direct federal funding for innovative local air quality projects.

A critical barrier to further local air quality improvement is the lack of adequate resources to support innovative new approaches to cleaner air. Many localities believe that they can implement projects to clean the air through clean energy and transportation approaches, pollution prevention and environmental technology use, multi-pollutant emission reduction strategies, and smart growth development practices. In particular, localities seek to reduce emissions of ozone-producing pollutants such as NOx and VOCs, toxic air pollutants, greenhouse gases, and particulate matter, but they require new reduction strategies to do so.

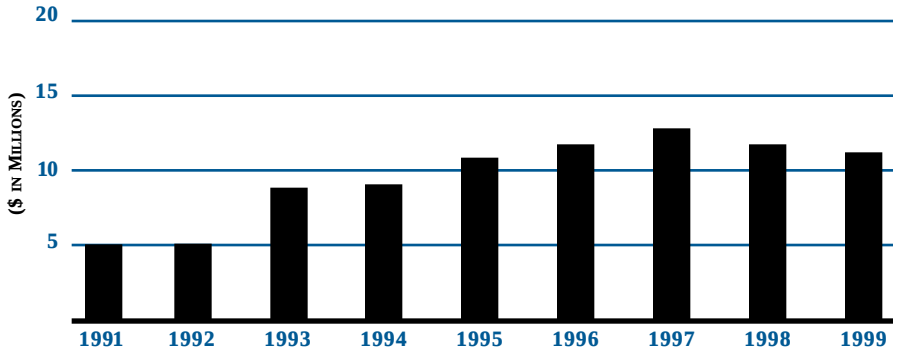
The Need for Section 103 Funding

A lack of resources has limited localities' ability to implement innovative clean air strategies. As John Hausbeck of the Madison, Wisconsin, Department of Public Health described, "Madison is looking for opportunities to take more local action on air quality, but without a dedicated funding source for air issues, the city is not able to pursue these goals. A lack of funding has been the biggest barrier to air quality improvements, and innovative ideas do not get developed past the stage of 'wouldn't it be nice' because of the funding gaps."

Few federal air programs or resources support local demonstration projects for non-mandated air quality improvements. Clean Air Act Section 103 research grant funding has decreased every year since FY 1997, and only a small portion is allocated to local governments (with the recent exception of specific allocations for PM-2.5 monitoring). Moreover, the few existing sources of federal funding for local clean air innovation, such as the Renewable Energy Production Incentive for public power systems or DOE's clean energy funding, have been reduced in recent years and are not adequate to meet local needs. State resources likewise are focused on regulatory mandates, and little funding is provided for clean air innovation.

The federal brownfields program demonstrates the potential value of direct federal funding for local environmental innovation. Several years ago, local

SECTION 103 FUNDING CHANGES



(Does not include funding dedicated for PM-2.5 monitoring.)

governments nationwide lacked capacity, staff, and resources to address the challenge of environmentally contaminated properties. Through the EPA brownfields program, which provides direct resources to localities, many cities and counties have established successful brownfields programs, leveraged substantial public and private resources, overcome difficult barriers to cleanup, and educated citizens on successful brownfields strategies. This brownfields example provides an excellent model for enhanced, direct federal funding for local government air quality efforts.

Local Governments Strongly Endorse the Clean Air Partnership Fund

NALGEP found a clear consensus among local officials in support of the Administration's proposed Clean Air Partnership Fund. Localities see the proposed fund as a key strategy for overcoming many of the barriers to clean air progress. This funding program — proposed for $85 million in FY 2001 — would provide grants directly to local, county, state, tribal, and multi-governmental organizations for clean air demonstration projects. The fund would support grants to demonstrate multi-pollutant strategies that reduce greenhouse gases, air toxics, soot, and smog. The Clean Air Partnership Fund would provide the needed resources through mechanisms that promise significant leveraging of non-federal resources. It is expected that the fund would support the development of local revolving funds, low-interest loan programs, matching funds, public-private partnerships, and other capitalization mechanisms.

NALGEP found a clear consensus among local officials in support of the proposed Clean Air Partnership Fund.

Local governments strongly support the establishment of such a federal financing mechanism to provide direct resources to localities for voluntary pollution-reduction initiatives. Many localities reported that they would be able to put such Section 103 funding into programs that would help localities meet Clean Air Act mandates and local air quality objectives. Indeed, localities cited the lack of a tool like the Clean Air Partnership Fund as the top barrier to the local clean air innovation that is badly needed in many local communities. The proposed new fund would go a long way toward overcoming that barrier.

Creating a "Clean Air Showcase Community" Initiative

The Brownfields Showcase Community initiative, launched in 1998 by the Administration's Brownfields National Partnership, could provide the EPA's air

office with a useful model for catalyzing local clean air innovation. Coordinated by EPA, the Brownfields Showcase project provides a targeted number of local governments with special technical, financial, and other assistance from more than 20 different federal cabinet departments and independent agencies, including DOT, the U.S. Department of Housing and Urban Development (HUD), the U.S. Army Corps of Engineers, and the Economic Development Administration (EDA). Brownfields Showcase Communities serve as national models of public, private, and nongovernmental collaboration in addressing brownfields challenges. Additionally, the communities receive staff support in the form of a federal employee assigned to each designated local government under the Intergovernmental Personnel Act (IPA). The brownfields IPA staff have made a major contribution toward building local capacity to understand and address brownfields issues, helped create a strong link between the local and federal government, coordinated support for local brownfields activities, and helped federal agencies to better understand local needs.

SEATTLE, WA

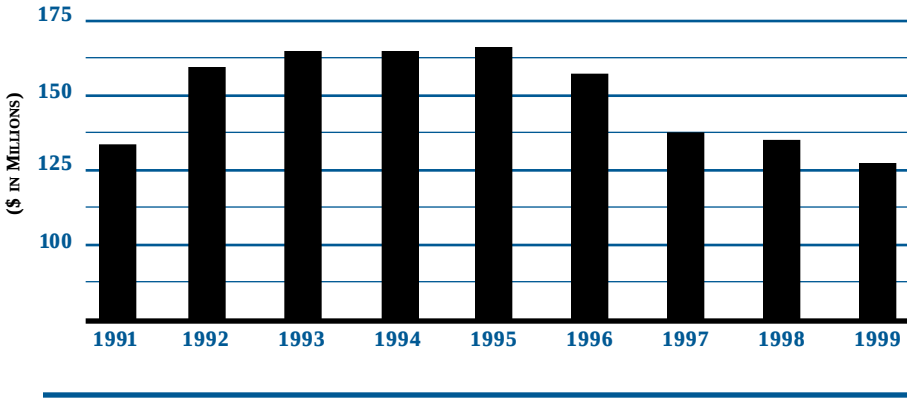
EPA's air office could launch a similar "Clean Air Showcase Community" program, which could empower a targeted number of local governments to serve as models for air quality improvement. The initiative could provide grant funding, staff support, technical assistance, and federal interagency resources to support innovative local air quality programs. EPA could provide each pilot community with 103 grant funding as well as a federal staff person to assist localities with pressing air quality problems. The "Clean Air IPAs" could help local governments build the capacity to meet Clean Air Act regulatory requirements by creating a better federal-state-local communications process and by involving the locality more directly in air quality planning. Moreover, Clean Air IPAs could assist localities with implementing innovative strategies and partnerships to clean the air through community-based, innovative practices. Different types of communities could be selected as Clean Air Showcases, including larger and smaller localities, localities in nonattainment of NAAQS, and localities in attainment that want to preserve healthy air quality. The program could be structured to enjoy a broad range of interagency support from federal departments and agencies with links to air quality, such as DOT, EDA, DOE, HUD, and the National Institute for Environmental Health Sciences (NIEHS). The program could also be implemented in coordination with state air agencies, which could contribute state staff time toward this intergovernmental exchange.

FINDING 14

Local environmental officials face increasing responsibility for meeting air quality mandates, even as Clean Air Act Section 105 funding decreases.

In addition to the need for resources to support clean air innovation, localities need stable resources to meet ongoing air program needs. As EPA delegates more responsibility to localities to enforce Clean Air Act mandates relating to ozone, air toxics, and monitoring, federal funding for local control agencies is eroding. Decreasing Section 105 funding has left a gap that many local governments are struggling to fill. While federal funding for local air programs decreases, the challenge to improve community air quality increases.

SECTION 105 FUNDING DECLINES TO STATES AND LOCALITIES



105 Resources Shrink as Local Responsibilities Grow

Local governments nationwide support national air quality standards and are engaging in long-term strategies to improve community air quality, but inconsistent Section 105 funding has crippled many of their efforts to comply with federal mandates. In fact, Section 105 funding has decreased by more than $36 million since fiscal year 1995. Many local air officials reported that they lack the capacity or staff necessary to meet air quality standards. Gary, Indiana, for example, once employed more than 20 local officials to meet air quality challenges. Gary's local program, in existence since the mid-1960s, received sufficient federal funding until the State of Indiana established an air division and the federal funding subsequently was redirected to the state. Now, Gary's Department of Environmental Affairs receives minimal CMAQ funding ($16,000 in 1998) and can afford to employ only five local officials to address the area's nonattainment designations for ozone, particulate matter, carbon monoxide, and sulfur dioxide.

"Air quality agencies should not have to worry about being able to keep staff on and what portion of air quality they are going to let slide due to lack of resources."

Robert Colby
Chattanooga-Hamilton County, TN

"Air quality agencies should not have to worry about being able to keep staff on and what portion of air quality they are going to let slide due to lack of resources," stated Robert Colby, director of the Chattanooga-Hamilton County Air Pollution Control Bureau. "Federal air quality resources are much better spent at the local level."

Pending federal air mandates may include 8-hour ozone standard planning and implementation, urban air toxics reduction programs, and implementation of the fine particulate matter standard. Increasing traffic and VMTs also generates additional mobile source pollution. Because Section 105 funding is insufficient to support existing Clean Air Act mandates, local governments urge EPA and the states to increase Section 105 funding to meet the increasing challenges of air quality improvement.

"EPA's combination of additional mandates and Section 105 funding cuts is extremely problematic," stated Art Williams, director of the Air Pollution Control District of Jefferson County, Kentucky. "Local governments cannot continue to improve community air quality with diminishing resources. Despite the efforts of STAPPA/ALAPCO, local air officials are beating our heads against the

wall." As John Paul of the Dayton, Ohio, Regional Air Pollution Control Agency suggested, "Section 105 funding needs to be increased dramatically. This funding could be doubled and localities would make good use of it." Indeed, in 1997 STAPPA/ALAPCO and EPA undertook a four-month, intensive study to identify and estimate the costs related to activities that should be funded with state and local air grants under Section 105 of the Clean Air Act. The calculations of additional funding need addressed both the deficiencies in existing programs and the support needed for new initiatives. The EPA and STAPPA/ALAPCO analysis determined that to operate an effective air program, a total increase of $98 million in annual federal grants to state and local agencies under Clean Air Act Section 105 would be necessary.

Funding Cleaner Air from the Ground Up

Many localities reported that the federal air program resources provided through the states often do not get applied to local programs that are needed to meet air quality objectives. Many localities suggested that their states were not directing funding to local air quality priorities and that few federal funds were passed through to local programs. One local official cynically observed that "any federal money for air quality innovation will never make it to the local level, where it can do the most good." Many localities stressed that the successful track record of direct Section 105 funding to more than 60 local governments demonstrates the benefit of direct federal funding, and urged EPA to increase the number and scope of direct local funding arrangements.

Many localities have stressed the need to establish resources for monitoring air toxics emissions. NALGEP is encouraged by a recent EPA initiative to provide funding to four pilot localities to establish toxics monitoring projects. In Detroit, Providence, Seattle, and Tampa Bay, EPA will sponsor projects to monitor air pollutants, including VOCs, carbonyls compounds, and heavy metals. The pilot monitoring project is seen as a first step in establishing a long-term nationwide air toxics monitoring network in 2002 or 2003, which could help local governments better understand and address the extent of the air toxics problems in their communities.

FINDING 15

Local governments are concerned about the loss of funding that results from reaching attainment goals and seek more resources to preserve clean air.

Local air officials expressed concern that federal air funding regulations provide negative incentives to communities seeking to comply with national air quality standards. Because federal funding such as DOT's Congestion Mitigation and Air Quality (CMAQ) program becomes unavailable to local governments that have reached ozone attainment, many communities are unable to develop pollution prevention programs that could provide additional clean air benefits. When federal funding supports only communities that fall short of national air quality standards, those that enjoy the nation's cleanest air face the prospect of sliding into unhealthy air status unless they obtain the resources to maintain their air quality gains.

In Austin, Texas, for example, the city would have been designated nonattainment in 2000 if the more stringent 8-hour ozone standard had remained in effect. Although nonattainment status would have brought additional mandates from EPA, the status also would have provided Austin with needed federal CMAQ fund-

"EPA and the federal government have spent millions for cleaning dirty air, but nothing on prevention."

Marcia Willhite
Lincoln-Lancaster County, NE

ing to address its air quality concerns. When the court ruled against the 8-hour ozone standard, however, Austin marginally remained in attainment and failed to qualify for CMAQ funding. "Because the federal government does not provide funding to communities that are legally in attainment, Austin has had difficulty addressing many of its air challenges," stated Wendy Richmond-Powers of the Austin Planning, Environmental, and Conservation Services Department.

Localities lament the lack of resources and attention that are devoted to preserving healthy air quality in local communities. "Without an air crisis or a regulatory hammer, it is hard for local air officials to promote cleaner, more sustainable practices locally," said Marcia Willhite of the Lincoln-Lancaster County Department of Health. "EPA and the federal government have spent millions for cleaning dirty air, but nothing on prevention." Local governments urge EPA to assess the negative incentives created by the defunding of local governments that meet air quality requirements.

FINDING 16

Local environmental officials believe that the CMAQ process must be improved so that more funds are directed toward air quality initiatives rather than road-upgrade projects.

Many local air officials are frustrated with the current allocation of CMAQ funding. The Department of Transportation's CMAQ program is intended to fund transportation projects and programs in nonattainment and maintenance areas that reduce transportation-related emissions. However, local air officials believe the CMAQ program currently de-emphasizes air quality. Thus, a traffic intersection at which a high level of carbon monoxide is detected may receive funding for a turn lane. Such an award takes money away from projects that might have more far-reaching air quality benefits. Many CMAQ projects improve the flow of traffic, but communities are not realizing significant air quality benefits.

Strong coordination between MPOs, which disperse CMAQ funding, and local air quality programs could improve efforts to shift CMAQ resources to air quality improvement. According to Robert Elliott of the Southwest Air Pollution Control Authority, "MPOs view CMAQ funding as their own and see local air agencies as outsiders. The Southwest Air Pollution Control Authority submitted CMAQ applications for three air quality projects in 1999, but the MPO's scoring process heavily favors congestion mitigation at the expense of improved air quality and air lost out."

Strong local government coordination with MPOs can better satisfy community air quality goals. Local environmental officials seek to play an increased role in selecting CMAQ projects. Local environmental officials also support the development of new CMAQ program guidance by DOT and EPA in order to enhance local air quality objectives. For example, CMAQ guidance could

encourage more formalized consultation between MPOs and municipal environmental officials. In addition, CMAQ guidance could encourage state transportation offices to set aside portions of CMAQ funding for air quality purposes or to establish funding criteria that score innovative air quality projects higher than road-upgrade projects. Doing so would eliminate the traditional funding disadvantage against air quality projects that are not designed to reduce traffic congestion. DOT could also play an enhanced role in promoting education and outreach to state and local transportation officials on the issue of air quality.

FINDING 17

Local officials are developing new mechanisms to obtain local funding for innovative air improvement programs.

Counties and municipalities certainly rely on Section 105 and other federal and state funding to comply with Clean Air Act mandates, but many air programs are seeking new sources of financial support to leverage federal air quality investments. Moreover, as Section 105 funding has decreased, local governments increasingly have shouldered more of the financial burden for improving air quality.

EPA's Section 105 funding requires at least a 40 percent match of local funds. Although some local governments dedicate a portion of their general funds for compliance with federal air quality mandates, other local governments are using targeted funding mechanisms for air quality improvement, including Title V and other permit fees, civil air quality penalties, tax revenues, and environmental bonds.

An increasing number of local governments are receiving financial support from taxes, fees, and levies on automobiles and gasoline:

- In the mid-1980s, the State of Florida began requiring motorists to pay a $1 license tag registration fee. Approved local air programs receive as much as $0.75 of the fee, with the remaining $0.25 dispersed to the state. This year, the state projects to collect $14.5 million in license tag registration fees and return $5.9 million to the eight approved local air programs.
- Jefferson County, Kentucky, instituted a vehicle inspection and maintenance fee that funds local air quality education and outreach activities.
- North Carolina counties receive a portion of the state's gas tax, which is devoted to air quality programs.
- A $4 per vehicle surcharge fee generates $1.2 million annually for the Santa Barbara County Air Pollution Control District.
- Salt Lake City, Utah, finances the air quality activities of the city's Department of Health with a $3 per vehicle emissions test fee.

Communities also are raising revenue to tackle air quality challenges through public utility fees:

- Under California electric restructuring, a 5 to 7 percent public benefits fee is added to local utility bills to finance renewable energy, energy efficiency, and related programs.
- Fort Worth, Texas, instituted an environmental protection fee of between $0.50 (residential) and $35 (industrial) on monthly water bills to fund mandated environmental programs, raising more than $3.5 million annually.

Local governments are interested in identifying other promising sources of local funding for clean air programs. In particular, localities support directing a greater portion of federal and state gasoline taxes toward air quality improvement programs and the establishment of load charges on electric power in order to support clean power projects. Local environmental officials also seek guidance and technical assistance from EPA on the use of vehicle and utility fees as Economic Incentive Programs. EPA should work with localities to credit such EIPs in SIPs.

Spread the Word: The Need for Improved Communication and Public Education

Although communities have achieved significant air improvements since the enactment of the Clean Air Act, many air quality challenges continue to threaten public health and quality of life across the country. Effective intergovernmental communication and citizen participation will be essential to improving air quality in this century. New efforts are needed to improve communication among the different levels and branches of government to coordinate air quality activities, both to avoid unnecessary duplication of efforts and to promote more effective air quality programs.

Local air officials seek assistance from their peers as well as federal and state governments in developing successful approaches to public outreach and education on cleaner air. Most local governments reported that they need to do more on public outreach to citizens and small businesses on cleaner air practices. This continuing barrier to air quality progress makes the development of new, multimedia communication and information tools a top priority for government air programs.

In its interviews with air quality officials, NALGEP examined how local governments communicate with federal and state government, with other local governments, throughout their own agencies, and with the public at large. The following findings focus on improving communication among local, state, and federal air officials, and with the public.

FINDING 18

Local governments seek improved communication with federal, regional, and state air officials as well as better access to information on emerging air quality issues and innovations.

Local Communication with EPA

Local governments report that communication with the EPA occurs with various degrees of success. Although some local governments have established positive working relationships with national and regional EPA staff, many local governments report that their direct contact with EPA is minimal and sometimes adversarial. “Much of the communication between EPA and local governments occurs during controversy,” reported Matt Greller of the Indiana Association of Cities and Towns. “EPA should be looking for opportunities to communicate upfront with local governments to promote environmental progress.”

Many localities complain that they are regularly excluded from federal policy development efforts and then contacted solely to discuss implementation of

compliance mandates. Sarah Lile, director of the Detroit Environmental Affairs Department, pointed out a dire need for better communication between local and federal air officials. "Detroit would view it as progress if federal officials simply chose to visit our city to find out what is going on and what we need," stated Lile. "The best we get as a municipality is occasional communications, delivered late. In fact, when federal officials say that they have to get input from 'the locals,' we feel like they consider us second-class stakeholders, rather than as the partner that can make things happen on the ground."

As the challenges of air quality and federal Clean Air Act mandates increase, localities are looking for more assistance and interaction from EPA. Local officials need to be better included in federal air policy development.As one environmental manager from a major American city noted, "Locals are treated like an afterthought, and we are seldom at the table when planning and policy decisions take place." Most local officials whom NALGEP interviewed felt that EPA's regional and headquarters offices typically assume that important information provided to the state will make it to the local level. It often does not — at least, not on a timely basis. Many local air officials expressed interest in receiving timely information on emerging air quality issues. Local governments also look to the EPA to communicate successful models that municipalities around the country are using to address the air quality challenges within their communities.

Local officials suggested that EPA could take a variety of steps to improve access to its information, including:

- Develop a more user-friendly air quality Web site that provides information specifically targeted to local government officials on regulatory, compliance, and voluntary air quality initiatives as well as points of contacts for specific issues and programs.
- More widely distribute the plain English guides that the Agency has developed for explaining federal air quality mandates to local governments.
- Continue to conduct satellite air quality seminars to brief local governments on new federal air quality policies.

"EPA should be looking for opportunities to communicate up-front with local governments to promote environmental progress."

Matt Greller
Indiana Association of Cities and Towns

BILL HOLLEMAN

INDIANAPOLIS, IN

NALGEP and the Clean Air Task Force encourage EPA to consult with local governments on the design and implementation of these types of communication tools.

Many local officials reported that they do not know whom to contact at the EPA regional level to discuss air quality problems. One promising idea air quality officers suggested is to assign staff in each EPA regional office to serve as a liaison to local governments. These "Clean Air Community Liaisons" would be dedicated to working exclusively with local communities to address air quality problems, serving as a sort of "air quality circuit rider" for local governments. The Clean Air Liaison would be responsible for developing and implementing training and educational programs for local air quality officials and the public throughout the region, with an emphasis on innovative, community-based air practices. Clean Air Liaisons also could help establish better regional networks of localities to exchange information on promising approaches to local air quality improvement. The liaison would also be able to champion promising local approaches to EPA and the states.

A useful model for this regional staff position is the Brownfield Coordinator position that has been established in all 10 EPA regional offices. The Brownfields Coordinators have changed the climate of federal-local relations on the brownfields issue. Just a handful of years ago, most local governments reported that they knew little about brownfields and had no idea whom to contact at EPA for support. Today, a strong federal-local relationship on brownfields revitalization exists in large part because of the dedication of regional level staff resources for working with local officials.

Local governments also seek more opportunities to meet face-to-face with officials from EPA headquarters and regional offices. One way to accomplish this would be to establish an annual "Clean Air Conference" to bring together a variety of stakeholders to discuss promising approaches to clean air innovation. The EPA brownfields office has hosted successful annual conferences convening brownfields stakeholders to develop revitalization strategies for environmentally contaminated properties; local air officers seek to share similar experiences with

EPA Provides Local Air Information through Satellite Network

Local governments can take advantage of a new learning tool provided by EPA, the Air Pollution Distance Learning Network. This network is a digital, state-of-the-art educational satellite broadcasting network of more than 100 governmental and university broadcast affiliates located across the United States. Timely seminars and technical telecourses are delivered via the network to state and local government environmental professionals as well as the private sector. Training is delivered to sites at a fraction of the cost of traditional classroom methods, saving participants travel, time, and money while developing and enhancing their knowledge of and skills in air pollution control and environmental programs and policies. For more information, visit www.epa.gov/airprogm/oar/oaqps/eog/apdln.html.

their counterparts. Although other air conferences on the subject exist, local officials believe that EPA-sponsored conferences could provide important air quality information directly to local governments, thereby avoiding misunderstandings and delays created by filtering the information through the states. National air conferences also could demonstrate EPA's commitment to promoting regional air quality efforts by gathering local governments to share examples of success. In addition, Clean Air Conferences could bring together people from multiple disciplines to identify cross-cutting clean air strategies. For example, the conference could bring together environmental, economic development, transportation, energy, pollution prevention, public health, and public education officials from the local, state, federal, non profit, and private sectors to discuss and begin to coordinate promising clean air strategies.

"State air officals seldom come to the locals unless there is some problem or crisis."

Local Communication with the States

Most local officials acknowledge good relationships with their state counterparts, and localities realize that the structure of the Clean Air Act places substantial responsibility at the state level. Nonetheless, local officials report that localities must be better engaged in air quality planning and implementation, and that additional resources need to be directed to the local level. Robert Fulp of the Forsyth County, North Carolina, Environmental Affairs Department commented that "EPA has traditionally directed air activities through the states. While many local governments seek to be more innovative, there is sometimes very little support from state officials interested in only satisfying federal mandates." Likewise, local officials often report poor communication from their states. Tim Brennan of the Pioneer Valley Planning Commission in Massachusetts reported that "the flow of information out of the state is underwhelming." In one Midwestern city, an air official lamented that the state had even failed to notify the city when the state environmental agency pursued air enforcement within the community. "The state misses an opportunity for coordinated action when the city is not viewed as a local partner on such actions," the local official said. An official from another major southern city reported that "state air officials seldom come to the locals unless there is some problem or crisis. State officials need to be more pro-active in preventing pollution problems and planning ahead with localities."

Indeed, state air regulators have been so overwhelmed with planning for (or fighting against) ozone and fine particulate mandates that many municipalities feel that local air issues and needs have been lost in the mix. Moreover, because states are so focused on Clean Air Act regulatory programs, many states are unable to give sufficient attention to programs that can support local efforts to implement innovative air practices, such as energy efficiency programs, pollution prevention and the use of environmental technology, and better land use and transportation patterns.

In a few states, local environmental officials have established statewide organizations to share information and represent local interests. The Florida Local Environmental Resource Agencies (FLERA), for example, is an association of counties and cities that have local environmental programs. FLERA works closely with Florida's Department of Environmental Protection to share local government concerns and promote better coordination between local governments and the state. In Indiana, the Indiana Association of Cities and Towns

(IACT) developed an Environmental Circuit Rider program to serve as a bridge between localities and state regulators, serving 470 communities with confidential compliance assistance. In addition, in some states, statewide associations have been established to represent air issues exclusively, such as the California Air Pollution Control Officers Association and the Ohio Local Air Pollution Control Officers Association.

Local environmental officials suggested a number of approaches to improving coordination between state and local air quality officials. State air quality offices could develop newsletters, host e-mail forums, conduct monthly conference calls, and host annual meetings with local air officials on emerging issues and opportunities for air quality improvement. States also can place staff in local government offices to support community air quality goals.

FINDING 19

Local air officials need to improve both local interagency coordination and communication to local elected officials about the benefits of continued air quality improvement.

The Need for More Local Interagency Coordination

Interviews with air officials revealed that few local governments are effectively coordinating the communication among different agencies within municipal and county government. In most of the localities NALGEP interviewed, insufficient coordination existed between environmental departments and other key agencies that play major roles in local air quality, such as local energy, economic development, and planning offices. Where interagency communication did exist, local governments reported effective integration of air quality efforts. In Austin, Texas, for example, the city has established an interagency advisory committee of officials from a variety of municipal agencies to advise the city manager's office and other city agencies about air quality concerns.

Local governments that have effectively coordinated different agencies advise explaining the impact of being designated as nonattainment. "Economic devel-

Fort Worth and Regional Mayors, TX

opment, public works, and transportation departments will be concerned with air quality only to the extent that their cities may be designated nonattainment," observed David Padgett, director of the Colorado Springs Utilities Environment, Health and Safety Department.

Building Commitment with Local Officials

Local air officials also reported that to a large extent, elected officials are not sufficiently aware of air quality challenges. "It has been difficult to get elected officials to focus on air issues because air quality is perceived as improving," explained Bryan Glascock, director of the Boston Air Pollution Control Commission. Although explaining air quality issues can be challenging, local officials that have made the effort to conduct educational sessions with mayors, city council members, and county executives confirmed an increased level of support from their elected leadership.

Local air officials can develop local elected officials' knowledge about air quality issues through training sessions with newly elected officials, regular air quality briefings, and community meetings soliciting public input. EPA and the states can support this educational effort by improving outreach to local elected leaders and associations representing elected officials.

FINDING 20

EPA, states, and local governments seek improved communication tools to inform the public about the link among citizen practices, clean air, and quality of life.

Despite the poor air quality of many municipalities, local air officials do not believe the issue has received the attention it deserves. Although some cities, such as Tempe, Arizona, have mobilized public support to tackle obvious concerns like winter "brown clouds," for the most part air quality problems are not so visible, and local environmental officials face an uphill struggle to elevate their priority. NALGEP interviewees reported that citizens often do not understand how their actions affect air quality and do not know what to do. Moreover, citizens do not recognize the public health implications of deteriorating air quality. Local air officials suggested that EPA outreach should link air quality concerns with more visible environmental challenges such as the connection between air quality and smart growth, land use, traffic congestion, and larger concerns about quality of life. Mark Gregor of the Rochester Department of Environmental Services in New York suggested that "EPA use quality of life and smart growth issues as hooks for air quality improvements."

EPA Support for Local Outreach

Local officials recommend that EPA establish regional educational outreach budgets for local governments to develop customized messages that link community practices with air quality and quality of life. Although local governments were cool to the idea of distributing information produced in Washington, DC, within their communities, local air quality officials were interested in developing educational materials specifically tailored to their needs. With EPA support, local governments could develop the types of air quality messages that work best within their communities. Chris Byrne of the Saint Louis County Air Pollution Control Division in Missouri noted that "EPA once put together a very helpful brochure on the links between ozone and asthma which was tailored

FORT WORTH, TX

to our region. EPA should continue to produce air quality materials that target local communities." Doug Kukino of the City of Glendale, Arizona, further suggested that EPA work in collaboration with local governments to understand local issues and create community-based messages. EPA and DOT also should consider distributing more widely their collaborative "It All Adds Up to Clean Air" tool kit, which includes marketing and media materials. For an excellent publication that can provide local officials with information on air quality communication and outreach tools used by localities across the nation, NALGEP recommends the STAPPA-ALAPCO publication *Communicating Air Quality: A Compendium of Resources* (STAPPA/ALAPCO, August 1997).

CLEAN AIR PARTNERSHIPS WITH THE PRIVATE SECTOR

Communication between local governments and the business community also has improved air quality. As businesses begin to understand the economic impact of poor air quality, innovative business-local government partnerships are forming to reverse these air quality trends. Describing the benefit of these voluntary business partnerships, Marcia Willhite of Lincoln-Lancaster County, Nebraska, suggested that industry often is willing to go beyond compliance standards when "the focus is on supporting good behavior rather than punishing bad behavior." Wendy Richmond-Powers of Austin, Texas noted that "business leaders are supportive of the city's air program when they are educated about the economic impacts if the city were to slip into ozone nonattainment. Businesses were very concerned that federal projects could be halted due to the city's nonattainment status." And Brian Boerner of the Fort Worth, Texas, Environmental Management Department emphasized that "partnerships with the business community can be very effective. Businesses prefer to act voluntarily rather than by mandate. The private sector can be an important brainstorming partner."

Local governments have solicited the support of the business community in a variety of other ways that can serve as models for other communities, including

- providing educational outreach to chambers of commerce and individual business entities on the economic effects of nonattainment designation;
- establishing air quality awards that reward businesses for innovative practices; and
- seeking business sponsorship of air quality campaigns.

PROMOTING PUBLIC PARTICIPATION

Many local governments have established innovative voluntary programs that instruct citizens on actions they can adopt to improve the quality of their community's air. For example, in 1997 Fort Collins, Colorado, initiated a program to raise one air quality issue per month and communicate that message through radio, newspapers, mailings to public utility customers, and school visits. Fort Worth, Texas, similarly communicates regularly with citizens on air quality issues through a local cable television show, a Web site, a page in every Monday morning city paper, and speaker's bureaus to schools. In metropolitan regions such as Washington, DC, local governments have partnered with local television weather departments to provide alerts on ozone action alert days. In other communities, elected officials have received substantial media attention for taking active lead-

ership to promote citizen behavioral change. For instance, John Fernandez, mayor of Bloomington, Indiana, "voted with his feet" for clean air by giving up his car for one month and biking to work in order to raise awareness of clean air issues.

Local officials also express the need to begin air quality education in the school system. As communities struggle to change the ingrained behavior of adults, air quality officials appreciate the importance of providing environmental education programs in the schools to affect the attitudes of the next generation. As Michael Naylor of the Clark County Health District's Air Quality Division in Nevada suggested, "There needs to be an 'Air Pollution 101' course, and the school systems could be a good start. A funding source should be established to enhance public school environmental education programs." Some municipalities have initiated such efforts. The Department of Natural Resources in Fort Collins, Colorado, established a "Cars, Cultures, and Cures" curriculum to educate junior high school students about the effects of automobiles on air quality. Similarly, the City of Indianapolis has created clean air kits for school-age children. Likewise, in 1995 the Northeast States for Coordinated Air Use Management (NESCAUM) initiated an "Air CURRENTS" project — Collaboration of Urban, Rural, and Regional Environmental Networks of Teachers and Students — in 1995 to provide basic air quality information to middle and high school students.

> *"There needs to be an 'Air Pollution 101' course, and the school systems could be a good start."*
>
> Michael Naylor
> Clark County, NV

INDIANAPOLIS PUTS THIRD-GRADERS IN THE KNOZONE

Thanks to an innovative educational tool kit, schoolchildren in Indianapolis, Indiana, understand the potential impact of ozone pollution. In partnership with the Indianapolis Chamber of Commerce, the local electric utility, and BitWise Solutions Inc., the City of Indianapolis is participating in a voluntary ozone awareness program, Knozone, that has reached roughly 40,000 students since its inception, covering 100 schools and nine Central Indiana counties. In 1998, the city's Knozone program won an Addy Award from the American Advertising Foundation.

Indianapolis' Knozone workbooks teach third-graders to distinguish between ozone-producing and ozone-reducing activities. Through board games, crossword puzzles, and other games, kids learn to adopt behaviors that keep ozone levels down. Lessons include avoiding the use of aerosol cans, mowing lawns later in the evening, keeping automobiles tuned, carpooling, and other important ozone prevention actions.

The kit includes a project for the students to work on at home with their parents. The city encourages children and parents to participate in the Knozone program by raffling 100 bicycles to participants who complete the at-home project.

For more information, contact Rick Martin with the City of Indianapolis at (317) 327-2269. Additional information is available online at www.knozone.com.

SECTION 3: PROFILES OF LOCAL CLEAN AIR INNOVATION

Across America, local environmental officials have launched innovative efforts to improve the health and air quality of their communities. With few available resources or incentives, local governments have initiated innovative air quality approaches to address the air quality challenges that federal and state mandates do not recognize or credit.

This section profiles 20 local governments that serve as national models of clean air innovation. The profiles are grouped in categories that illustrate the findings of the report and demonstrate the value and promise of further incentives for local clean air action. Although air quality challenges undeniably remain for the profiled local governments, by highlighting the following examples, NALGEP hopes to encourage other localities to examine how voluntary, beyond compliance approaches can be used within their communities to reach clean air objectives.

PROFILES OF LOCAL CLEAN AIR INNOVATION

This chart shows the actions that localities profiled in this report are taking to foster community-based air quality improvement and demonstrate the value and promise of local innovation for cleaner air.

Community	Smart Growth	Pollution Prevention	Transportation Choices	Regional Cooperation	Outreach — Communication	Clean Energy	Location in Report
Anaheim, CA		x				x	Page 34
Atlanta, GA	x		x				Page 64
Boulder, CO		x				x	Page 66
Chattanooga, TN	x		x				Page 68
Chicago, IL (Brightfield)						x	Page 23
Chicago, IL (Clean Air Counts)	x	x	x	x		x	Page 70
Cincinnati, OH		x			x		Page 72
Columbus, OH					x		Page 74
Fort Collins, CO					x		Page 76
Fort Worth, TX					x		Page 78
Indianapolis, IN					x		Page 61
Jefferson County, KY		x			x		Page 80
Lincoln-Lancaster County, NE		x			x		Page 82
Maricopa County, AZ				x			Page 84
Miami-Dade County, FL		x					Page 86
Minneapolis, MN						x	Page 88
Montgomery County, MD			x			x	Page 90
Pioneer Valley Planning Commission, MA			x				Page 32
Portland, OR	x		x	x			Page 92
Puget Sound, WA		x					Page 35
San Francisco Bay Area, CA			x				Page 94
Santa Barbara County, CA			x				Page 96
Santa Monica, CA						x	Page 98
Tucson, AZ	x	x					Page 100
White Plains, NY			x				Page 102

Profiles of Smart Growth for Clean Air

Atlanta Seeks Flexibility for Better Urban Redevelopment

Portland Adds Car Sharing Program to Smart Growth Tool Box

Tucson Advances Smart Growth and Clean Air with Public Investment in Civano Community

Profiles of Transportation Choices for Clean Air

Chattanooga Turns Air Quality Crisis into Vehicle for Innovative Transportation Systems

Santa Barbara County Encourages Visitors to Leave their Keys Behind

San Francisco Bay Area Establishes Transportation Fund for Clean Air

White Plains Plugs in and Sheds Weight to Reduce Fuel Consumption

Profiles of Regional Cooperation for Clean Air

Chicago Metropolitan Area Aims to Make Clean Air Count

Maricopa County Area Identifies Measures to Control Brown Cloud

Profiles of Outreach and Communication for Clean Air

Cincinnati Combats Smog at the Gas Cap

Columbus Builds Community Support to Clear Ozone

Fort Collins Provides Community with Breathing Lessons

Fort Worth Rewards Air-Conscious City Employees

Profiles of Clean Energy for Clean Air

Minneapolis Targets Greenhouse Gases, Protects Air Quality, and Saves Money

Montgomery County Adopts Energy Policy to Reduce Costs and Pollution

Santa Monica Sets the Standards for Sustainable Air Quality

Profiles of Pollution Prevention for Clean Air

Boulder Partners with Small Business to Prevent Pollution

Jefferson County Prevents Pollution in Partnership with Industry

Lincoln-Lancaster County Provides Clean Air Technical Assistance to Small Businesses

Miami-Dade County Plants Trees to Reduce Carbon Dioxide Emissions

ATLANTA SEEKS FLEXIBILITY FOR BETTER URBAN REDEVELOPMENT

Federal transportation conformity requirements prohibit the development of new highway infrastructure in many of America's largest metropolitan areas. These federal regulations can encourage development beyond the periphery of established communities and promote sprawl. A recent landmark agreement in Atlanta, Georgia, however, removed federal regulatory barriers and permitted the redevelopment of a midtown brownfields site. EPA provided regulatory flexibility for the smart growth development because the air quality benefits are expected to be significantly greater than if the project were located outside the metropolitan region.

Jacoby Development Inc. proposed to clean up and redevelop the 138-acre Atlantic Steel brownfields site in urban Atlanta for a mixed-use infill project that would include residential, retail, office, and entertainment space. An essential component of the proposal was the construction of a multi-modal bridge crossing an interstate highway to link the Atlantic Steel site and surrounding community with a nearby mass transit station. Without the bridge, redevelopment of the site would not be economically viable.

Atlanta's noncompliance with federal transportation conformity requirements prohibited Jacoby from constructing the proposed bridge. Rapid growth within the metropolitan Atlanta region has pushed the city into ozone noncompliance. The Clean Air Act prohibits transportation projects in Atlanta's urban core that would add to the highway system or require federal approval. Brownfields redevelopment and linkage to the mass transit system are considered smart growth patterns, but federal air regulations remained a barrier to implementing Jacoby's vision for the Atlantic Steel site.

In cooperation with the City of Atlanta, the state of Georgia, and public stakeholders, Jacoby sought flexibility through EPA's Project XL initiative to consider the entire brownfield redevelopment project as a transportation control measure (TCM) in the state's air quality plan, which requires EPA approval. Launched by the Clinton Administration in 1995, the Project XL (eXcellence and Leadership) initiative seeks "innovative ways of achieving better and more cost-effective public health and environmental protection." Project XL is designed to allow business and communities to achieve better environmental protection at lower cost by developing site- and community-specific alternative compliance plans. The program encourages projects that will achieve results beyond those attainable through rote compliance with existing federal environmental regulations. Pilot projects test "new ideas with the potential for wide application and broad environmental benefits."

"Atlantic Steel is the most important development in 50 years in this city."

Mayor Bill Campbell
Atlanta , GA

In 1999, EPA and Jacoby signed a Project XL agreement to permit bridge construction given the environmental benefits of the project. EPA will consider the redevelopment project a TCM and Jacoby will demonstrate improved air quality. The City of Atlanta also amended zoning regulations to permit development of the project.

While certainly a complex negotiation, the Atlantic Steel Project XL agreement serves as a model of infill land development in urban areas facing air quality challenges. Atlanta Mayor Bill Campbell called the agreement "the most important development in 50 years in this city."

For more information, contact Mike Dobbins of the City of Atlanta at (404) 330-6070. Additional information is available online at www.epa.gov/projectxl/atlantic/index.htm.

BOULDER PARTNERS WITH SMALL BUSINESS TO PREVENT POLLUTION

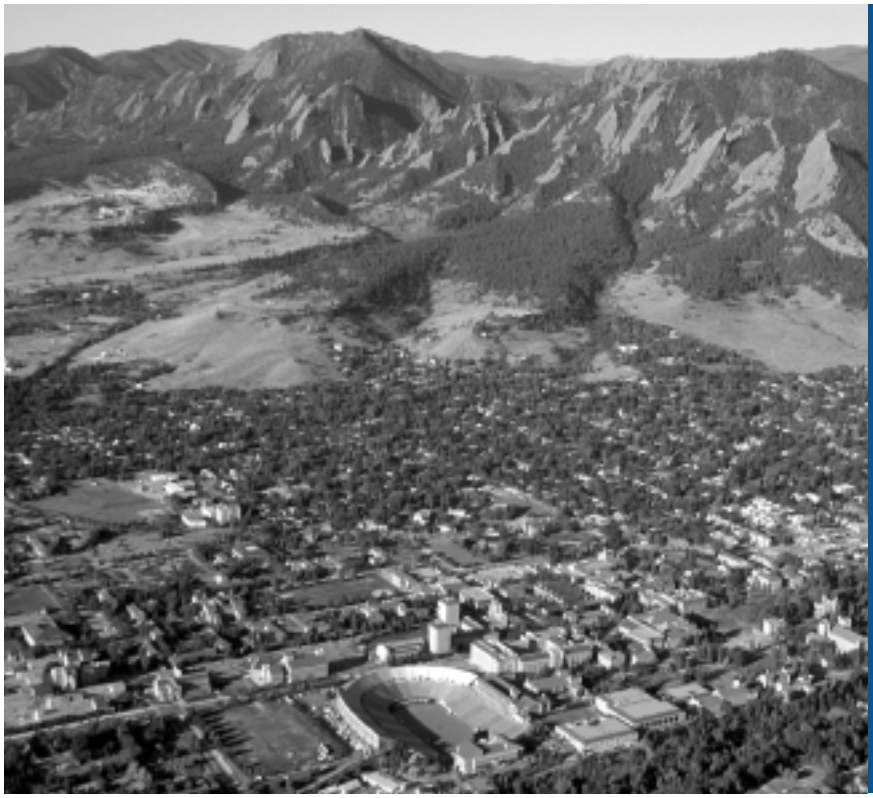
Realizing that small, unregulated businesses collectively can have a significant impact on public health and the environment, the Office of Environmental Affairs in Boulder, Colorado, launched a voluntary, nonregulatory program in 1994 that offers free pollution prevention education and technical assistance to Boulder County businesses. Boulder's Partners for a Clean Environment (PACE) program aims to certify and recognize area businesses that reduce the use of hazardous materials and minimize waste.

Through a partnership that includes the Boulder Chamber of Commerce, the City of Longmont, the Boulder County Health Department, and the Boulder Energy Conservation Center, PACE is shifting the traditional waste management mindset of business leaders and providing residents with the opportunity to patronize businesses conscious of air quality. Small- and medium-sized businesses often lack the time and resources to investigate pollution prevention alternatives. Boulder developed the PACE program to inform business leaders of pollution prevention benefits, including reduced costs for raw materials and waste disposal; improved worker health and safety; reduced liability risks; and an improved image with customers, employees, and the public.

The PACE program's pollution prevention efforts were initially targeted at the auto body, auto repair, and printing sectors. In general, these sectors are exempt from air permitting regulations, but collectively use significant quantities of hazardous materials for which pollution prevention alternatives exist. In 1999, the PACE program broadened to include the dental, restaurant, and manufacturing sectors.

Business representatives of each of the sectors work with PACE staff to determine achievable and appropriate pollution prevention goals, which become the criteria for certification and recognition as a PACE partner. Businesses that complete at least three of the program criteria receive partial PACE certification and receive public recognition at an annual awards ceremony. For full certification, businesses must implement all program criteria. Full PACE partners receive a decal and certificate suitable for display at their business, as well as public recognition at an awards ceremony.

One of the newly certified PACE businesses is SAE Circuits, an 85-employee printed circuit board manufacturer. SAE qualified for PACE certification by implementing water conservation and waste reduction projects in their manufacturing area. Stelios Androludakis, SAE's environment and safety manager, estimates the company will save more than $26,000 annually through implementation of PACE's pollution prevention criteria. According to Erv Hammen, SAE president, PACE certification fits well with their corporate objective "to reduce waste and achieve minimal adverse impact on the environment,"



"Businesses that achieve PACE certification appreciate being recognized for what they view as 'doing the right thing.'"

Sarah Van Pelt
Boulder, CO

More than 200 local businesses are certified or working towards PACE certification. PACE staff estimate that in 1999 participating businesses reduced air emissions by 25 tons, hazardous waste by 3,900 gallons, wastewater by 35,000 gallons, and solid waste by 630 tons. In 2000, PACE staff aim to follow up with and gauge the progress of 160 auto repair garages, 30 auto body shops, 45 printers, 10 manufacturers, 80 dental offices, and 300 restaurants throughout the county.

"Businesses that achieve PACE certification appreciate being recognized for what they view as 'doing the right thing,'" stated PACE coordinator Sarah Van Pelt.

For more information, contact Sarah Van Pelt of the City of Boulder at (303) 441-1914. Additional information is available online at www.pacepartners.com.

CHATTANOOGA TURNS AIR QUALITY CRISIS INTO VEHICLE FOR INNOVATIVE TRANSPORTATION SYSTEMS

Chattanooga, Tennessee, spoiled by some of the nation's worst air quality in the 1960s and early 1970s, has focused its economic development and public and private investment on projects that promote clean air and livability. Through an integrated strategy of redevelopment and clean transportation that includes innovative electric buses, Chattanooga has become an international model for sustainable economic development, and drastically reduced air pollution in the area.

In the late 1960s, Chattanooga was labeled "America's dirtiest city" by the U.S. Secretary for Health, Education and Welfare. This pollution helped contribute to a cycle of disinvestment by businesses and a further deterioration of the central city.

Citizens, businesses, local officials, and civic groups of Chattanooga came together to establish a vision and plan for revitalization that would integrate economic development and sustainable environmental quality. Chattanooga has put this plan into action; one key outcome of the effort has been the development of a sustainable transportation system.

The centerpiece of the Chattanooga transportation system is its hybrid electric and gas buses. In the early 1990s, visitors to Chattanooga and local workers often had to drive if they wished to move quickly from point to point in the downtown area. This reliance on automobiles had made Chattanooga's downtown so automobile-intensive that three parking spaces were required for every worker or visitor, and more than 65 percent of the downtown land area was dedicated to cars. Parking demand, coupled with the fact that surface parking facilities paid markedly lower property taxes than did vacant buildings, led downtown property owners to tear down buildings and construct surface parking lots, reducing city tax revenues and weakening Chattanooga's economy.

Today Chattanooga enjoys clean, quiet, convenient, and free electric-bus shuttle service along with a network of strategically located parking garages, courtesy of the Chattanooga Area Regional Transportation Authority (CARTA). CARTA's growing fleet of locally manufactured electric transit buses will eventually serve riders throughout Chattanooga and surrounding Hamilton County.

In September 1991, CARTA created a private not-for-profit corporation, the Electric Transit Vehicle Institute (ETVI), to promote research and development of ETV technology and disseminate findings. Together ETVI and CARTA put Chattanooga's first two electric transit buses into service on a downtown shuttle loop in the summer of 1992. That fall, after a competitive bid process, the authority awarded a contract to a local start-up company, Advanced Vehicle

"The Chattanooga zero-emission bus shows how clean air, the economy, and livability can come together."

Bob Colby
Chattanooga, TN

Systems (AVS), for the manufacture and delivery of an additional 12 electric buses. These organizations joined with the Tennessee Valley Authority's Electric Vehicle Test Facility, universities, electric utilities, and battery suppliers to form an innovative public-private partnership that has advanced ETV technology from troublesome prototypes to a practical and effective public transit alternative. Today, Chattanooga boasts 17 electric buses, and the city recently announced a partnership with the U.S. Department of Transportation to create 11 higher-performance, electric-gas hybrid buses. With these additional buses, 20 percent of Chattanooga's buses will be zero-pollution vehicles.

Chattanooga now has downtown streets with less congestion and pollution because electric buses have eliminated the need for short, high-emission car trips and because the buses themselves are zero-emission vehicles. The local economy benefits from more than 30 manufacturing jobs created at AVS and from new business the shuttles attract to the downtown. Moreover, Chattanooga's hybrid electric buses have been sold to other American cities, including Los Angeles, Miami Beach, Tampa, Tempe, and Norfolk, and local ETV research and development have placed the United States in a position to take global leadership in the production of electric transit vehicles.
Born from a crisis in air quality, Chattanooga is now leading efforts to make alternative transportation systems a viable clean air option for communities.

For more information, contact Robert Colby of the Chattanooga-Hamilton County Air Pollution Control Bureau at (423) 867-4321, Tom Dugan of the Chattanooga Area Regional Transportation Authority at (423) 629-1411, or John Powell of the Electric Transit Vehicle Institute at (423) 622-3884. Additional information is available online at www.carta-bus.org or www.etvi.org.

CHICAGO METROPOLITAN AREA AIMS TO MAKE CLEAN AIR COUNT

Suffering from severe ozone nonattainment and other air pollution challenges that could threaten the economic competitiveness of the metropolitan region, the City of Chicago has launched a Clean Air Counts campaign to promote better patterns of growth, cleaner energy, regional collaboration, and other strategies to promote economic development that also meets clean air goals.

Chicago's clean air strategy is based on a regional approach that will bring local governments together across the metropolitan area. In March 1999, Chicago Mayor Richard Daley launched the Chicago Metropolitan Mayors Caucus, a group of 269 mayors from all surrounding municipalities. The caucus established a Clean Air Task Force to develop innovative local strategies to solve smog problems while improving the region's livability and competitiveness. The task force is looking beyond government for clean air solutions. "Government doesn't have all the answers; we need to get business leaders, civic leaders, environmental experts, utility executives, and entrepreneurs involved in clean air," Daley commented.

An important outcome of the caucus has been the recent initiation of the Chicago Regional Dialogue for Clean Air and Redevelopment. The dialogue brought together more than 300 government, business, citizen, environmental, and academic leaders from across the greater metropolitan region to chart a course for cleaner air in Chicago. A main goal of the dialogue was to develop strategies for reducing the region's ozone levels from mobile and area sources that are difficult to target through command-and-control regulation, in a way that supports economic development, especially redevelopment.

The outcome of the regional dialogue was the May 2000 launch of an innovative Clean Air Counts campaign, which incorporates five separate campaigns targeted at specific audiences. According to the regional dialogue, if the Clean Air Counts campaign is fully implemented, emission benefits of the program will include more than 26,000 tons per year in reduced volatile organic compounds (VOCs), nearly 22,000 tons per year in reduced nitrogen oxides (NOx), and a 6.11 million megawatt/hour (MWh) per year reduction in energy use. The campaigns include:

Clean Air Communities — This campaign will target municipal and county governments, and will promote air emissions reductions in government transportation systems, municipal operations and maintenance, municipal energy generation and use, community development as well as in local government regulations, incentives, and purchasing. The estimated benefits of the campaign include a 19.20 ton per day reduction of VOCs, a 14.25 ton per day reduction of NOx, and a 1.43 million MWh per year reduction in energy use.

Clean Air Businesses, Industries, and Institutions — This campaign will target nonregulated businesses and institutions, commercial enterprises, and regulated industries and will promote air emission reductions through improvements in transportation systems and equipment, operations and maintenance, energy gen-

"Government doesn't have all the answers; we need to get business leaders, civic leaders, environmental experts, utility executives, and entrepreneurs involved in clean air."

Mayor Richard Daley
Chicago, IL

eration and consumption, physical development, and pollution prevention as well as through emissions trading. The estimated benefits of the campaign include a 11.33 ton per day reduction of VOCs, a 24.59 ton per day reduction of NOx, and a 2.81 million MWh per year reduction in energy use.

Clean Air Development — Targeted to builders, developers, architects, and planners, this campaign will promote air emissions reductions in the location, design, and materials used in development. The estimated benefits of the campaign include a 1.65 ton per day reduction of VOCs, a 7.81 ton per day reduction of NOx, and a 1.10 million MWh per year reduction in energy use.

Clean Air Households — This campaign will target the general public, families, and homeowners to promote emission reductions through alternative transportation, energy conservation, and better citizen practices in landscaping, housekeeping, and technology use. The estimated benefits of the campaign include a 31.9 ton per day reduction of VOCs, a 8.42 ton per day reduction of NOx, and a 0.55 million MWh per year reduction in energy use.

Clean Air Illinois — Targeting the state and federal government in Illinois, this program will promote emission reductions by encouraging improvements in transportation systems and equipment, operations and maintenance, energy generation and consumption, and physical development as well as through pollution prevention. The estimated benefits of the campaign include a 7.43 ton per day reduction of VOCs, a 4.90 ton per day reduction of NOx, and a 0.22 million MWh per year reduction in energy use.

For more information, contact the Delta Institute at (312) 554-0900. Additional information is available online at www.delta-institute.org.

CINCINNATI COMBATS SMOG AT THE GAS CAP

A significant number of automobiles manufactured before 1990 leak gas fumes through their gas caps. Leaking gas caps release volatile organic compounds (VOCs) — an ozone precursor — into the atmosphere, and can waste $30 worth of gas per car every year through evaporation. In 1998, the City of Cincinnati, Ohio, in partnership with the Regional Ozone Coalition, initiated a voluntary program to test and replace leaking gas caps. Sponsored by BP Oil, NAPA Auto Parts, Balkamp, Kroger Company, Coca Cola, and Cincinnati Bell, the public service program replaced more than 23,000 leaking gas caps in the Greater Cincinnati area, reducing annual emissions of VOCs by approximately 1,300 tons.

The Greater Cincinnati area is currently classified as moderate nonattainment for ozone (the region expects to be reclassified as attainment in Summer 2000). The city estimated that more than 72,000 automobiles in the Greater Cincinnati area emit gas fumes from leaking gas caps, thereby contributing to the ozone problem. Based on the results of a successful initiative in Pittsburgh, Pennsylvania, Cincinnati's Office of Environmental Management (OEM) determined that a gas cap replacement program could be an effective way to reduce evaporative losses of VOCs.

In 1997, Cincinnati's OEM approached BP Oil to serve as the primary corporate sponsor for the gas cap replacement program. BP Oil accepted Cincinnati's sponsorship offer and agreed to provide funding for the replacement of 30,000 gas caps over a six month period. BP Oil also equipped all of their PROCARE automotive service centers with testing equipment. Cincinnati's gas cap program encouraged vehicle owners to take their vehicles to participating PROCARE automotive service centers for a free gas cap check. Vehicle owners with leaking gas caps were given a free replacement cap or a certificate for a new free gas cap from participating NAPA Auto Parts stores.

With the slogan "Put a Cap on Smog!" Cincinnati and the Regional Ozone Coalition marketed the program to the general public through television and radio advertisements, billboards, brochures, and utility bill inserts. Cincinnati Mayor Roxanne Qualls, Hamilton County Commissioner John Dowlin, and BP Oil executive Michael Lombard participated jointly in the media event to launch the ozone season effort. The "Put a Cap on Smog!" campaign also worked with the Greater Cincinnati and Northern Kentucky chambers of commerce to encourage local businesses to host their own on-site "Gas Cap Replacement Day." Volunteers performed on-site gas cap testing on 8,000 employees' and employers' vehicles and replaced 1,200 leaking caps. In addition, more than 12,000 gas caps were mailed directly to the owners of 1971-73 model year vehicles, which are exempt from Ohio's vehicle inspection and maintenance program.

As the region works to comply with Clean Air Act mandates and achieve attainment designation, the city's innovative partnership with area businesses

"The Gas Cap Replacement Program was a significant step in improving the region's air quality."

Dennis Murphey
Cincinnati, OH

effectively reduced automobile emissions. With every 4,000 leaking caps replaced, the region reduced VOC emissions by an estimated 1 ton per day. The replacement cap program reduced annual VOCs in Greater Cincinnati by approximately 1,300 tons.

"The Gas Cap Replacement Program was a significant step in improving the region's air quality," said Dennis Murphey, director of Cincinnati's Office of Environmental Management. "With the support of the business community, replacing leaking gas caps offered a cost-effective, popular, easy-to-implement strategy for reducing smog."

For more information, contact Dennis Murphey of the City of Cincinnati at (513) 352-4630. Additional information is available online at www.ci.cincinnati.oh.us/oem/home.html.

COLUMBUS BUILDS COMMUNITY SUPPORT TO CLEAR OZONE

The City of Columbus has enjoyed ozone attainment status under EPA's 1-hour standard for the past eight years, but a monitor in Delaware County measured unhealthy ozone levels on two consecutive days in June 1999. Central Ohio's increasing pace of growth and vehicle use could push the region out of compliance with federal air quality standards — just one exceedance within the next two years will place Columbus in nonattainment status for ozone. Noncompliance with federal ozone standards would result in economic penalties and restrictions that could harm area business and cost jobs.

In response, Columbus has launched the Project CLEAR (Community Leadership to Effect Air Emissions Reductions) initiative to ensure attainment with federal air quality standards and avoid penalties, save health care costs, and help maintain Central Ohio's quality of life. Project CLEAR is an innovative citizen initiative involving community members to identify strategies that reduce ground-level ozone and improve air quality.

Established as a partnership of the Columbus Health Department, the Mid-Ohio Regional Planning Commission, and Ohio State University, Project CLEAR is engaging citizens, businesses, local governments, nonprofit organizations, and universities in a process to evaluate a wide range of air pollution strategies to reduce nitrogen oxides (NOx) and volatile organic compounds (VOCs), which are precursor emissions to ground-level ozone. The project is examining alternative fuels, public transportation, auto emissions inspection, industrial emissions, and area source emissions.

Project CLEAR seeks to involve a broad cross-section of stakeholders throughout the process instead of soliciting public input after a local air quality strategy has been developed. The project will conduct a campaign to inform citizens of the alternatives and then will facilitate a process whereby citizens help choose among various options. A speakers' bureau and other outreach efforts have been initiated to educate Columbus area residents about outdoor air pollution causes, effects, and potential solutions. Beginning in the fall of 2000, Project CLEAR will conduct at least 20 "deliberative issue forums" throughout Franklin, Licking, and Delaware counties. At these forums trained moderators will facilitate lively discussions about issues, options, and preferences about strategies to reduce ozone-forming emissions. The processes will challenge participants to balance competing interests and values and achieve consensus around controversial issues.

ROD BERRY

> "For our community to realize the air quality improvements we desire, it is imperative that our citizenry be actively engaged in developing the strategies to reduce our area emissions."
>
> Michael Pompili
> Columbus, OH

"For our community to realize the air quality improvements we desire, it is imperative that our citizenry be actively engaged in developing the strategies to reduce our area emissions," stated Michael Pompili, Columbus' assistant health commissioner for environmental health.

The project will conclude by early 2002 with the release of a report recommending actions and a plan for their implementation.

For more information, contact Sam Spofforth of the City of Columbus at (614) 645-0308. Additional information is available online at www.projectclear.org.

FORT COLLINS PROVIDES COMMUNITY WITH BREATHING LESSONS

Breathing is an automatic act, but the City of Fort Collins, Colorado, is encouraging citizens to consider the quality of each breath of air. The city's Air Quality Program has launched an innovative public education and outreach initiative to affect citizen behavior. Fort Collins' Breathing Lessons campaign, launched in 1997, is effectively communicating simple actions people may take to improve the air they breathe.

Under the banner "Clean Air, Because Breathing Isn't Optional," the Breathing Lessons campaign teaches Fort Collins residents simple steps they can take to improve community air quality. The lessons are communicated through newspaper, radio, and television advertisements; brochures and fliers; public utility bill inserts; and the internet. The campaign has focused on a new air quality issue each month. The program's diverse messages have included advising citizens to upgrade wood and gas heating stoves, test homes for radon, and avoid overfilling gas tanks.

For 2000, Fort Collins is targeting the impact of automobiles on air quality. While the city's carbon monoxide concentrations have decreased in the past several years, the number of miles driven has been increasing even more rapidly than the area's population. If the trend continues at this rate, the benefits of new emissions control technology will be overshadowed by the amount of miles driven, and air pollution levels will begin rising again.

This year's Breathing Lessons encourage the public to "Shift Gears for Clean Air." The announcements aim to satisfy three goals of the city's Air Quality Action Plan: reducing growth of vehicle miles traveled; reducing per-mile motor vehicle emissions; and preventing total motor vehicle emissions from increasing after year 2000. Three main elements will be applied throughout the 2000 Breathing Lessons campaign: "Buy Smart, Keep it Up, and Drive Less." Advertisements will be designed to promote buying vehicles that pollute less, maintaining automobiles, and using alternative modes of transportation. A series of public events, including car care days, air fairs, alternative fuel vehicle shows, and bike month promotions will also be marketed to educate Fort Collins' residents on the impact to air quality caused by automobiles. Fort Collins will attempt to evaluate the effectiveness of these outreach efforts through local surveys.

"Voluntary programs always come first; regulation may come later, if voluntary programs haven't worked."

Brian Woodruff
Fort Collins, CO

"For over a decade the City of Fort Collins has focused on voluntary air quality programs as a matter of policy," stated Brian Woodruff, director of the Fort Collins Air Quality Program." Our City Council has said 'voluntary programs always come first; regulation may come later, if voluntary programs haven't worked.' People often ask us how to get involved, and they follow through! Reduced wood burning and increased radon testing of homes are notable examples. Although this year's focus — vehicle emissions — is more daunting, we are confident Fort Collins citizens will come through again, as they come to understand the problem and the individual's role in solving it."

For more information, contact Sarah Fox of the City of Fort Collins at (970) 221-6312. Additional information is available online at www.ci.fort-collins.co.us/environmental/indoor_air/index.htm.

FORT WORTH REWARDS AIR-CONSCIOUS CITY EMPLOYEES

City employees in Fort Worth, Texas, have more to gain than improved health and better visibility for taking part in a variety of voluntary clean air measures. Since 1995, Fort Worth's City Employees' Ozone Incentive Program rewards municipal workers for participating in activities that improve air quality during the ozone season. The Fort Worth air program has successfully engaged local government officials in the Department of Environmental Management's efforts to "Care for Cowtown Air."

The Fort Worth-Dallas area has received EPA's nonattainment designation for ozone pollution. Conditions that lead to ozone formation tend to become most severe during the months of May through October when the weather is hot and sunny with relatively light winds. In the Fort Worth-Dallas area, 56 percent of the chemicals that cause ozone formation are generated by automobiles and trucks.

Fort Worth launched the City Employees' Ozone Incentive Program to encourage municipal workers to consider alternative modes of transportation during the peak ozone season. Between May 1 and October 31, city employees qualify for mid-season and end-of-season grand prize drawings when they perform a variety of actions on Air Pollution Watch days. Activities that qualify include packing a sack lunch; car or van pooling to work; riding a bus or biking to work; working 10-hour day, 4-day weeks; telecommuting; and working flextime schedules. The employee's name is entered into the contest for every action he or she conducts on an Air Pollution Watch day. In 1999, the grand prizes included two $1,000 trips and two $500 department store gift certificates.

City employees also are able to enjoy a number of special perks for participating on Air Pollution Watch days, including dressing casually when they car or van pool; receiving preferred parking for car or van pools; earning 1 hour of comp time for every 5 days of car or van pooling; earning 1 hour of vacation time for opening direct deposit accounts; and receiving free daily tokens and discounted monthly bus passes.

Fort Worth has actively promoted its internal ozone incentive program with neighboring municipalities and downtown businesses. In April 2000, Fort Worth Mayor Kenneth Barr hosted the second annual "Care for Cowtown Air" Clean Air Fair that drew more than 5,000 citizens. Mayor Barr encouraged area mayors to create their own municipal employee ozone incentive programs. The Department of Environmental Management staff have also prepared presentations for area business leaders describing the stricter requirements that Fort Worth would need to meet if the region were redesignated in severe nonattainment for ozone.

"Fort Worth is effectively altering the behavior of city employees during our ozone season"

Brian Boerner
Fort Worth, TX

"Fort Worth's Employees' Ozone Incentive Program provides an important educational function for municipal personnel," stated Brian Boerner, director of the Fort Worth Environmental Management Department. "In Fort Worth, we face a 'pay now versus pay later' situation. For an investment of only a few thousand dollars in prizes, Fort Worth is effectively altering the behavior of city employees during our ozone season."

For more information, contact Brian Boerner of the City of Fort Worth at (817) 871-8079. Additional information is available online at www.ci.fort-worth.tx.us/dem/airpg.htm

JEFFERSON COUNTY PREVENTS POLLUTION IN PARTNERSHIP WITH INDUSTRY

Local leaders in Louisville and Jefferson County, Kentucky, know that progress in cleaning air pollution requires the partnership and cooperation of local industry. “While regulation is necessary, a sustainable approach to cleaner air must be based on incentives for pollution prevention by local industry sources,” reported Art Williams, the director of the Air Pollution Control District of Jefferson County. That is why Jefferson County and other local partners helped launch the Kentucky Pollution Prevention Center (KPPC) at the University of Louisville in 1994. By helping large and small business eliminate pollution before it is emitted, KPPC has helped more than 200 businesses go beyond compliance and improve their bottom lines.

The KPPC provides on-site pollution prevention assessments for large and small businesses in Jefferson County and statewide. The service is free, nonregulatory, and completely confidential. The center’s staff consists of pollution prevention experts in chemical, civil, environmental, industrial, and mechanical engineering, and geography. Staff also includes senior engineer retirees trained by KPPC who average 25 years’ experience each in manufacturing process and design. In addition, KPPC employs both graduate engineering and engineering co-op students through the University of Louisville.

KPPC provides a four-step pollution prevention assessment to clients. The first step is pre-assessment preparation, based on a questionnaire on the business' site layout, process layouts, hazardous material inventory reports, waste profiles for all hazardous wastestreams, annual hazardous waste reports, utility bills, air emission permits, and water discharge permits. The questionnaire is followed by an on-site assessment visit that focuses on sources, quantities, and costs to the business of all wastes, including hazardous and non-hazardous solid wastes, emissions to the air, and wastewater discharges. The assessment also looks at items such as purchasing, inventory controls, and scheduling practices that may impact waste generation. The on-site assessment begins with an initial meeting at the facility for review of documentation and discussion of goals and priorities, followed by a facility tour. KPPC then conducts an assessment of the technical and economic feasibility of possible pollution prevention solutions. A comprehensive pollution prevention report is provided to the business, with recommendations for process or operational changes, within 30 days of the on-site visit. The report is confidential, and not accessible to any regulatory agencies. Several months after the assessment, KPPC conducts a follow-up by telephone to review the implementation of the pollution prevention recommendations.

Working with private industry, KPPC is achieving significant pollution decreases in Kentucky. One client of KPPC, L’Oreal USA, received the Government's Environmental Excellence Award for Leadership in Pollution Prevention in 1998 for its efforts. L’Oreal USA, which manufactures haircare products, formed a fifteen-member cross-functional team, the AWARE® Committee — Avoid Waste and Recycle Everything. AWARE® projects have resulted in the implementation of

"An ounce of pollution prevention can prevent a ton of air emissions."

Cam Metcalf
Kentucky Pollution Prevention Center
Louisville, KY

new industrial chemistry techniques to reduce energy use, the achievement of a 90 percent average reuse and recycling rate for all solid wastes, and a reduction of 7.4 million pounds of carbon dioxide (for a cost savings of $238,000). All of these achievements occurred while simultaneously increasing production by more than 300 percent during the same five-year period.

"An ounce of pollution prevention can prevent a ton of air emissions," stated KPPC executive director Cam Metcalf. "Businesses know their work with KPPC will prevent pollution, prevent costs, and prevent problems for their operations. We hope to spread these results to many more business partners." KPPC is a key part of Jefferson County's effort to promote cleaner operations by businesses. County air pollution director Art Williams seeks to build on this effort, and he has hired a full time pollution prevention specialist on his staff to help ensure that all aspects of air planning, permitting, and compliance assistance to industry use pollution prevention wherever possible.

For more information, contact Cam Metcalf of the Kentucky Pollution Prevention Center at (502) 852-0965 or Art Williams of the Air Pollution Control District of Jefferson County at (502) 574-6000. Additional information is available online at www.kppc.org and www.acpd.org.

LINCOLN-LANCASTER COUNTY PROVIDES CLEAN AIR TECHNICAL ASSISTANCE TO SMALL BUSINESSES

Small businesses often lack the time and resources to study and implement pollution prevention strategies that improve environmental quality and reduce outlays. With the goal of promoting pollution prevention as the most common sense approach to environmental management and compliance, the Lincoln-Lancaster County (Nebraska) Health Department launched a small business technical assistance program to identify options for preventing pollution and reducing the use of toxic materials.

Lincoln-Lancaster County's Small Business Technical Assistance program engineers visit small businesses to explain complex environmental regulations. Engineers conduct confidential, on-site reviews of industrial processes and suggest proven alternative practices that improve efficiency, cut costs, and reduce waste. Such alternative industrial processes may also improve the safety of work sites and potentially reduce liability insurance and worker compensation costs. The program is also helping small businesses locate the financial resources to implement recommended pollution prevention and energy conservation changes. The Lincoln-Lancaster County Health Department has identified modifications in industrial processes that qualify for low-interest (6 percent) loans from the EPA-DOE Climate Wise program, a unique government-industry partnership providing financial and technical assistance to companies interested in becoming leaner and cleaner in their energy use.

The Lincoln-Lancaster County Health Department's technical assistance program has successfully

- worked with a seat manufacturer for all-terrain vehicles and watercraft to use an environmentally preferable adhesive that releases less volatile organic compounds;
- assisted a local dry cleaner in funding the replacement of old, leaky equipment with more efficient machines which have decreased the release of perchloroethylene by several tons per year and decreased the amount of perchloroethylene used by several hundred gallons per year;
- encouraged vehicle maintenance shop owners to use a service that leases and launders rags rather than seek a special waste permit to dispose of dirty paper towels;
- promoted reusable aerosol containers that use inert air rather than compressed carbon dioxide;
- helped various local lithographic printers identify effective, less toxic blanket washes; and

"We wish to foster an ethic in our community of running businesses and operations in the least-polluting way possible."

Marcia Willhite
Lincoln-Lancaster County, NE

- produced a quarterly newsletter highlighting business pollution prevention success stories and providing pollution prevention tips that is distributed to more than 5,000 Lincoln area businesses.

The technical assistance program has worked with more than 100 businesses of which approximately one-third have implemented pollution prevention recommendations offered by the department. Lincoln-Lancaster County is also in the process of developing a Green Business program for Lincoln small businesses which would provide regulatory and other substantial incentives for superior environmental performance. While such programs do exist at the federal and state levels, they are generally geared toward large businesses.

"We wish to foster an ethic in our community of running businesses and operations in the least-polluting way possible," stated Marcia Willhite, assistant chief of environmental health for the Lincoln-Lancaster County Health Department. "With sufficient incentives, businesses can achieve significant waste reduction in ways that make sense for their operation."

For more information, contact Marcia Willhite with the Lincoln-Lancaster County Health Department at (402) 441-8188. Additional information is available online at www.ci.lincoln.ne.us/city/health/environ/pollu/index.htm.

MARICOPA COUNTY AREA IDENTIFIES MEASURES TO CONTROL BROWN CLOUD

The warm winters and clear desert air of Southwestern communities have attracted residents to the region for decades. Excellent air quality lured those seeking to escape the unhealthy environment of polluted urban areas. But as many western cities developed, the air quality that drew inhabitants to the region has deteriorated. In Arizona's Phoenix metropolitan area, periodic brown clouds have darkened the Valley of the Sun. Concerned with health and aesthetic implications, the Maricopa Association of Governments (MAG), the Phoenix metropolitan area's regional council, launched the Brown Cloud Project in 1999 to identify measures to decrease emissions contributing to the brown cloud.

Brown clouds occur over most urban areas in the western United States. Brown clouds typically occur on fall and winter mornings when cool air near the ground traps emissions near the surface. The brown-colored haze is a suspension of minute carbon particles predominantly less than 2.5 microns in diameter which reduce visibility.

MAG launched the Brown Cloud Project in 1999 to identify the specific emissions sources which reduce visibility. In the Phoenix metropolitan area, gasoline and diesel exhaust account for approximately 70 percent of the ambient particulate matter. The brown cloud study team identified more than 40 brown cloud control measures. Six measures were recommended for consideration because they were not being implemented by other programs and would directly control those pollution sources most responsible for the brown cloud. The six recommended brown cloud control measures include:

- mandating the use of clean burning diesel fuel;
- encouraging retrofits and replacements of nonroad diesel engines and equipment;
- strengthening the voluntary onroad diesel vehicle retirement program;
- electrifying truck stops (providing the drivers of refrigerated rigs with places to plug in and avoid idling engines);
- implementing a toll-free number for smoking vehicle complaints; and
- implementing a smoking vehicle identification and citation program.

In March 2000, Governor Jane Dee Hull of Arizona established by executive order the Governor's Brown Cloud Summit. Mayor Skip Rimsza of Phoenix, Chairman of MAG, will participate to identify further emission reduction strategies that improve visibility in the Phoenix metropolitan valley.

"Local governments throughout the Phoenix metropolitan region are very interested in reducing emissions which contribute to brown clouds."

Lindy Bauer
Maricopa Association of Governments
Phoenix, AZ

"Local governments throughout the Phoenix metropolitan region are very interested in reducing emissions which contribute to brown clouds," stated Lindy Bauer, MAG's Environmental Manager. "As the area's regional council, the Maricopa Association of Governments is coordinating local efforts to reduce brown clouds and improve air quality."

For more information, contact Lindy Bauer of MAG at (602) 254-6300. Additional information is available online at www.mag.maricopa.gov.

MIAMI-DADE COUNTY PLANTS TREES TO REDUCE CARBON DIOXIDE EMISSIONS

When Hurricane Andrew devastated South Florida's coast in 1992, Miami-Dade County lost much of its urban forest canopy. An urban canopy analysis determined in 1996 that Miami-Dade County's tree cover was 10 percent, well below the national average. As a low-lying coastal community vulnerable to climate change, Miami-Dade's tree canopy provided an important sink for area carbon dioxide (CO_2) emissions. Through the International Council for Local Environmental Initiatives' (ICLEI) Cities for Climate Protection Campaign, Miami-Dade County has developed a long-term plan to reduce CO_2 emissions by 20 percent below 1988 levels by 2005. One important component of the plan is the county's revision of landscape codes to require strategic tree planting, street trees and parking lot trees. This ordinance recognizes the value of the urban forest and makes provisions to enhance the canopy.

Trees reduce carbon dioxide concentrations by both direct absorption through photosynthesis and shading that reduces ambient air temperatures. Strategically planted trees can reduce the need for air conditioning. In urban areas, trees act to reduce the urban heat island effect and reduce energy usage.

In 1988, Miami-Dade County's CO_2 emissions totaled over 23 million tons. To achieve the 20 percent reduction in 1988 CO_2 levels, Miami-Dade's Board of County Commissioners approved a plan to reduce long-term CO_2 emissions through a variety of energy conservation measures, including community tree plantings. The plan estimated that approximately 133,500 tons of CO_2 could be reduced by redrafting county tree ordinances to promote strategic tree planting, street trees, and parking lot trees.

In 1998, Miami-Dade County revised its landscape ordinance to establish minimum tree planting standards for new development. The new ordinance defines the area located in a 180 degrees band from the northeast point of a structure to the northwest point as an Energy Conservation Zone where at least two trees must be planted. The ordinance also requires that trees or shrubs shade ground-level exterior air conditioning units.

Miami-Dade County has also actively promoted tree planting through advertisements on public transit, the distribution of brochures at local libraries, and the county's "Down to Earth" television program. Posters espousing the electricity cost savings of trees were displayed on MetroRail, Metro Bus routes, and bus shelters. It is estimated that more than 22 million were exposed to the educational posters in 1997.

Since 1996, Miami-Dade County's Public Works Department has planted more than 76,000 shade trees and palms along the arterial roadways of the county and more than 600 shade trees were planted in residential areas as part of Miami-Dade County's Cool Communities demonstration projects. The

Bill Holleman

"Enhancing the tree canopy is a priority in our community."

Alyce Robertson
Miami-Dade County, FL

county plans to continue its tree planting efforts during the next 2 years through the Shade for Dade-Plant a Tree for the Millenium program. The county has provided $100,000 to fund a total of 26 tree plantings in residential areas along with an educational program on the benefits of trees, and how to plant and care for them.

"Enhancing the tree canopy is a priority in our community," commented Alyce Robertson, assistant director of Miami-Dade County's Department of Environmental Resource Management. "We have to be cognizant of the fact that even with the measures in place, our canopy remains low and we must continue to search for innovative ways to address this issue."

For more information, contact Mayra Flagler with Miami-Dade County at (305) 372-6495. Additional information is available online at www.co.miami-dade.fl.us/derm.

MINNEAPOLIS TARGETS GREENHOUSE GASES, PROTECTS AIR QUALITY AND SAVES MONEY

Recognized as a progressive environmental leader, Minneapolis, Minnesota, has been involved in controlling air pollution since 1893 when the city passed its first air ordinance in response to coal burning. Since then, the City of Minneapolis has maintained a strong interest in protecting the quality of its air. In response to slow federal action regarding the emissions of greenhouse gases, Minneapolis partnered with the City of St. Paul to develop a model plan to reduce local emissions of carbon dioxide (CO_2) that contribute to climate change. Designed to reduce greenhouse gas emissions, Minneapolis' energy plan enjoys strong local support because increasing energy efficiency has cut the cost of utility and fuel bills.

In 1991, Minneapolis was selected to participate in the International Council for Local Environmental Initiatives' (ICLEI) Cities for Climate Protection program. ICLEI's program encourages cities to reduce local emissions of CO_2 and other greenhouse gases which contribute to global warming. More than 300 local governments worldwide participate in the campaign, including more than 60 cities and counties in the United States. Local government participants resolve to adopt an emissions reduction target and develop an action plan to meet the goal.

In partnership with Saint Paul, Minneapolis developed the *Minneapolis-Saint Paul Urban CO_2 Project Plan: A Framework for Developing Strategies to Reduce CO_2 Emissions, Save Taxes, and Save Resources*. The Urban CO_2 plan calls for reducing, by 2005, CO_2 emissions by 20 percent from 1988 levels. If successful, the project will reduce CO_2 emissions by 3.95 million tons. The plan also established an intermediate goal of 7.5 percent reduction by 1997.

A key component of Minneapolis' Urban CO_2 plan includes retrofitting municipal buildings and street lights for energy efficiency. Based on a study by the Great Lakes Municipal Energy Collaborative, the Minneapolis City Council was convinced that the city could save 10-20 percent on its energy costs. In 1996, the council adopted an Energy Plan that directed municipal departments to reduce energy use and document energy savings. The plan also created an energy reinvestment revolving loan fund from municipal energy savings to finance further energy conservation projects for municipal facilities. To implement the municipal retrofit strategy, Minneapolis established an interdepartmental working group of municipal facility managers. The working group was responsible for identifying several initial demonstration pilot buildings and tracking energy use and cost throughout the retrofit process to determine project results.

Minneapolis has now invested $4.7 million to complete energy efficiency retrofits of 104 municipal buildings. The city estimates that the municipal building retrofits have reduced CO_2 emissions by more than 10,000 tons

"Energy-efficiency efforts such as our municipal building retrofit are win-win and make common sense."

Bill Anderson
Minneapolis, MN

annually. Moreover, the retrofits are saving more than 12 million kilowatt hours of energy and generating financial savings of more than $750,000. Minneapolis is repaying its loans taken to finance the retrofits with the cost savings produced. No taxpayer dollars were used, and the city will repay the loan in 10 years or less.

Other components of the energy plan include energy efficiency retrofits of city schools, monitoring retrofitted buildings, promoting transportation alternatives, and encouraging recycling and composting.

"Through the retrofit of municipal buildings and other efforts, Minneapolis has more than met our interim Urban CO_2 plan goal," stated Bill Anderson, the environmental services supervisor for Minneapolis' Department of Operations and Regulatory Services. "Energy-efficiency efforts such as our municipal building retrofit are win-win and make common sense. Minneapolis was able to reduce CO_2 emissions — preventing climate change — and generate long-term financial savings for the city."

For more information, contact Bill Anderson with the City of Minneapolis at (612) 673-5897. Additional information is available online at www.ci.minneapolis.mn.us/citywork/city-coordinator/environment/air.html.

MONTGOMERY COUNTY ADOPTS ENERGY POLICY TO REDUCE COSTS AND POLLUTION

Montgomery County, Maryland, a satellite community of Washington, DC, is experiencing the environmental effects of growth in a sprawling metropolitan region. Rising energy consumption patterns threaten to impede the area's efforts to comply with federal air quality mandates. To promote energy efficiency through example, education, and legislation, Montgomery County's Department of Environmental Protection adopted a 12-point Energy Policy.

Montgomery County's Energy Policy addresses a wide range of opportunities to reduce energy consumption and generate cost savings. As the Washington metropolitan area continues to sprawl, the Energy Policy resolves to integrate energy consumption and air quality considerations into land use, development and transportation planning. The county is addressing the air quality impact of the increasing vehicle miles traveled through legislative, regulatory, and fiscal policies that discourage single-occupancy vehicle use and encourage mass transit ridership. County offices currently provide a travel stipend for mass transit and offer parking passes to employees that carpool.

Montgomery County also plans to increase energy efficiency in the local government automobile fleet and shift to alternative fuel vehicles. Since the adoption of the Energy Policy, Montgomery County has purchased 36 vehicles fueled by compressed natural gas as well as 1 electric demonstration vehicle.

A major component of the policy focuses on energy use within public buildings. The policy directs county officials to integrate requirements for greater energy efficiency into building codes and effect adequate energy code enforcement. Montgomery County developed a set of Energy Design Guidelines for public buildings that integrate energy efficiency features at the earliest phases of design for all new construction and major renovation projects. By implementing the guidelines, Montgomery County has reduced energy use in new public buildings by 40 percent.

In 1999, Montgomery County conducted a major lighting retrofit in existing public buildings, replacing lamps and ballasts and installing automatic controls. A central computerized energy management system that monitors the temperature, heating, and air conditioning in 48 county buildings has produced energy cost savings of $400,000 annually.

The Energy Policy also acknowledges the importance of public outreach and education. The policy establishes a goal of a 20 percent reduction in per capita energy consumption from the 1995 base level by the year 2010. Montgomery County environmental officials are committed to educating citizens on the importance of more efficient energy consumption and the direct linkages between energy use and a healthy environment. County environmental

"The effective implementation of Montgomery County's Energy Policy puts us on our way toward a future with a secure and sustainable energy supply."

Jim Caldwell
Montgomery County, MD

officials are currently conducting a consumer education campaign regarding electric deregulation and the purchase of environmentally preferable power. In addition, the county will recognize and reward individual initiative and collective efforts that support its Energy Policy goals.

To implement the Energy Policy, Montgomery County has established an Interagency Committee on Energy and Utility Management (ICEUM), which is comprised of representatives from all county agencies and the local school system and college. ICEUM members coordinate energy programs among agencies and prepare annual Resource Conservation Plans outlining improvements and projects to improve energy efficiency.

"The effective implementation of Montgomery County's Energy Policy puts us on our way toward a future with a secure and sustainable energy supply," stated Jim Caldwell, director of Montgomery County's Department of Environmental Protection.

For more information, contact Jim Caldwell of Montgomery County at (240) 777-7723. Additional information is available online at www.co.mo.md.us/services/dep/.

PORTLAND ADDS CAR SHARING PROGRAM TO SMART GROWTH TOOL BOX

Renowned as a national innovator in smart growth practices, Portland, Oregon, is using unique land use and transportation practices to improve regional air quality in a booming local economy. Statewide land use laws mandate urban growth boundaries (UGBs) around every city in Oregon, require reductions in automobile dependence, and establish a regional, elected "Metro" government that oversees land use decisions in the Portland region. Portland anticipates the UGB will improve the region's air quality by reducing automobile congestion and its resulting air pollution by 11 percent. According to Metro, reductions in NO_x emissions associated with the UGB also played a significant role in Portland's reaching ozone attainment.

A focal point for smarter growth and cleaner air in Portland has been innovations in urban transportation to reduce single occupancy vehicle trips. Efforts that have made Portland one of America's most walkable communities include its light rail system and planned Portland Streetcar lines, transportation demand management programs for city and private employers, new travel modes such as the integration of the mass transit system with bicycle-friendly amenities, and the launch of a Portland "car sharing" program.

Car sharing, an idea that started in Switzerland ten years ago, is one innovative air quality tool Portland has instituted. Car sharing is an alternative to individual car ownership for people who don't need to drive every day. It is based on joint access to a fleet of vehicles, located throughout neighborhoods, close to citizens' home or work. Customers pay a small yearly fee, plus charges for the hours and miles driven, while insurance, gasoline, and maintenance are included in the membership rates. Members participate by simply making a phone call reservation for immediate or future use, walking or biking to a nearby location, and using an access key to drive away. At the end of the trip, the member returns the car and locks it up. Members have access to all 17 vehicles in the fleet, which includes a gas-electric hybrid vehicle with a fuel economy of 70 miles per gallon.

Provided by a private entity called CarSharing Portland, the first year of the program has proven a success. An independent analysis of the program shows that CarSharing Portland members saved an average of $154 each month — or $1848 per year — in transportation costs. In addition, 26 percent of members sold their personal vehicle after joining the organization, and another 53 percent avoided a vehicle purchase as a result of their membership. Likewise, customer satisfaction was high, with 81 percent of members indicating that car sharing had measured up to their expectations. The analysis of CarSharing Portland concluded that "it is clear that the concept of sharing cars is not only appealing, but that it is workable in this country."

Car sharing has the potential to reduce both vehicle miles traveled and vehicle air pollution. Car sharing members in Portland have reported that, since

"Car sharing in Portland is yet another tool we use to help make traveling convenient, cost-effective, and easier on our environment."

Commissioner Charlie Hales
Portland, OR

joining, they have increased their transit ridership, trip bundling, bicycle use, and walking. Moreover, car sharing will reduce vehicle air pollution because the cars in the CarSharing Portland fleet are new, smaller, more efficient, and better maintained than the ones that members might otherwise own.

The Portland Office of Transportation seeks to boost car sharing activities in the city. Portland has set the goal of implementing a city-subsidized car sharing membership program for municipal employees. Under the city program, Portland will pay half of the annual membership fee for participating employees. Municipal employee members who commute to work by transit, walking, carpooling, or biking will have access to car share vehicles on days when personal business necessitates driving.

"Car sharing in Portland is yet another tool we use to help make traveling convenient, cost-effective, and easier on our environment," stated Charlie Hales, Portland City Commissioner. "This innovative program provides residents who can not afford or do not wish to own a vehicle with the ability to be mobile in a way that preserves our livability and air quality."

For more information, contact Lavinia Gordon of the City of Portland at (503) 823-6982. Additional information is available online at www.trans.ci.portland.or.us/traffic_management/cleanair/carsharing.htm.

SAN FRANCISCO BAY AREA ESTABLISHES TRANSPORTATION FUND FOR CLEAN AIR

In California's San Francisco Bay Area, motor vehicle emissions pose the greatest threat to regional air quality goals. Increased traffic and congestion contribute to unhealthy levels of ground-level ozone and particulate matter. To address the impact of automobiles on air quality, the Bay Area Air Quality Management District (BAAQMD) established the Transportation Fund for Clean Air (TFCA). This fund generates more than $20 million annually for projects and programs that reduce air pollution from motor vehicles, decrease traffic congestion, and conserve energy.

California's State Legislature enacted legislation that enabled air districts to impose a surcharge on motor vehicle registration fees paid within their jurisdictions. The BAAQMD collects a $4 annual surcharge on more than 5 million registered vehicles in the region. In 1999, BAAQMD received $21.1 million in new vehicle registration fee funding.

BAAQMD has launched several innovative TFCA-funded regional projects to reduce motor vehicle emissions:

- The **Vehicle Buy-Back** program pays $500 to purchase and scrap 1981 and earlier model year vehicles. Eligible vehicles must have been registered within the district for the two previous years and have passed the most recent smog inspection.

- The **Spare the Air** campaign encourages the public to defer nonessential, pollution-emitting activities when air quality in the San Francisco Bay Area approaches unhealthy levels. The activities include driving and using gasoline-powered lawn equipment and other consumer products that pollute. The Spare the Air advisories are distributed through employers and the media. Launched in 1991, the program enjoys the participation of more than 1,200 employers with more than 1,000,000 employees engaged in pollution prevention efforts when the region is at risk of violating federal air quality standards.

- The **Electric Vehicle Charging Sites** initiative provides competitive grants to public and private entities throughout BAAQMD's region to purchase and install electric vehicle chargers. The program aims to create a network of public access electric vehicle charging stations throughout the Bay Area.

- The **Vehicle Incentive** program has awarded a total of $1.2 million in clean air vehicle incentives to 43 public agencies in the San Francisco Bay Area. The program provides incentives to public agencies for the purchase or lease of passenger cars, pick-up trucks, and vans powered by compressed natural gas (CNG) or electricity.

"The seed money we provide has been leveraged very successfully by local governments."

Ed Miller
San Francisco, CA

- The **Smoking Vehicle** program receives an average of 35,000 telephone calls annually from residents complaining about high-emitting vehicles. California law enables local law enforcement or California Highway patrol officers to cite vehicles that emit visible exhaust for more than 10 seconds with a fine of $100 for cars and $250 for trucks and buses. BAAQMD's Smoking Vehicle program warns vehicle owners of the possibility of being cited and encourages them to have their vehicle checked and repaired.
- Overall, 125 locally sponsored projects to reduce motor vehicle emissions were funded.

In the 1999–2000 funding cycle, BAAQMD estimates the total emission reductions expected from the implementation of TFCA-funded projects to be 1,709 tons of ozone precursors and particulate matter. The overall cost-effectiveness of the $27.3 million in TFCA funding spent during this timeframe is $15,999 per ton of emissions reduced.

"Through the various programs funded by the Transportation Fund for Clean Air, we've been able not only to educate the public about air quality but to fund innovative programs that reduce pollution," said Ed Miller, who heads up the TFCA group that evaluates funding proposals. "The seed money we provide has been leveraged very successfully by local governments."

For more information, contact Terry Lee with the Bay Area Air Quality Management District at (415) 749-4900. Additional information is available online at www.baaqmd.gov.

SANTA BARBARA COUNTY ENCOURAGES VISITORS TO LEAVE THEIR KEYS BEHIND

Much of the smog within Santa Barbara County, California, is attributable to mobile source emissions. Compounding the county's smog problem are the scores of sightseers traveling by automobile to visit local tourist attractions during the summer months — the primary ozone season. As a major tourist destination on California's South Coast, traffic begins to clog Highway 101 on most Friday and Sunday afternoons throughout the year, especially during the summer months. Visitor traffic contributes to congestion, and thus more air pollution. The county has been designated in serious nonattainment of the federal 1-hour ozone standard.

Seeking redesignation as an ozone attainment area, Santa Barbara County's Air Pollution Control District (APCD) has begun a series of initiatives to address the sources of mobile emissions within the county. In partnership with the City of Santa Barbara, the Santa Barbara Metropolitan Transit District, the Santa Barbara Region Chamber of Commerce, the American Lung Association of Santa Barbara and Ventura counties, Amtrak, and many other stakeholders, APCD launched the innovative "Take a Vacation from Your Car" air quality program to encourage tourists to arrive without their automobiles and take advantage of alternative means of transportation while visiting.

The program encourages visitors to reach Santa Barbara by non-automotive means, and to take advantage of alternative transportation during their stay. Rather than asking visitors to participate for the sake of air quality and public health, the program aims to position vehicle-free travel as an attractive feature of a vacation. APCD is working to build a new image for alternative transportation and highlight its ease over driving and parking. Ultimately, the APCD envisions the use of alternative transportation as part of the experience of visiting Santa Barbara County. And because alternative transportation routes run throughout the area's business districts, APCD expects a number of local residents to leave their vehicles parked at home as well.

Project partners play a major role in disseminating information to visitors about available transportation alternatives, which include attractive pedestrian and bike paths and a new electric bus system. As the Web site of the Santa Barbara Convention & Visitors Bureau (CVB) boasts, "You don't need a car to enjoy Santa Barbara. The beautiful oceanfront and the downtown can best be explored on foot, and a superb network of bus routes, bicycle paths and private transportation services give ready access to outlying areas." APCD also has received funding through the U.S. Department of Transportation's Congestion Mitigation and Air Quality (CMAQ) program to promote Santa Barbara as an automobile-free destination.

"We can make Santa Barbara County a national model for vehicle-free vacation travel."

Doug Allard
Santa Barbara, CA

Last year, the CVB conducted a visitor survey that included an element to establish baseline information on the transportation habits of visitors to the area. The survey confirmed that a large portion of visitors drive vehicles from the Los Angeles area — the targeted audience of the Take a Vacation from Your Car program. Although it will be difficult to quantify the exact air quality benefits of this program, the CVB's subsequent visitor surveys will provide information that can help assess the public's behavioral change.

"We can make Santa Barbara County a national model for vehicle-free vacation travel," stated Doug Allard, director of the APCD. "We can reduce air pollution and traffic congestion — and make our county and surrounding region a better, cleaner place to live. And we can do it without harming local businesses."

For more information, contact Mary Byrd of the Santa Barbara County Air Pollution Control District at (805) 961-8833. Additional information is available online at www.sbcapcd.org/apcd/takevac.htm.

SANTA MONICA SETS THE STANDARDS FOR SUSTAINABLE AIR QUALITY

In 1994, the City of Santa Monica, California, launched a "Sustainable City Program" to "create the basis for a more sustainable way of life — one that safeguards and enhances our resources, prevents harm to the natural environment and human health, and sustains and benefits the community and local economy — for the sake of current and future generations." By setting indicators and goals for sustainability in the areas of resource conservation, transportation, pollution prevention and public health protection, and community and economic development, Santa Monica is continually improving its environmental performance along with its economic vitality. Craig Perkins, the director of Environment and Public Works Management for the City of Santa Monica, explains that "Our community doesn't dwell on mere compliance with regulatory requirements, because we have our sights set on implementing a sustainability initiative that brings together environmental, economic, and community progress."

One outcome has been significant reductions in air pollutants, despite growing challenges from vehicles traveling through the city on long, southern-California commuter trips and tourism visits. One signpost of success has been a 5.2 percent reduction in citywide greenhouse gases between 1990 and 1998. Proactive steps taken by Santa Monica to change the way it has traditionally operated in order to reach air quality and sustainability goals include:

- **GREEN POWER** — In February 1999, the City Council decided to enter into contracts with utility companies for the purchase of 100 percent renewable, geothermal energy to power all city facilities, and service began in the summer of 1999. Santa Monica was the first municipality in the nation to switch to 100 percent renewable power, despite the 5 percent cost premium for the clean power. The environmental benefits projected include reductions of 13,672 tons per year in greenhouse gases, 16.2 annual tons of NOx reductions, 14.57 tons of sulfur dioxide reductions, reductions of annual couarse particulates by 2,285 pounds, and reductions of volatile organic compounds by 190 pounds.

- **ENERGY-EFFICIENT RETROFIT PROGRAM** — Through the ENVEST program, the city has achieved substantial reductions in energy use through energy efficiency retrofits of municipal facilities. In March 1995, the city negotiated a $1.6 million lease-purchase agreement with Southern California Edison for the purchase and installation of energy-efficient equipment for city facilities (primarily lighting, heating and cooling system upgrades, and energy control systems for buildings). Cost savings realized through reduced energy consumption are being used to pay back ENVEST's initial capital investment. The payback period for this program is 12 years. Once the investment is paid back, all savings will accrue to the city. All of the equipment installed has a useful life far longer than the 12-year payback period for the investment.

  The city calculates that the retrofits at these sites will save a total of 1.8 million kilowatt hours of electricity per year and will provide an estimated $193,463

"Our community doesn't dwell on mere compliance with regulatory requirements, because we have set our sights on implementing a sustainability initiative."

Craig Perkins
Santa Monica, CA

in annual energy cost savings to the city after the initial ENVEST investment is repaid. The city also benefits from this project by avoiding the capital investment needed to make costly infrastructure improvements to these facilities. Over 10 years, the energy efficiency measures installed at these sites will reduce greenhouse gas emissions (carbon dioxide) by 11,090 tons. Electricity accounts for the generation of about 8,000 pounds of carbon dioxide per household per year in Southern California. The project will therefore save the greenhouse gas emissions equivalent of 277 Santa Monica households.

- **Management of Vehicle Emissions** — Santa Monica is proceeding toward its goals for transportation management that reduces congestion and air pollution. The city has increased transit ridership on its "Big Blue Bus" by 9.5 percent since 1990, commenced a shift of the municipal vehicle fleet to reduced-emission fuels, and raised the average vehicle ridership of all area employees.

- **Renewable Energy Innovation** — Santa Monica has fostered a number of efforts to promote the deployment of renewable energy technologies in the community. The City is conducting renewable energy demonstration projects including the establishment of solar charging stations for municipal electric vehicles, the creation of a rooftop photovoltaic energy project on municipal and public buildings, and even the placement of a solar-powered Ferris wheel on the Santa Monica Pier.

For more information, contact Craig Perkins with the City of Santa Monica at (310) 458-8221. Additional information is available online at www.santa-monica.org/environment/policy.

TUCSON ADVANCES SMART GROWTH AND CLEAN AIR WITH PUBLIC INVESTMENT IN CIVANO COMMUNITY

Many local governments struggle with the public investments necessary when sprawling new development occurs beyond the reach of existing infrastructure and services. Smart growth — development that preserves open space, reduces vehicle miles traveled and automobile emissions, supports business and fosters new investment, and decreases the costs imposed on taxpayers — has emerged as a promising new approach. In Arizona, the City of Tucson is demonstrating that public investment in smart growth can produce the type of development that protects traditional community values, preserves air quality, and saves limited financial resources.

Tucson's Civano community is addressing the growing desire for new development patterns that enables people to meet their economic needs yet maintain social and environmental values. The goal of the Civano project is to demonstrate the economic viability and marketability of sustainable, affordable, large-scale community development. This 1,145-acre traditional neighborhood's master plan envisions construction of 2,500 homes and apartments housing more than 6,000 people as well as the location of light industry, offices, and retail businesses. Half the population and two-thirds of the jobs will be within a 5-minute walk of the Civano village center. The plan also aims to create one job for every 2 housing units within Civano, reducing the need for automobile travel and its attendant air pollution.

The project takes advantage of various green-development practices to achieve environmental sustainability. Civano's buildings initially will use passive-solar designs to reduce energy demand. As photovoltaic (PV) electric generation and similar technologies become more economical, Civano hopes to use such supply systems as grid-connected PV to provide power to major portions of the community. Extensive walking and biking paths will reduce automobile use and create a more livable community.

While Civano required an initial public investment of $3 million to improve infrastructure, the developer agreed to meet a set of minimum resource conservation standards. In exchange for Tucson's expenditure, Civano's master plan establishes performance targets to

- reduce air pollution by 40 percent through alternative transportation, accessible bike paths, and sidewalks;
- reduce energy demand by 75 percent through green building design;
- reduce water use by 65 percent through reclaimed water for irrigation; and
- reduce solid waste by 90 percent through recycling and composting.

Beyond the additional tax revenues Civano will yield, Tucson anticipates to save more than $500,000 annually through the avoided costs of infrastructure for roads, water, and landfills as well as other environmental benefits, such as improved air quality. Within 6 years the city will realize its initial $3 million

Amy Haskell

"Tucson residents want an alternative to sprawl and environmentally insensitive development."

John Laswick
Tucson, AZ

expenditure, and will receive a 23 percent internal rate of return on its investment over the project's 12 year development period.

"Civano makes sense socially, economically, and environmentally," stated John Laswick, manager of the Tucson's Sustainable Communities Program. "Tucson residents want an alternative to sprawl and environmentally insensitive development. The city's public investment in Civano is necessary, prudently structured, and will quickly provide important returns."

For more information, contact John Laswick of the City of Tucson at (520) 791-4675. Additional information is available online at www.civano.com.

WHITE PLAINS PLUGS IN AND SHEDS WEIGHT TO REDUCE FUEL CONSUMPTION

As the owner of approximately 400 vehicles, the City of White Plains, (NY) Department of Public Works, has launched an innovative mobile source pollution prevention program to improve fuel efficiency and reduce air emissions. Located in a region designated in severe nonattainment for ozone and moderate nonattainment for carbon dioxide, White Plains' Department of Public Works is taking steps to reduce fuel consumption through conversion to alternative fuel sources, vehicle design, and energy-efficient policies.

Since the purchase of its first electric vehicle in 1977, White Plains has served as a model of local government clean energy leadership. The city currently operates 15 alternative fuel vehicles within its municipal fleet. The vehicles range from electric scooters for police patrols to a compressed natural gas street sweeper. White Plains presently has the only ethanol fueling station within New York. Designated a Clean City in 1994, White Plains was also the first New York municipality to participate in the U.S. Department of Energy's program encouraging the use of alternative fuel vehicles.

Another major element of White Plains' mobile source pollution prevention program is the redesign of municipal vehicles for fuel efficiency. The city's Department of Public Works garage is replacing heavy steel components of municipal vehicles with lightweight materials, such as aluminum and fiberglass that improve fuel mileage. In addition to the benefit of improved air quality, the lightweight components do not rust and are more durable. In vehicles where the strength of steel is essential, such as the city's refuse packer trucks, White Plains has converted to a high-strength low alloy steel that weighs less yet is stronger than standard carbon steel.

White Plains is also carefully assessing the performance needs of municipal vehicles before purchase. For example, as the police department was purchasing cruisers in 1996, the city determined that the vehicle's standard V8 engine provided more power than necessary. Capable of reaching speeds in excess of 130 miles per hour, the police cruisers equipped with V8 engines were ill-suited to White Plains' urban setting. Subsequently, White Plains negotiated with Chevrolet to build 50 cruisers for the city with a V6 engine. The V6 police cruisers cost $400 less initially, achieve 5 miles per gallon better mileage, produce $500 in annual fuel consumption cost savings, and require less maintenance.

In addition, White Plains has adopted an anti-idling policy for all city vehicle operators. Idling vehicles previously contributed needless emissions. Most heavy-duty municipal vehicles are now equipped with an electronic device that shuts an engine down after 15 minutes of inactivity.

In recognition of White Plains' innovative mobile source pollution prevention program, the New York State Department of Environmental Conservation hon-

"Through improvements in the municipal vehicle fleet's fuel efficiency and the use of cleaner burning fuels, White Plains is reducing costs and improving air quality."

Joseph Nicoletti
White Plains, NY

ored the city with the Governor's Award for Pollution Prevention in 1996. White Plains is the only municipality in New York to have received such recognition.

"Most municipal fleet managers are understandably worried about getting their vehicles on the road every day and may not stop to consider the life-cycle costs of operating and maintaining vehicles," commented Joseph Nicoletti, city engineer and the commissioner of public works for the City of White Plains. "Through improvements in the municipal vehicle fleet's fuel efficiency and the use of cleaner burning fuels, White Plains is reducing costs and improving air quality."

For more information, contact Joseph Nicoletti, P.E. with the City of White Plains at (914) 422-1210. Additional information is available online at www.ci.white-plains.ny.us/dpw/dpwhome.htm.

APPENDIX 1: CLEAN AIR RESOURCES FOR LOCAL GOVERNMENTS

FEDERAL RESOURCES

Brightfields — A DOE initiative that links solar energy technologies to brownfields redevelopment. For more information, visit the Web site at www.eren.doe.gov/brightfields.

***Building Livable Communities* report** — Report that describes the challenges to local communities from sprawl and identifies steps the Clinton-Gore Administration is taking to help communities grow in ways that ensure a high quality of life and strong, sustainable economic prosperity. For more information, visit the Web site at www.livablecommunities.gov.

Clean Cities — A DOE initiative that encourages the use of alternative fuel vehicles. For more information, contact (800) 224-8437 or visit the Web site at www.ccities.doe.gov.

Climate Challenge — A DOE initiative that encourages emission reductions from electric utilities. For more information, visit the Web site at www.eren.doe.gov/climatechallenge.

Climate Wise — An EPA-DOE initiative that promotes reduced industrial emissions and energy costs through pollution prevention and energy efficiency. For more information, contact (800) 459-WISE or visit the Web site at www.epa.gov/climatewise.

Commuter Choice — A DOT initiative that promotes employer-provided commuting options designed to reduce traffic congestion, improve air quality, and allow employers to tailor transportation benefits to their individual employees' needs. For more information, visit the Web site at www.fta.dot.gov/library/policy/cc/cc.html.

Congestion Mitigation and Air Quality (CMAQ) — A DOT program that provides funding for transportation projects in nonattainment and maintenance areas that reduce transportation-related emissions. For more information, visit the Web site at www.fhwa.dot.gov/environment/cmaq.htm.

Cookbook for Cleaner Air — An EPA guide to voluntary initiatives for air improvements. For more information, visit the Web site at www.epa.gov/oar/recipes.

Energy Star — An EPA-DOE initiative that promotes energy-efficient homes, buildings, and products. For more information, contact (888) STAR-YES or visit the Web site at www.energystar.gov.

It All Adds Up to Cleaner Air — An EPA-DOT effort that provides communities with outreach materials to help reduce traffic congestion and improve air quality. For more information, contact (202) 366-6276 or visit the Web site at www.epa.gov/orcdizux/transp/traqpedo/italladd/iaauca.htm.

EPA Landfill Methane Outreach Program — An EPA voluntary assistance and partnership program that helps facilitate and promote the use of landfill gas as a renewable energy source. For more information, contact (703) 934-3895 or visit the Web site at www.epa.gov/lmop/index.htm.

EPA Livable Communities Web site — An EPA Web site containing links to EPA programs and resources related to livable communities. For more information, visit the Web site at www.epa.gov/livability.

Manufacturing Extension Partnership — A DOC network of locally-managed extension centers offering technical assistance and information on business practices that help smaller manufacturers to improve their competitiveness. For more information, contact (800) MEP4 MFG or visit the Web site at www.mep.nist.gov.

The National Livability Resource Center — A clearinghouse for decision-support data, information, tools, and federal programs and resources to support livable communities. For more information, visit www.livablecommunities.gov.

Plain English Guide to the Clean Air Act — An EPA report explaining the Clean Air Act. For more information, visit the Web site: www.epa.gov/oar/oaqps/peg_caa/pegcaain.html#index.

Project XL — An EPA pilot program that provides regulatory flexibility to test innovative environmental strategies. For more information, visit the Web site at www.epa.gov/projectxl.

Smart Travel Resource Center — An EPA clearinghouse of transportation and air quality public education programs across the United States. For more information, visit the Web site at www.epa.gov/OMSWWW/strc.htm.

Transportation Air Quality (TRAQ) Center — An EPA clearinghouse of transportation and mobile source incentive-based programs, partnership opportunities, grant funding sources, and technical assistance. For more information, visit the Web site at www.epa.gov/otaq/transp.htm.

Transportation and Community and System Preservation (TCSP) — A DOT program that provides grants to improve transportation system efficiency, reduce costs and environmental impacts, and examine growth and development. For more information, visit the Web site at tcsp-fhwa.volpe.dot.gov.

Transportation Partners — An EPA initiative that provides technical and outreach support to communities developing transportation choices that improve mobility, efficiency, quality of life, and the environment, while reducing the vehicle miles traveled. For more information, visit the Web site at es.epa.gov/partners/transp/tranpart.html.

NON PROFIT RESOURCES

Air & Waste Management Association (AWMA) — An organization that provides training, information, and networking opportunities to environmental professionals. For more information, contact (412) 232-3444 or visit the Web site at www.awma.org.

American Public Power Association (APPA) — The service organization for the nation's more than 2,000 community-owned, locally-controlled, not-for-profit electric utilities, APPA provides information, assistance, and advocacy for public power on issues including the environment. For more information, contact (202) 467-2900 or visit the Web Site at www.appanet.org.

Center for Clean Air Policy — An organization founded by a bipartisan group of state governors that promotes innovative solutions to major environmental and energy problems which balance both environmental and economic interests. For more information, contact (202) 408-9260 or visit the Web site at www.ccap.org.

Center for Livable Communities — A program of the Local Government Commission that helps local officials and community leaders be proactive in their land use and transportation planning, and adopt programs and policies that lead to more livable and resource-efficient land use patterns. For more information, visit the Web Site at www.lgc.org/clc.

Environmental Law Institute — A research and education center that published the report *Fresh Air: Innovative State and Local Programs for Improving Air Quality*. For more information, contact (202) 939-3800 or visit the Web site at www.eli.org.

International City/County Management Association (ICMA) — An association representing city and county administrators that produced the report *Air Quality Tools: Local and Regional Strategies to Reduce Air Pollution*. For more information, contact (202) 962-3593 or visit the Web site at www.icma.org.

International Council for Local Environmental Initiatives (ICLEI) — An association of local governments that launched the Cities for Climate Protection Campaign to reduce emissions of carbon dioxide and other greenhouse gases that contribute to global warming. For more information, contact (510) 540-8843 or visit the Web site at www.iclei.org/co2.htm.

Joint Center for Sustainable Communities — A cooperative effort by the National Association of Counties and the U.S. Conference of Mayors that provides a forum for cities and counties to work together to develop policies and programs that lead to job growth, environmental stewardship, and social well-being. For more information, visit the Web site at www.naco.org/programs/comm_dev/center/index.cfm.

Local Government Environmental Assistance Network (LGEAN) — A service conducted by ICMA that provides environmental management, planning, and regulatory information to local government elected and appointed officials, managers and staff. For more information, visit the Web site at www.lgean.org.

National Association of Regional Councils (NARC) / Association of Metropolitan Planning Organizations (AMPO) — Two national associations representing regional and metropolitan interests by promoting cooperation among local governments. For more information contact (202) 457-0710 or visit the NARC Web site at www.narc.org and the AMPO Web site at www.ampo.org.

National Pollution Prevention Roundtable (NPPR) — An organization that promotes the development, implementation, and evaluation of efforts to avoid, eliminate, or reduce pollution at the source. For more information, contact (202) 466-7272 or visit the Web site at www.p2.org.

Smart Growth Network — A coalition of smart growth stakeholders that encourages more environmentally and fiscally responsible land use, growth, and development. For more information, contact (202) 962-3591 or visit the Web site at www.smartgrowth.org.

State and Territorial Air Pollution Program Administrators (STAPPA) / Association of Local Air Pollution Control Officials (ALAPCO) — Two national associations representing state and local air pollution control agencies. For more information, contact (202) 624-7864 or visit the Web site at www.4cleanair.org.

APPENDIX 2: CLEAN AIR INTERVIEWEES

NAME	POSITION	ORGANIZATION	LOCATION
Bill Anderson	Supervisor, Environmental Services	City of Minneapolis Department of Operations and Regulatory Services	Minneapolis, MN
Bruce Anderson	Environmental Engineer	Unified Government Department of Air Quality	Kansas City, KS
Daniela Badu	Division Director, Air Quality	Broward County Department of Planning and Environmental Protection	Fort Lauderdale, FL
Lindy Bauer	Environmental Manager	Maricopa Association of Governments	Phoenix, AZ
Chris Bird	Director	Alachua County Environmental Protection Department	Gainesville, FL
Brian Boerner	Director	City of Fort Worth Environmental Management Department	Fort Worth, TX
Michael Boothe	Air Quality Program Manager	Johnson County Environmental Department	Lenexa, KS
Bobbie Bratz	Public Information and Community Program Supervisor	Santa Barbara County Air Pollution Control District	Goleta, CA
Tim Brennan	Executive Director	Pioneer Valley Planning Commission	West Springfield, MA
Carol Brown	Environment Coordinator	City of Chicago Department of Environment	Chicago, IL
Janet Burgesser	Environmental Protection Specialist	City and County of Denver Department of Environmental Health	Denver, CO
Chris Byrne	Program Manager, Air Pollution Control	Saint Louis County Department of Health	Clayton, MO
Jim Caldwell	Director	Montgomery County Department of Environmental Protection	Rockville, MD
Bob Camby	Director	Western North Carolina Regional Air Pollution Control Agency	Asheville, NC
Jerry Campbell	Director	Environmental Protection Commission of Hillsborough County	Gainesville, FL
Cory Chadwick	Director	Hamilton County Department of Environmental Services	Cincinnati, OH
Brian Clifton	Registered Sanitarian	Great Falls-Cascade County Health Department	Great Falls, MT
Dave Coburn	Director	Onondaga County Office of Environment	Syracuse, NY
Bob Colby	Director	Chattanooga-Hamilton County Air Pollution Control Bureau	Chattanooga, TN
Elsa Coleman	Deputy Director, Intergovernmental Relations	City of Portland Office of Transportation	Portland, OR
Peter Conrad	Environmental Planner	City of Baltimore Department of Planning	Baltimore, MD
Cindy Corbett-Elder	Natural Resource Specialist	Broward County Department of Planning and Environmental Protection	Fort Lauderdale, FL
Bill Coughlin	Environmental Engineer	City of Tempe Public Works Department	Tempe, AZ
Bruce Coward	Area and Mobile Sources Section Head	Miami-Dade County Department of Environmental Resource Management	Miami, FL
David Crow	Air Pollution Control Officer	San Joaquin Valley Unified Air Pollution Control District	Fresno, CA
Bob Elliott	Executive Director	Southwest Air Pollution Control Authority	Vancouver, WA
Dave Esposito	Director	Pima County Department of Environmental Quality	Tucson, AZ
Morris Fine	Director, Air Management Services	City of Philadelphia Department of Public Health	Philadelphia, PA
Marion Forthoffer	Environmental Manager, Air Quality	City of Bradenton Environmental Management Department	Bradenton, FL
Barry Fortune	Supervisor, Air Quality	Carroll County Health Department	Westminster, MD

NAME	POSITION	ORGANIZATION	LOCATION
Robert Fulp	Director	Forsyth County Environmental Affairs Department	Winston-Salem, NC
Todd Gadawski	Environmental Engineer	American Municipal Power-Ohio, Inc.	Columbus, OH
Bryan Glascock	Director	City of Boston Air Pollution Control Commission	Boston, MA
Alan Goins	Permitting Services Manager	Colorado Springs Utilities	Colorado Springs, CO
Mark Gregor	Manager, Division of Environmental Quality	City of Rochester Department of Environmental Services	Rochester, NY
Matt Greller	Environmental Circuit Rider	Indiana Association of Cities and Towns	Indianapolis, IN
Alice Guthrie	Environmental Specialist	City of Boulder Office of Environmental Affairs	Boulder, CO
Jeff Harn	Environmental Planner	Arlington County Department of Environmental Services	Arlington, VA
John Hausbeck	Environmental Epidemiologist	City of Madison Department of Public Health	Madison, WI
Basim Hiawy	Administrator, Air Quality	City of Bradenton Environmental Management Department	Bradenton, FL
John Hills	Environmental Services Manager	Anaheim Public Utilities	Anaheim, CA
Eileen Hiney	Environmental Services Manager	Mid-America Regional Council	Kansas City, MO
Bob Holm	Administrator, Environmental Resources (former)	City of Indianapolis Department of Public Works	Indianapolis, IN
Dewayne Huckabay	Deputy Assistant Director	City of Houston Finance and Administration Department	Houston, TX
George Kolettis	Director	City of Gary Department of Environmental Affairs	Gary, IN
Paul Kowalski	Director, Environmental Health	City of New Haven Health Department	New Haven, CT
Doug Kukino	Administrator, Environmental Resources	City of Glendale Public Works Department	Glendale, AZ
John Laswick	Manager	City of Tucson Sustainable Communities Program	Tucson, AZ
Terry Lee	Director of Public Information and Education	Bay Area Air Quality Management District	San Francisco, CA
Jacquie Lentz	Bureau Chief, Air Quality Control	City of Houston Department of Health and Human Services	Houston, TX
Sarah Lile	Director	City of Detroit Environmental Affairs Department	Detroit, MI
Doug MacCourt	Environmental Manager (former)	City of Portland Office of Transportation	Portland, OR
Jarrett Mack	Manager, Stationary Source Licensing	Broward County Department of Planning and Environmental Protection	Fort Lauderdale, FL
Lynn Malcolm	Administrator	Akron Regional Air Quality Management District	Akron, OH
Mike Manning	Program Manager, Air Quality	City of Kansas City Health Department	Kansas City, MO
Rick Martin	Assistant Administrator, Environmental Resources	City of Indianapolis Department of Public Works	Indianapolis, IN
Angel Martinez	Air Quality Manager	City of Albuquerque Environmental Health Department	Albuquerque, NM
Dennis McLerran	Executive Director	Puget Sound Clean Air Agency	Seattle, WA
Randy Meyer	Manager, Environmental Affairs	American Municipal Power-Ohio, Inc.	Columbus, OH
Steve Morris	Manager, Air Quality	City of Anchorage Health and Human Services Department	Anchorage, AK

CLEAN AIR INTERVIEWEES continued

NAME	POSITION	ORGANIZATION	LOCATION
Dennis Murphey	Director	City of Cincinnati Office of Environmental Management	Cincinnati, OH
Michael Naylor	Director, Air Quality	Clark County Health District	Las Vegas, NV
George Needham	Director	Vigo County Air Pollution Control	Terre Haute, IN
Joseph Nicoletti	Commissioner	City of White Plains Public Works Department	White Plains, NY
Dave Padgett	Director, Environment, Health, and Safety	Colorado Springs Utilities	Colorado Springs, CO
John Paul	Supervisor	Regional Air Pollution Control Agency	Dayton, OH
Craig Perkins	Director	City of Santa Monica Environment and Public Works Management Department	Santa Monica, CA
Michael Pompili	Assistant Health Commissioner	City of Columbus Health Department	Columbus, OH
Wendy Richmond-Powers	Conservation Program Specialist	City of Austin Planning, Environmental, and Conservation Services Department	Austin, TX
Joan Rohlfs	Chief, Air Quality Planning	Metropolitan Washington Council of Governments	Washington, DC
Jim Sadelfeld	Air Quality Manager (retired)	City of Cincinnati Office of Environmental Management	Cincinnati, OH
Larisa Salamacha	Senior Development Director	Baltimore Development Corporation	Baltimore, MD
Greg Slager	Air Pollution Control Officer	Linn County Public Health Department	Cedar Rapids, IA
Rodney Sommerville	Assistant Director	City of Gary Department of Environmental Affairs	Gary, IN
Richard Valentine	Assistant Director, Bureau of Air Pollution Control	Salt Lake City-County Health Department	Murray, UT
Wayland Walker	Senior City Planner	City and County of Denver Department of Environmental Health	Denver, CO
Elly Walkowiak	Project Manager	City of Des Moines Office of Economic Development	Des Moines, IA
Dan Warren	Supervisor, Air Quality Planning	City of Albuquerque Environmental Health Department	Albuquerque, NM
Roger Westman	Air Quality Program Manager	Allegheny County Health Department	Pittsburgh, PA
Don Willard	Deputy Director	Mecklenburg County Department of Environmental Protection	Charlotte, NC
Marcia Willhite	Assistant Chief, Environmental Health Division	Lincoln-Lancaster County Health Department	Lincoln, NE
Art Williams	Director	Air Pollution Control District of Jefferson County	Louisville, KY
Patrick Wong	Air Quality Management Chief	Miami-Dade County Department of Environmental Resource Management	Miami, FL
Brian Woodruff	Senior Environmental Planner, Air Quality	City of Fort Collins Natural Resources Department	Fort Collins, CO
Doug Yoder	Assistant Director	Miami-Dade County Department of Environmental Resource Management	Miami, FL