

# Clean Cities Now

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**15<sup>TH</sup> ANNIVERSARY**

15 Years of Petroleum Reduction



U.S. DEPARTMENT OF  
**ENERGY**



## Historically Speaking...

The immense network of innovative alternative fuel and advanced vehicle advocates working in every corner of our nation is the most amazing accomplishment for Clean Cities. Despite years of low gasoline prices, changes in political leadership, and new directions in the automotive industry, Clean Cities has grown to have significant impact on the development and deployment of alternative fuels and vehicles.

*Marcy Rood-Werpy,  
Former Clean Cities Deputy Director*

General Motors has enjoyed a longstanding partnership with Clean Cities in its mission to reduce the use of petroleum in the transportation arena in the United States. Through our Clean Cities Rewards program, the coalitions have truly demonstrated their potential in moving the needle and increasing awareness of alternative fuel vehicles. We look forward to continuing the relationship.

*John Gaydash, Marketing Director  
General Motors Fleet and Commercial  
Operations*

The significance of Clean Cities goes beyond the fact that we've displaced 2 billion gallons of petroleum. The real value of Clean Cities is the nationwide network and valuable information that our coordinators make available to their communities to help them make educated decisions about alternative fuels.

*Kay Kelly, Project Manager  
Clean Cities North Central Region*

Clean Cities is held in high regard and esteem among all members of the environmental community, including elected officials; policymakers; public and private entities; and producers, distributors, and suppliers of alternative fuels. The outstanding Clean Cities coordinators and associates at every level within the organization have made it highly regarded and worthy of support.

*Jim Moore, President  
Emission Solutions, Inc.*

## Clean Cities Now More than Ever

Time flies when you're having fun. That's certainly the case for Clean Cities, which is celebrating its 15-year anniversary this month.

We've accomplished a lot since September 1993, when Atlanta was designated as the U.S. Department of Energy's first Clean Cities coalition. Thanks to the enthusiastic dedication of our almost 90 coordinators and nationwide network of more than 5,500 motivated stakeholders, Clean Cities has reduced U.S. petroleum consumption by more than 2 billion gasoline gallon equivalents and put more than 500,000 alternative fuel vehicles on the road.

We're proud of all our achievements, as is evident in this special 15th-anniversary edition of *Clean Cities Now*. From charting overall program growth to tracking the reduction of petroleum use in the transit bus niche market, this issue celebrates some of Clean Cities' accomplishments since its inception. It also features anecdotes from individuals who have made significant contributions to Clean Cities over the years.

In honor of our 15-year milestone, we are also launching a year of celebrations and encouraging coalitions to host events showcasing their local and regional accomplishments and the benefits of petroleum reduction technologies and practices.

Although we've made great strides since September 1993, we are only getting started. With oil prices recently reaching an all-time high, reducing our dependence on petroleum has never been more critical. Let's continue to spread the word about the importance of acquiring alternative fuel vehicles and using more alternative fuels, reducing wasteful idling in light- and heavy-duty vehicles, increasing fuel economy by driving smarter, and buying hybrids and other vehicles that offer more miles to the gallon.


By working together through local and national partnerships, we can further reduce our nation's dependence on foreign oil and improve our air quality for generations to come.



Dennis A. Smith  
National Clean Cities Director



Dennis A. Smith



Linda Bluestein  
Clean Cities Co-Director



Linda Bluestein

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# Communicating through the Years

Clean Cities was founded on the “together, we can move mountains” principle—that reducing dependence on imported oil will best be accomplished by working together to achieve a common goal.

With the number of coalitions approaching 90, communications between Clean Cities groups is key to program success. These days, the U.S. Department of Energy (DOE) uses the Clean Cities, Alternative Fuels and Advanced Vehicles Data Center (AFDC), and FuelEconomy.gov Web sites to disseminate critical information to coalitions. These sites are used to host interactive tools and Webcasts; post presentations from coordinator meetings; and distribute program fact sheets, handbooks, and other information to help users make vehicle purchasing decisions. But it hasn't always been this easy to get the word out. As technology has improved over the years, so have program communications.

The AFDC began in 1991 as a repository for data collected and analyzed by the National Renewable Energy Laboratory (NREL) on the performance of alternative fuel vehicles in U.S. fleets. “At that time, the AFDC was a desk with a computer on it,” says Karen Guilbeault, an NREL database administrator who helped launch the AFDC. “It wasn't the robust, publicly available, online portal you see today.”

In its early days, the AFDC functioned as a dial-up computer network that allowed users to submit data and access results. In addition, a large library of relevant technical reports and other documents was made available through a telephone hotline. As Internet technology evolved, NREL created the AFDC Web site in 1995, which provided easier user access to electronic resources. In parallel, the Clean Cities Web site was created to provide programmatic information and support to Clean Cities coordinators.

Periodic newsletters were one tool DOE and NREL have used to communicate with stakeholders. The first print periodicals, *AFDC Update* (September 1991–May 1997) and *Clean Cities Drive* (July 1994–October 1996), gave way to the glossy magazine *Alternative Fuel News* (September 1997–November 2003), which, in turn, was streamlined to *Clean Cities News* (April 2004–September 2004). The next year, however, the program newsletter entered the electronic era by becoming the online *Clean Cities Now*.

Today, Clean Cities and the AFDC work together to use expanded electronic media to share news, information, and data. In 2006, they began hosting Webcasts to bring DOE and coordinators together on a regular basis to discuss the latest hot topics. They also recently launched an RSS feed to provide news updates and links to electronic documents and tools.

Clean Cities also provides a variety of other Web-based tools through the AFDC and FuelEconomy.gov Web sites. The Coordinator Toolbox, which provides information specific to coordinators' ongoing needs, went online in 2004. Other interactive tools include the Alternative Fueling Station Locator, the Hybrid Electric Vehicle Calculator, and Vehicle Selection pages. Consumers can also search for vehicles and compare miles-per-gallon ratings and emissions performance for new and used vehicles dating back to model year 1985 through the FuelEconomy.gov Web site.



The robust, online AFDC began as a single computer in a small NREL room in 1991.

<b>AFDC Established</b>	1991
<b>AFDC Web Site Launched</b>	1995
<b>Clean Cities Web Site Launched</b>	1996
<b>Clean Cities Hosts Webcasts</b>	2006
<b>RSS Feed Initiated</b>	2008
<b>Mobile FuelEconomy.gov Launched</b>	2008

Although technology constantly changes, one thing remains constant: DOE will continue to expand the Clean Cities, AFDC, and FuelEconomy.gov Web sites to provide coalitions, industry, and the general public with accurate information.

## Historically Speaking...

“It's amazing what our coordinators have accomplished over the years. For many of them, the sky's the limit, and nothing will stop them when they have a goal in mind. It's their dedication and tireless efforts that have made this program so successful.”

*Wendy Dafoe, Clean Cities Project Leader  
National Renewable Energy Laboratory*

Like every coalition, our greatest asset is the enthusiasm generated by our stakeholders, who visualize and work to implement cleaner, more efficient transportation for our future.

*Barbara Bernstein, Coordinator  
Granite State Clean Cities*

Clean Cities has united the alternative fuels industries, the original equipment manufacturers, fleet managers, and other stakeholders to bring alternative fuels into communities nationwide. Clean Cities brought them all together to work for a common goal—moving America toward a future where abundant, clean energy produced from renewable resources is widely used.

*Tom Verry, Director of Outreach and  
Development  
National Biodiesel Board*

The Clean Cities and Alternative Fuels and Advanced Vehicles Data Center Web sites provide the most complete information resources, alternative fuels databases, and tools available. They are comprehensive, user-friendly sites for coordinators and the general public.

*Kevin O'Connor, Retired Clean Cities  
Project Leader  
National Renewable Energy Laboratory*

The local coordinators and coalitions have made Clean Cities one of the most successful initiatives in the U.S. Department of Energy. You cannot be involved in the alternative fuels business without hearing about Clean Cities.

*Ernie Oaks, Project Manager  
Clean Cities Northwest Territory*



# Clean Cities Celebrates 15 Years of Transportation Leadership

In 1993, the United States consumed 6 billion barrels of oil. Two-thirds of that oil was used for transportation, 40% was imported, and it came at a price of about \$20 per barrel. That same year, a small ceremony in Georgia marked the beginning of a forward-thinking movement to reduce petroleum consumption and strengthen the nation's energy security, environment, and economy.

That ceremony designated Atlanta as the U.S. Department of Energy's first Clean Cities coalition. By year end, five more coalitions were designated, and DOE's Clean Cities program was off and running. Fifteen years later, the program is celebrating its successes—nearly 90 active coalitions, almost 600,000 alternative fuel vehicles (AFVs), and 2 billion gasoline gallon equivalents (GGE) of petroleum reduced—while continuing to lead the charge for better transportation options. "We're very proud of what we've been able to accomplish over the past 15 years, but the best is yet to come," says National Clean Cities Director Dennis A. Smith. "It's Clean Cities now more than ever."

## Looking Back

The roots of Clean Cities date back to the Alternative Motor Fuels Act of 1988 and the Clean Air Act Amendments of 1990, which encourage the production and use of AFVs and the reduction of transportation-related emissions. These laws led to the creation of DOE's Alternative Fuels Data Center (AFDC) in 1991. Now known as the Alternative Fuels and Advanced Vehicles Data Center, the AFDC's mission was to collect, analyze, and distribute data needed for evaluating the viability of alternative fuels and improving the performance of AFVs.

One year later, the enactment of the Energy Policy Act of 1992 (EPA) required certain vehicle fleets to acquire AFVs. With this powerful impetus in place, DOE created the Clean Cities program in 1993 to provide technical, informational, and financial resources to regulated fleets and voluntary adopters of alternative fuels. Clean Cities and the AFDC worked hand-in-hand to achieve these goals and, to this day, still do.

Clean Cities initially focused on EPA-defined alternative fuels, including ethanol, natural gas, liquefied petroleum gas, and biodiesel. Although these fuels remain the cornerstone of Clean Cities, the program expanded its portfolio in 2004 to take advantage of additional opportunities for petroleum displacement and emissions reductions. This included expanding education and outreach practices, creating additional online tools and resources, and using idle reduction technologies, hybrid electric vehicles, fuel economy measures, and low-level blends. Not only have these strategies resulted in additional petroleum displacement, they have contributed to the expansion of truck stop electrification sites across the country, increased hybrid electric vehicle use in municipal fleets, developed new alternative fueling infrastructure, and increased the use of high-efficiency vehicles.

Clean Cities' success is hard to dispute. Annual petroleum reduction reported by coalitions increased from 15 million GGE in 1994 to 375 million GGE in 2007—an impressive 28% average annual growth rate. Total reduction tops 2 billion GGE.

Not surprisingly, most of the program's petroleum reduction is credited to alternative fuel use. In 2007, Clean Cities coalitions reported using 247 million gallons of alternative fuels in AFVs—a large proportion of the alternative fuels consumed for transportation

nationwide (not including E10-ethanol used as an oxygenate in gasoline).

In 2007, coalitions reported having 579,000 AFVs on the road, up fivefold from 1997 (when inventories of coalition AFV counts began). Coalitions also reported being responsible for 1,330 alternative fueling stations in 2007, representing one quarter of alternative fueling stations nationwide.

One of the most unusual and powerful aspects of Clean Cities is its mobilization of local government and industry stakeholders. These stakeholders constitute an advanced transportation community knowledgeable about a wide range of technologies and eager to develop markets, leverage resources, collaborate on projects and policy issues, and promote alternative transportation. From Atlanta-Clean Cities' first seven stakeholders in 1993, the ranks swelled to 5,720 stakeholders among 86 active designated coalitions in 2007. The latest coalition, Southeast Louisiana, joined in 2008.

## 15 Years of Clean Cities Accomplishments

<b>Petroleum Displaced (1994–2007)</b>	2 billion GGE
<b>AFVs on the Road (2007)</b>	579,000
<b>Alternative Fuel Consumed (2007)</b>	266 million GGE
<b>Number of Coalitions (2008)</b>	86
<b>Number of Stakeholders (2007)</b>	5,720
<b>Coalition Funding and Support from Outside Partners (1998–2007)</b>	\$845 million

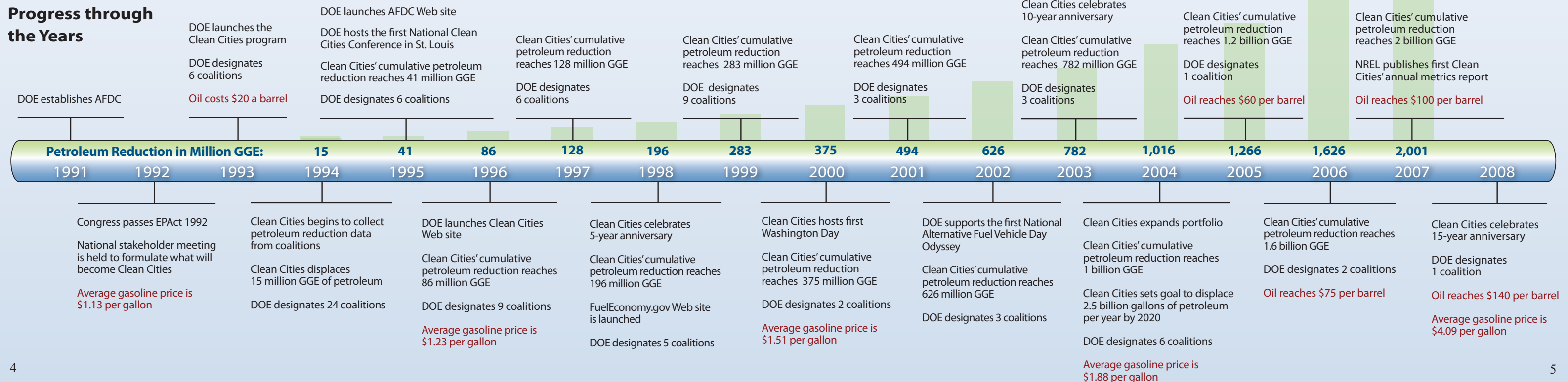
The petroleum-reduction effectiveness of Clean Cities coalitions has increased along with their numbers. In 2007, coalitions displaced 66,000 GGE of petroleum per stakeholder, more than twice the 29,000 GGE per stakeholder reported in 1997. The level of funding coalitions have secured and leveraged from outside partners has followed an upward trend as well, totaling \$845 million over the past 10 years. The increasing dedication of coordinators is exemplified by the 100,000 hours (1,180 hours per coalition) they worked in 2007, up from 42,300 hours (760 hours per coalition) in 1998. "This is especially significant considering all the coalitions operate independently," says Smith.

## Moving Ahead

In 2008, the price of a barrel of oil rose to a record high of \$140, the United States is currently importing 60% of more than 7 billion barrels consumed per year, and the public is awakening to the urgent need to end the nation's "addiction to oil."

This is not news to Clean Cities. Ending U.S. dependence on foreign oil has been the program's mission since the beginning. "We're proud to say that Clean Cities has reduced petroleum consumption by more than 2 billion GGE, and through our unique network of coalitions and committed stakeholders, we are ideally positioned to lead the United States toward a cleaner, more secure, more prosperous transportation future," says Smith. "Clean Cities works because it goes beyond national policies established in Washington. It is an effective call to action for local and regional champions who know how to get the job done in their communities."

## Clean Cities: Early Inception and Progress through the Years



## Historically Speaking...

Clean Cities has established a network of great people who facilitate growth of alternative fuels in the United States. This is and should be used as a model program for other vehicle deployment programs.

*Brian Feehan, Vice President  
Propane Education and Research Council*

The need for our country to lessen our dependence on foreign oil is greater today than it was 15 years ago. Today, \$4 gasoline and \$5 diesel have taken our message from alternative to mainstream. I think the country needs us more than ever.

*Michael Scarpino, Project Manager  
Clean Cities Northeast Region*

It is the good work of the coordinators that has established Clean Cities as a brand. It is extremely helpful to have the unbiased Clean Cities program behind these fuels and technologies. Many doors would remain closed to alternative fuels if not for this very strong program.

*Elizabeth Munger  
The Green Group*

There is great satisfaction when articles, talk shows, presentations, or even one-on-one conversations mention projects in which our coalition was instrumental. Even when the role we played goes unnoticed, there is reward in seeing folks taking ownership of a project while we quietly take pride in a job well done.

*Jason Wager, AICP, Coordinator  
Centralina Clean Fuels Coalition*

The flexibility of local coordinators gives the Clean Cities program a major advantage few government programs have. As we move into a time when petroleum reserves are shrinking, Clean Cities is ready to bridge the gap to newly emerging transportation technologies.

*Lee Grannis, Coordinator  
Greater New Haven Clean Cities Coalition*

## Where Are They Now?

A decade and a half ago, the U.S. Department of Energy (DOE) designated Clean Cities' first three coalitions within weeks of one another. It all began in early September in front of Atlanta's Georgia Dome, when Bill White, then Deputy Secretary of Energy, presented then Atlanta Mayor Maynard Jackson with a plaque officially designating Atlanta as DOE's first Clean Cities coalition. Five days later, Denver was designated, followed by Philadelphia the next week.

Since then, these coalitions have made great strides, cumulatively reducing petroleum by more than 16 million gasoline gallon equivalents (GGE) in 2007 alone and putting more than 15,000 alternative fuel vehicles (AFVs) on U.S. highways since 1993. But their accomplishments don't stop there. Read on to see what our founding coalitions are up to these days.

### Atlanta

*September 8, 1993*

At the time of its official designation, Clean Cities-Atlanta (CC-A) had nearly 600 AFVs, more than 30 natural gas refueling and electric recharging stations, and seven founding stakeholders. Fifteen years later, the coalition boasts 2,400 AFVs, 62 alternative fueling sites, and 14 stakeholders. In 2007, the coalition helped reduce Atlanta's petroleum use by 7.9 million GGE—not including the nearly 5 million diesel-equivalent gallons of natural gas used each year by the local transit agency's fleet of compressed natural gas (CNG) buses.

These days, CC-A's big push is ethanol. In the last year, CC-A assisted in establishing 12 new E85 stations and will help with eight more that are on the way. CC-A looks forward to the opening of one of the nation's first cellulosic ethanol facilities in nearby Soperton. The plant, which will produce 100 million gallons of ethanol per year, is partially funded by a \$76-million DOE grant and will bring new jobs to the area.

Despite its recent ethanol activity, CC-A has never put all its eggs in one basket. Over the years, it has successfully deployed a variety of alternative fuels in the area. Atlanta's use of CNG is most prominent, as is evident in the coalition's inventory of 938 CNG vehicles. Joining this CNG lineup are roughly 350 propane vehicles and more than 400 neighborhood electric vehicles.

Idle reduction is also a CC-A focal point. Since 2003, 282 truck-stop electrification bays at four local fueling sites have been installed in the metro-Atlanta area, and one fleet has equipped 14 of its over-the-road tractor trailers with auxiliary power units. This equipment has logged more than 8,000 hours, reducing petroleum use by approximately 97,000 GGE.

CC-A champion William Cook is proud of the coalition's achievements but looks forward to future growth. As chairman and co-coordinator of the group since 2004, Cook says that the coalition is moving forward with new projects to diversify the region's use of fuels and significantly increase fuel economy. Near-term projects expected in the region include the purchase and use of hybrid electric school buses and deployment of additional idle reduction technologies for heavy-duty vehicles.



Atlanta enjoys the distinction of being the first Clean Cities coalition to be designated by DOE.





Denver's coalition is home to more than 11,300 AFVs and hybrid electric vehicles.

## Denver

*September 13, 1993*

In 2007, Denver Metro Clean Cities (DMCC) reported 11,200 AFVs and 127 hybrid electric vehicles—the largest alternative fuel and advanced vehicle inventory of Clean Cities' first three coalitions. It includes an extensive fleet of AFVs that support daily service throughout Denver International Airport.

Like Atlanta, the Mile-High City's AFV portfolio is varied. In 2007, it claimed approximately 5,000 propane vehicles, more than 4,300 CNG vehicles, and 2,100 E85-capable flexible fuel vehicles (FFVs). It also has 323 heavy-duty vehicles running on B20. All told, DMCC's AFVs displaced 2.4 million GGE in 2007.

DMCC's current focus includes the advancement of E85 in Colorado. In 2006, it was awarded \$15,000 by the Colorado Governor's Biofuels Coalition (CGBC) to expand ethanol use through station outreach. The partnership is seeing measurable results, says DMCC Coordinator Natalia Swalnick. "Back in 2006, there were fewer than 20 retail ethanol stations in Colorado, but with the leadership of CGBC and DMCC, we are on track to top 100 stations by the end of 2008," she says.

DMCC also recently received \$8,000 in CGBC funding to create the Biofuels Dealership Development Project, an effort to increase FFV sales and the use of E85 in Colorado. The purpose of the project is to educate dealership sales staffs about ethanol and FFVs and the locations of area E85 stations and mechanic services, so they, in turn, can help consumers make informed decisions about FFVs. Current Colorado E85 efforts are also supported by Clean Cities funding that was competitively awarded by DOE in 2006.

Idle reduction is another area of DMCC activity. The coalition is partnering with the City and County of Denver Department of Environmental Health, three area public school districts, and two local air quality organizations in a tri-county effort to reduce the volume and duration of idling vehicles at schools. The intent of the pilot project, titled "Clean Air at Schools: Engines Off" (CASEO), is to help develop a model program to reduce school exposure to air toxics. CASEO will accomplish this goal through upgrades and retrofits of diesel school buses with improved emissions control technologies as well as a behavior-change program to eliminate unnecessary light-duty vehicle idling.

Although significant, these projects skim the surface of DMCC's efforts, says Swalnick. "Moving forward, we hope for grant opportunities to expand our program areas as well as ways to help member fleets capitalize on available funding," she says. "We plan to reach out to private fleets and work with them to increase sustainable transportation options, while helping them realize budget savings."

## Philadelphia

*September 22, 1993*

With a stakeholder base of almost 300 government, utility, and nonprofit organizations, Greater Philadelphia Clean Cities (GPCC) enjoys one of the most diverse memberships of the program's first three coalitions. Its strong stakeholder partnerships helped GPCC reduce petroleum consumption by more than 5.7 million GGE in the last three years.

GPCC's 2007 inventory included 1,361 E85-capable FFVs and 502 CNG vehicles. Accordingly, projects to increase ethanol and CNG use are focal points for GPCC. Its most visible initiative, the Pennsylvania E85 Corridor Project, is placing 14 E85 fueling sites along a 200-mile stretch of roads running from State College to Philadelphia. It is expected to dispense 648,000 gallons of E85 to Pennsylvania drivers each year. "This project offers a great opportunity to market E85 to folks with FFVs," says GPCC Coordinator Dennis Winters. "With that infrastructure, people can really take advantage of the benefits of owning an FFV."

Another coup for GPCC is the Lower Merion School District in Ardmore, which has long been considered one of the coalition's primary alternative fuels success stories. Starting in 1995, the school district began operating CNG buses to alleviate local concerns about air quality and noise. Today, Lower Merion's dozens of CNG school buses reduce petroleum consumption by an estimated 900 GGE per day. But Lower Merion isn't stopping there. It is working toward running its entire fleet on alternative fuels.

Looking ahead, GPCC will continue to work toward increasing the availability of alternative fuels throughout Philadelphia and southeastern Pennsylvania, says Winters. Organizationally, however, Winters says the coalition "will undergo some rebuilding to prepare for future growth—expanding the size of our board and increasing our public presence are two primary goals for the near future."



Philadelphia has an impressive stakeholder base of more than 300 organizations.

## Alternative Fuel Transit Buses: From Niche to Norm

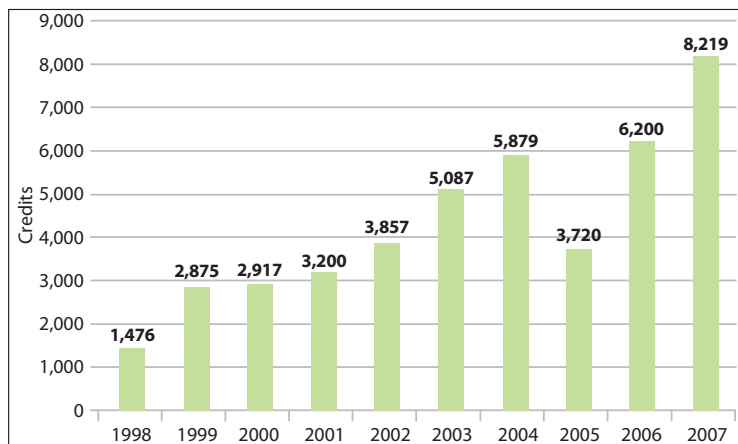
In 1998, Clean Cities coordinators reported a total of 1,476 alternative fuel transit buses. Largely due to program efforts, that number has steadily increased to 8,219 vehicles over the past 10 years, and it continues to grow.

Sessions at the 1998 National Clean Cities Conference emphasized the opportunities inherent in alternative fuel vehicle (AFV) niche markets. By targeting niche markets, coalitions can build a strong local market that provides fleet managers with information they need to make AFV purchase decisions with confidence.

To jumpstart Clean Cities' niche market movement, the U.S. Department of Energy issued a "niche market challenge" to attendees of the 1998 conference. Clean Cities stakeholders were encouraged to select a niche market as a reasonable target for 100% alternative fuel use. Of the categories discussed (transit buses, police cars, school buses, taxis), transit buses represented the largest number of vehicles and the highest area of interest. Today, as Clean Cities celebrates 15 successful years, the transition to alternative fuel transit buses marks a significant accomplishment.

Alternative fuel buses account for a substantial—and growing—portion of the nation's transit fleet. According to the American Public Transportation Association's (APTA) "2008 Public

### Alternative Fuel Transit Bus Growth in Coalitions (1998-2007)



The drop in 2005 data is credited to incomplete data collected by APTA. It did not include AFV bus fleets that collectively operate more than 2,000 CNG buses. This data was recovered in APTA's 2006 survey.

Transportation Fact Book," in 1997, 6% of approximately 70,000 transit buses operated on some form of alternative power. In 2007, 22% of approximately 80,000 transit buses operated on alternative power, primarily compressed or liquefied natural gas (as well as recent interest in and growth in hybrid electric buses). This overall percentage exceeds the goals established for some regulated fleets by the Energy Policy Act (EPA) of 1992. Clean Cities' influence and assistance in helping transit fleets adopt alternative fuels on a voluntary basis is critical because the acquisition of heavy-duty vehicles is not covered under EPA.

Faced with record-high diesel fuel prices and growing pressure from local communities to reduce air pollution, transit agencies are looking to replace aging buses with those that fit their needs and provide the best value. Considerations include central fueling availability, drive cycle, mileage, local availability, regulatory issues, and tax incentives.

Although more recently motivated by attractive fuel prices and tax incentives, the use of alternative fuels in buses started primarily in response to federal and state laws passed to improve air quality and reduce dependence on foreign oil. Other valid reasons for choosing alternative fuels include:

- Improving public perception of transit to attract new riders,
- Using special federal and state funding assistance to purchase alternative fuel buses,
- Reducing visible tailpipe emissions,
- Reducing noise levels (many AFV engines are quieter than conventional diesel engines),
- Lower and more stable fuel prices (and federal excise tax credits),
- Special partnering arrangements with fuel providers to build and maintain infrastructure, and
- Achieving energy security by using fuels derived from domestic sources.

Ten years after coalitions were first encouraged to identify viable niche markets in their areas, Clean Cities remains dedicated to growing the alternative fuel transit-bus market. But it doesn't stop there. School buses offer great petroleum- and emission-reduction opportunities and are good candidates for biodiesel and natural gas use. Whatever the application, Clean Cities continues to issue the "niche market challenge" to its coordinators and stakeholders.

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Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

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