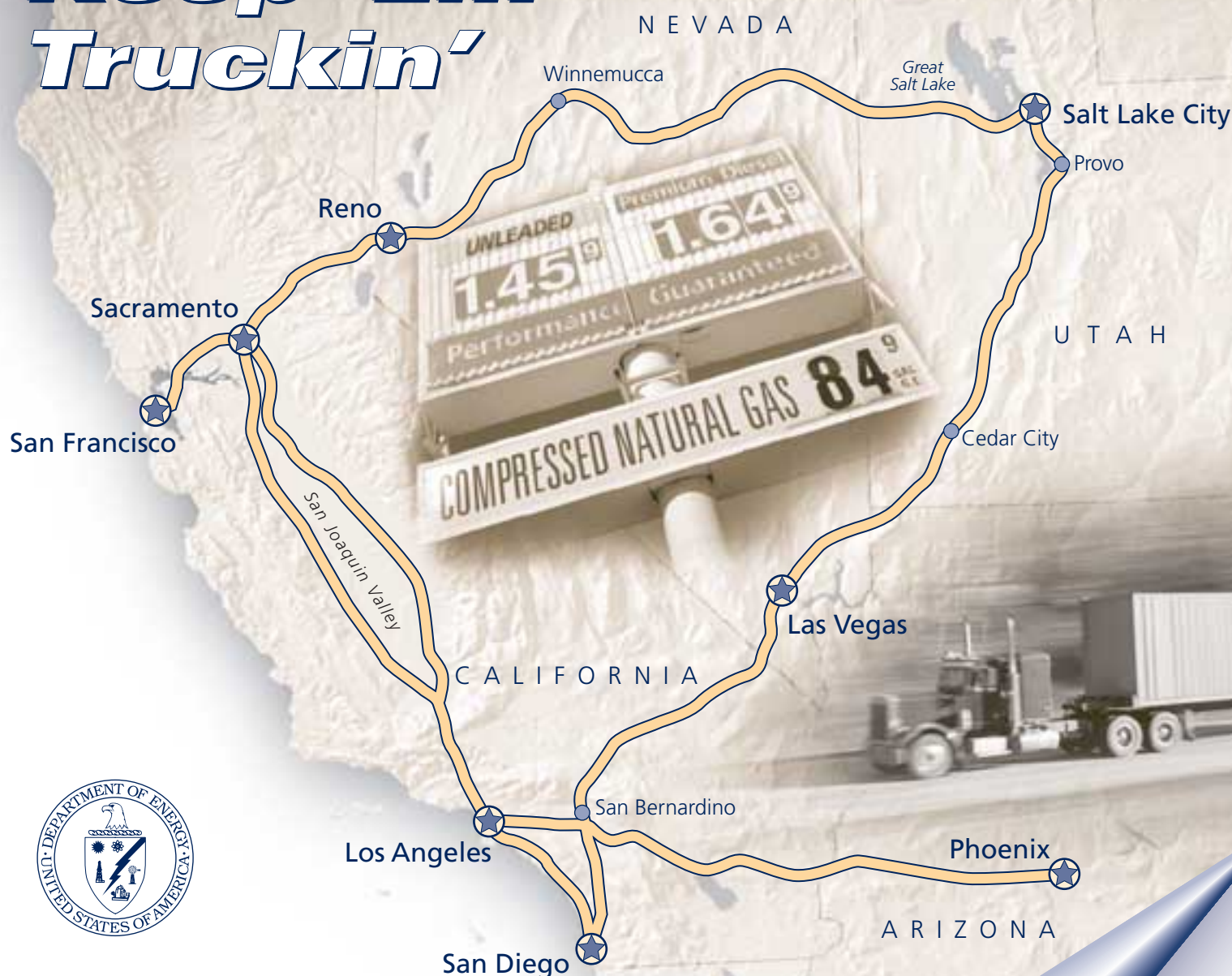


U.S. DEPARTMENT of ENERGY ALTERNATIVE FUEL NEWS

An Official Publication of the Clean Cities Network and the Alternative Fuels Data Center

From the Office of Energy Efficiency and Renewable Energy

Clean Corridors Keep 'Em Truckin'



**USPS Leads
the Charge with EVs**

HEVs and Fuel Cells a Big Hit at Auto Shows

Inside:

**Salt Lake
City Coalition
Makes it Look Easy**



Dear Clean Cities Stakeholders:

The U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE) leads the research, development, and deployment of clean, efficient, and renewable energy technologies, including clean vehicles and alternative fuels. As described in the fall 1999 issue of the *Alternative Fuel News*, EERE is using the theme "Clean Energy for the 21st Century," to promote events and activities leading up to Earth Day, April 22, 2000. This theme represents the goals and objectives of EERE programs, like Clean Cities, and coincides with the Earth Day Network's (EDN) Earth Day 2000 theme of "Clean Energy Now!"

April 22 is right around the corner and will bring clean energy technologies and the programs promoting them to the attention of many Americans across the country. In Washington, D.C., we will join EDN at EarthFair 2000 on the Mall. The event will feature interactive clean energy exhibits powered by DOE-developed technologies. Among the exhibits will be EERE's Energy Smart Schools classroom, highlighting examples of clean, energy efficient technologies, as well as alternative fuel vehicles.

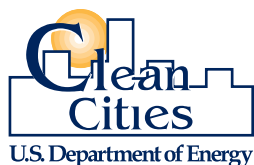
I hope you will take advantage of Earth Day 2000 opportunities to showcase your local coalition and the benefits of alternative fuels. Your efforts to increase the use of alternative fuel vehicles are helping to guarantee your community and the entire nation, a safe, clean, and energy efficient future.

Keep up the good work, and of course, enjoy reading this issue of *Alternative Fuel News*.

Dan W. Reicher

Assistant Secretary
Energy Efficiency and Renewable Energy
U.S. Department of Energy

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and Renewable Energy**

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Truck photo courtesy of Comstock



The Clean Cities

Corridor Connection

Since the Clean Cities Program's start-up 6 years ago, program participants have worked hard to develop local markets for alternative fuels. Stakeholders and partners in cities across the country have done much to ensure that alternative fuel vehicles (AFVs) are available and the refueling and maintenance infrastructure is in place to support AFV use. Coalition members continue to reach out to local fleets, providing information about alternative fuel options and facilitating the AFV choice. The growing number of fleets using AFVs fosters the continued development of alternative refueling infrastructure, such that in many cities, fleets can now make a relatively seamless transition to alternative fuels. Individual Clean Cities serve as centers of AFV activity, but what happens when business stretches beyond those "City Limits" signs?

For many fleets, business is not limited to a particular city. Delivery service vehicles may have multiple stops in several cities within a region. Airports frequently service many metropolitan areas; shuttle customers need transportation to or from the airport to neighboring towns. So how does Clean Cities facilitate travel between various Clean Cities?

Many coalitions now work together to identify those fleets that use the interstate highways, so they can seek funding for shared refueling infrastructure projects along routes and further develop corridor links.

Using Clean Cities as hubs, clean corridors can be created by enabling interstate and regional AFV travel to use a shared alternative fuel infrastructure. Clean corridors permit fleets that serve multiple cities to purchase AFVs with confidence, knowing that fueling convenience and supply will not be a problem.

One of the most successful corridors to date is the Interstate Clean Transportation Corridor (ICTC). Coordinated by Clean Cities consultants at Gladstein & Associates, the ICTC connects multiple Clean Cities in the West, including Salt Lake City, Utah; San Diego, Los Angeles, Sacramento, San Joaquin Valley, and San Francisco in California; and Las Vegas and Reno, Nevada. The ICTC focuses primarily on the commercial trucking industry, targeting heavy-duty truck fleets that use Interstate Highways 80, 5, 10, and 15, and CA-99, and promoting liquefied natural gas (LNG) as an alternative to diesel fuel. Over the past several years, the ICTC has been successful in offsetting the incremental costs for LNG trucks throughout the region and in developing a network of refueling stations along the highways that make up the corridor.



The ICTC has received considerable acclaim. When faced with the challenge of mitigating the environmental impacts of increased border traffic due to the North American Free Trade Agreement (NAFTA), the Texas General Land Office (GLO) looked to the ICTC as a model for clean corridor development. NAFTA relies heavily on trade routes between the United States and its neighbors, Mexico and Canada. These routes have dramatically increased the volume of traffic—particularly heavy-duty truck traffic—along the highways connecting the three countries. The increase of heavy-duty trucks has brought goods and also higher levels of emissions and air pollution. The GLO recognized the air quality impact NAFTA traffic was having on the state (which includes major border crossing points for trucks transporting goods to and from Mexico), and looked to alternative fuel use as a solution. The GLO began working with the U. S. Department of Energy (DOE), Lone Star Energy’s alternative fuels division, the U. S. Postal Service, local Clean Cities Coalitions, and the Environmental Protection Agency to identify opportunities to reduce emissions through the use of natural gas. Through this partnership, and working in conjunction with Gladstein & Associates, the International Clean Transportation Corridor-3 (ICTC-3) was born.

"The marriage of the Land Office corridor effort and the ICTC was a good one," said Elizabeth Munger, Director of the ICTC-3. "We learned from the ICTC effort and took advantage of their experience." The ICTC-3 serves all three countries (hence the name ICTC-3) and focuses specifically on the cities intersected by north-south routes I-35 and I-29, and eventually I-94 (see map).

The long term goals for the corridor include linking I-35 with east-west route I-10, enabling AFV travel from Houston, Texas, to Tucson and Phoenix, Arizona. Connections with I-40, and the cities of Oklahoma City, Oklahoma, and Albuquerque, New Mexico, are also in the long term plan. When this effort is finished, the new corridor will link the ICTC-3 with its "sister" corridor in the west, the ICTC.

But for now, according to Munger, the primary objective of the ICTC-3 is education and outreach. "We are facilitating a two-way exchange of information, so everyone involved knows what's going on in the cities along the corridor and can take advantage of the opportunities to work together," she said. The group, which includes Clean Cities coordinators and stakeholders from the Laredo, Houston, Alamo Area, Austin, Dallas/Fort Worth, Oklahoma City, Kansas City, Omaha, Red River Valley, and Winnipeg coalitions, meets regularly to discuss their current projects and progress.

Clean Cities members are currently focusing their corridor efforts to strengthen their locales as hubs for medium- and heavy-duty vehicles. They are partnering on refueling infrastructure development projects and working to identify target fleets along corridor routes. "The Clean Cities Program is the backbone of this effort," said Munger. "So far, in each of the participating cities, a well-developed infrastructure for light-duty vehicles is beginning, but



The ICTC-3 runs along Interstates 29 and 35, connecting Winnipeg, Manitoba, Canada with Saltillo, Nuevo León, Mexico.

ICTC-3 Supports Trade Mission to Mexico

The ICTC-3 announced that this spring, corridor members would lead a small, select group of AFV manufacturers and equipment suppliers to meet with fleet managers and trade association staff in Monterrey, Nuevo León, Mexico. With ready access to major transportation routes, Monterrey is home to a large number of U.S.-operated plants, U.S. companies, and local companies, all of which depend on trucks to transport their goods. The purpose of the trade mission, which is sponsored by DOE, is to promote U.S. alternative fuel tech-

nologies to medium- and heavy-duty truck fleets. For more information, call Elizabeth Munger, Director, ICTC-3, at 512-447-3595, or e-mail her at elizabeth@gladstein.org.



Trucks waiting in line at a U.S./Mexico border crossing.







there hasn't been much of a concerted effort on the non-mandated vehicles. If we can strengthen the hubs, we can connect them with stations in between and build a corridor to support increased medium- and heavy-duty AFV traffic," she said.

The corridor partnerships have sparked new ideas and facilitated progress in many corridor hubs. According to coordinator Benjamin Watson, the Kansas City Regional Clean Cities Coalition (KCRCCC) reaped great benefits from the information exchange among the corridor cities. "Last year we replicated work that was done in Oklahoma and were successful in getting alternative fuels legislation in Kansas and Missouri. This year we will be replicating the Dallas rebate project," he said.

The ICTC-3 also serves as the alternative fuels working group of North America's Superhighway Coalition (NASCO), an advocacy group promoting Interstate Highways 35, 29, and 94 as North America's International Trade Corridor. NASCO works to leverage funding to improve the highways and their infrastructure, and to add critical technologies along the corridor to facilitate trade among Canada, the United States, and Mexico. Part of NASCO's mission is to mitigate the environmental impact of the increasing truck traffic along the highways as a result of NAFTA. In her role as director of the ICTC-3 and chair of the alternative fuels working group, Munger shares corridor project progress and success stories with NASCO. "The most important thing we do is disperse information and help educate NASCO and the fleets that use the corridor, by showing them that alternative fuels are a real option, which provide both economic and environmental benefits," she said.

As more partnerships develop among Clean Cities coalitions, the network of alternative fuel infrastructure will expand. Clean corridors are making regional AFV travel a reality, and under the leadership of members from the ICTC, ICTC-3, and other corridor efforts, a closely knit national AFV network is on the way. For more information on clean corridors, please call the Clean Cities Hotline at 1-800-CCITIES.

The ICTC corridor family is an example of a handful of corridor efforts, each in a different stage of development.

-  The Northeast Corridor runs along the East Coast, connecting Richmond, Virginia, with Boston, Massachusetts, along I-95.
-  The I-79 Corridor connects Charleston, West Virginia, and Pittsburgh, Pennsylvania.
-  The Clean Crossroads effort links several Midwestern Clean Cities, including Louisville, Kentucky; Cincinnati, Ohio; and Evansville and Indianapolis, Indiana.
-  The Colorado Front Range Corridor is another formalized effort among the Denver, Weld/Larimer/Rocky Mountain National Park, and Colorado Springs Clean Cities Coalitions, which is also working to connect with Clean Cities in Kansas and Missouri along I-70.
-  The Northwest Corridor serves I-5, connecting the Rogue Valley Clean Cities Coalition in Oregon with the Puget Sound Coalition based in Seattle, Washington. It extends north into Vancouver, British Columbia, Canada.
-  The I-90 Corridor links several New York Clean Cities Coalitions, including Western New York, Genesee Region, Central New York, and Capital District.



Federal News

DOE Supports USPS Commitments to Electric Vehicles

The United States Postal Service (USPS) recently ordered 500 electric delivery vehicles—the single largest purchase of electric vehicles (EVs) in U. S. history. Purchased through a competitive bid process from the Ford Motor Company, production will begin this fall. The vehicles will be assembled in Rome, New York. California will receive 480 of the vehicles, and the remainder will be located in Maryland.

"The acquisition of these new vehicles once again reminds us of the pioneering role the Postal Service has played for over 200 years, utilizing innovation and technology in binding the nation together. Adopting this world-class technology benefits the Postal Service and the American people," said Postmaster General William J. Henderson. "We deliver clean air along with the nation's mail. We're proud to be a good, environmental neighbor in every community we serve."

...these vehicles cost the USPS no more than the gasoline vehicles the USPS normally employs.

Thanks to partnering efforts with the U. S. Department of Energy, the states of California and New York, the California Energy Commission, and several other environmental groups, these vehicles cost the USPS no more than the gasoline vehicles the USPS normally employs. The lead



John Nathon/PX 07873

USPS Long Life Vehicle on display at the Clean Cities Conference in Louisville, Kentucky.

acid battery-powered EVs can be driven between 50 and 80 pollution-free miles before recharging. Acceleration is similar to their gasoline-powered counterparts, with the ability to go from 0-50 mph in 12.5 seconds.

The deployment of the first 500 vehicles will mean an annual reduction in tailpipe emissions of nearly 143,000 pounds of carbon monoxide, 11,000 pounds of hydrocarbons, and 16,000 pounds of nitrogen oxides. Since these vehicles run virtually pollution-free, the 500 vehicles, with an average of 500 deliveries per route, add up to more than a quarter million of pollution-free deliveries per day.

The USPS currently has the nation's largest compressed natural gas delivery fleet, with more than 7,500 vehicles. It recently purchased more than 21,000 flexible-fuel vehicles, which run on either gasoline or ethanol. By 2002, the USPS fleet of AFVs is expected to exceed 30,000.

Secretary of Energy Bill Richardson offered his congratulations to the Postal Service, saying the acquisition is "... a watershed for the use of electric vehicles in the United States."

GAO Releases "Glass Half-empty" Transit Bus Report

In December 1999, the U.S. General Accounting Office (GAO) issued a report on the status of alternative fuel use in transit bus fleets across the country. The report, which was mandated by the Transportation Equity Act of 1998 (TEA), was to review the types of alternative fuel bus technologies now in service and discuss the environmental and economic implications of their use.

A casual reader of the GAO report would conclude that alternative fuel buses are costly and not worth the effort. This is looking at the glass as "half empty." The U.S. Department of Energy (DOE) and many transit agencies look at the same data in a more positive light. With many of the early technical problems now solved, natural gas and other alternative fuel buses have a promising future.



The report contains some useful information and data within its charts and appendices; however, most of the discussion material is loosely based on informal conversations and interviews that the GAO had with a small industry group. Staff from only 12 transit agencies (out of hundreds in the country) were interviewed, and some of those agencies had only a few alternative fuel buses in their fleet (see table below). The GAO cited no specific scientific studies or in-depth analyses as the basis of the report, saying only that they had reviewed information from a variety of sources.

Not surprisingly, the report reveals that natural gas buses make up the majority of alternative fuel buses now in operation. Despite extensive communication with DOE and other industry groups, the report discloses little recent information. It also fails to address several critical issues that now drive the increased demand for alternative fuel buses. Much of the report dwells on poor fleet experiences with early generation equipment from the late 1980s and early 1990s, and the findings do not reflect current market conditions.

Despite the “glass half empty” write up, an overview of the report’s charts and appendices does show some positive alternative fuel trends that were not revealed in the GAO findings (see box at right).

Most of the people interviewed for this report believe that environmental concerns are the main reason more alternative fuel buses are being used; the report states that the U.S. Environmental Protection Agency (EPA) “receives

more complaints from the public about emissions from transit buses than all other environmental issues combined.” Furthermore, the report claims that diesel buses have become significantly cleaner over the past 11 years, based on progressive tightening of emissions standards over that same period.

Alternative Fuel Trends

- The number of new alternative fuel transit buses being purchased by agencies across the country continues to grow. Nearly 20% of all new bus orders are now alternative fuel vehicles (primarily natural gas).
- Half of all the agencies contacted by the GAO plan to continue buying alternative fuel buses; of those, all but one are buying 100% alternative fuel buses (i.e., not ordering any diesel buses).
- Half of the CNG transit operators that were interviewed reported their fuel costs for CNG were equal to or less than their diesel costs would have been for the same period. (Note that this was before the steady price increases that diesel and gasoline are experiencing.) No mention was made of the anticipated price increases for low-sulfur diesel fuel necessary to achieve future emissions reductions in diesel engines.

Transit Operator	Location	Type of alternative fuel used
Command Bus Company (New York City Department of Transportation)	Brooklyn, NY	CNG
Metropolitan Transportation Authority: New York City Transit	Brooklyn, NY	CNG, diesel hybrid electric
Greater Cleveland Regional Transit Authority	Cleveland, OH	CNG
Metropolitan Transit Authority of Harris County	Houston, TX	LNG
Los Angeles County Metropolitan Transportation Authority	Los Angeles, CA	Methanol, ethanol, CNG
Miami Dade Transit Agency	Miami, FL	Methanol, CNG
Minneapolis Metro Transit	Minneapolis, MN	Ethanol
Greater Peoria Mass Transit District	Peoria, IL	Ethanol
Portland Tri-County Metropolitan Transportation District of Oregon	Portland, OR	LNG
Bi-State Development Agency, Missouri-Illinois Metropolitan District	St. Louis, MO	CNG
Pierce Transit Authority	Tacoma, WA	CNG
SunLine Transit	Thousand Palms, CA	CNG

* Source: GAO Report to Congressional Committees, *Mass Transit: Use of Alternative Fuels in Transit Buses*, December 1999

Unfortunately, this assessment neglects to consider that real world performance has not kept pace with emissions standards, as evidenced by the lawsuit filed by EPA and the U.S. Department of Justice last year against seven major heavy-duty diesel engine manufacturers. The subsequent consent decree settlement (more than a billion dollars) clearly demonstrates that the engines on the road did not meet the published standards. According to an EPA spokesperson, "The seven companies sold 1.3 million heavy-duty diesel engines containing illegal 'defeat devices,' which allow an engine to pass the EPA emissions test, but then turn off emission controls during highway driving. As a result, these engines emit up to three times the current (allowable) level for NO_x, a harmful air pollutant." These heavy-duty diesel engines emitted 1.3 million tons of excess NO_x in 1998 alone, equivalent to the NO_x emissions from an additional 65 million cars being on the road, and representing 6% of the total NO_x emissions across the nation.

In addition, the report makes no mention of numerous recent studies and scientific findings concerning the health effects of exposure to diesel particulate matter. Such exposure is often worse in communities that rely heavily on public transit. Nor does the report address the impact that new regulations currently under consideration in California could have on the demand for alternative fuel buses.

On the capital expenditure side, there is no question that alternative fuel buses continue to carry a premium. However, based on the large number of new orders for natural gas buses, many transit agencies and their local communities apparently believe that the added expense is justified by the environmental and societal benefits that the alternative fuel buses offer.

Check out www.afdc.doe.gov/afv/buses.html for the latest documentation on alternative fuel buses.

DOE Makes Progress with State and Fuel Provider Enforcement

The State and Fuel Provider (S&FP) regulation went into effect in April 1996 (effective with the 1997 reporting year), in accordance with the provisions of the Energy Policy Act of 1992 (EPA Act). Under this program, which is managed by the U.S. Department of Energy (DOE), state fleets and alternative fuel provider fleets are mandated to acquire a specific percentage of alternative fuel vehicles (AFVs) as part of their regular annual light-duty vehicle acquisitions.

The S&FP Program requires fleets to report on the number of light-duty vehicle and AFV acquisitions for the year. Fleets earn credits for AFVs acquired in excess of their requirements, which can then be traded or sold to other fleets that were unable to meet their requirements through AFV purchases. This process provides key flexibility in the program and promotes both AFVs and sound business practices.

For model year 2000, which began September 1, 1999, between 50% and 90% of new light-duty vehicle acquisitions are required to be AFVs (the percentages vary depending on the type of fleet).

Fleets covered by EPA Act that do not comply with the requirements of the S&FP regulation are subject to fines of up to \$50,000 per violation per day. As of January 2000, almost 90% of these fleets had complied.

Fleets reporting to DOE now have more than 35,000 AFVs on the road, with annual demand of at least 6,500 AFVs. Dana O'Hara, DOE's EPA Act Team Leader, has high hopes for the program. "We expect the number of AFVs in state and fuel provider fleets to keep increasing, in part because our enforcement strategy is flexible and fair," he said. Today more than 30 different models of AFVs are available from original equipment manufacturers, ranging



Pictured in front of the Minnesota State Capitol Building are Wally Lysle and Jan Reak with a Ford Taurus FFV, part of a fleet used by the Minnesota Department of Public Service.

from sedans and pickup trucks, to vans and minivans. Furthermore, due in part to this program, more refueling sites are available nationwide for fuels such as ethanol, compressed natural gas (CNG), and liquefied petroleum gas (LPG). These options provide AFV users more flexibility and freedom. For example, ethanol stations have increased from two nationwide in 1992 to 49 in 1999. The network of CNG stations has grown from 349 to 1,267, and LPG refueling stations have increased from 3,297 to 4,153 over the same period.

Since the regulation passed, DOE's program team has spent most of its time organizing the implementation. Now that procedures and processes are in place, it will focus on increased outreach and enforcement.

For more information regarding the S&FP Program, log on to the Alternative Fuel Data Center Web site at www.afdc.doe.gov/fleet.html, call the regulatory information line at 202-586-9171, or send an e-mail to regulatory_info@afdc.nrel.gov.



Focus On

AFN Focus on the Salt Lake Clean Cities Coalition

Increasing the number of alternative fuel vehicles (AFVs) on the road and developing a network of refueling sites to support their use is no mean feat. It requires well-rounded coalitions that are effective in all aspects of the Clean Cities arena, including public outreach, fleet recruitment, fundraising, and legislative advocacy. Any of these tasks may seem formidable, but the Salt Lake Clean Cities Coalition (SLCCC) and coordinator Beverly Miller makes it all look easy.

SLCCC has niche market projects (including several 100% alternative fuel fleets), airport initiatives, a technical training program, a renowned legislative effort, and a recognized public outreach program. The coalition recently received non-profit status. How do they do it all?

Miller says it's a combination of the right environment and stakeholder support that helps make it happen in Salt Lake City. "Ultimately, every Clean Cities coalition is concerned with increasing the number of AFVs on the road and adding more refueling infrastructure," she added. "We are fortunate to have wonderful fleets and strong support from our stakeholders."

In addition to tactical project support, the Utah Office of Energy Services has made the full-time coordinator position possible through funding support, and the Salt Lake City Mayor's office provides Miller with a workplace and other amenities, including a computer, phone, and mailing services.

"The availability of a full-time coordinator has been a vital element to their success," said DOE's Ernie Oakes, Clean Cities Program Manager for the Denver Region. Salt Lake Clean Cities Coalition successes include more than 2,230 AFVs, already surpassing their original program plan goal for 2000. Many of these vehicles operate in niche market fleets that are highly visible to the community.

The Newspaper Agency, responsible for delivering the area's two major newspapers—the *Salt Lake Tribune* and *Deseret News*—is a classic example of a successful niche market AFV fleet. According to Miller, after researching its options, The Newspaper Agency staff decided AFVs would be a good way to give something back to the community. Today it operates a nearly 100% alternative fuel



Salt Lake Clean Cities Coalition

(Left), One of Jordan School District's natural gas-operated buses; (Below), The newly opened electric-powered light rail system, TRAX, runs 15 miles along the Wasatch Front Mountains in Salt Lake City.



Salt Lake Clean Cities Coalition

fleet. All 230 of its vans, which travel six million miles a year, run on CNG and are saving the company thousands of dollars in fuel costs. "The Newspaper Agency is absolutely committed," said Miller. "It's their passion for alternative fuels that has made them so successful."

Another delivery fleet, Flower Patch, Inc., a floral delivery service, is also operating its entire fleet (18 vehicles) on natural gas. The Jordan School District added seven natural gas buses in 1999, bringing its total AFV fleet to almost 30. The city-owned airport, whose fleet includes many heavy-duty snow removal vehicles and buses, is 26% alternative fueled, and that percentage is steadily climbing. The coalition, which intends to make Salt Lake International Airport "the greenest airport in the country," has developed an AFV strategic plan to be implemented this year. SLCCC is also working with independently owned shuttle companies that service the airport to facilitate their transition to alternative fuels.

Among the stakeholders at the helm of SLCCC's niche market effort is a local vehicle dealership. A representative from Hinckley Dodge is working with several area shuttles that serve handicapped and disabled people to transition their vehicles to AFVs. "It's been the most focused and

most aggressive effort I've ever seen," said Miller.

The thousands of AFVs traveling the area's roads would not be possible, however, without the strong support of fuel providers like Utah's Questar Gas. Miller calls Questar Gas "simply fantastic." Not only does its fleet include more than 800 AFVs, but the company has also helped develop an extensive refueling infrastructure network that includes more than 60 natural gas stations. In partnership with the state of Utah, most of the region's refueling sites are now publicly accessible with a common gas credit card.

"GasCard expanded the number of publicly accessible sites from 20 to 32," said Miller. "The stations are easily accessible and near interstate highways, which helps create an environment attractive to fleets," she said.

The coalition, which recently received non-profit status, also assists area fleets with fund-raising to support AFV purchases. Last year, SLCCC was awarded three DOE State Energy Program Special Projects grants totaling \$314,421. The funds will support the school bus fleet, a delivery fleet, and a publicly accessible refueling station at the airport. The coalition also received \$25,000 through DOE's Clean Cities Rebate Program to create an AFV reimbursement fund for coalition stakeholders. The Propane Education and Research Council also awarded the coalition a grant to support The Newspaper Agency's purchase.

SLCCC is active in public outreach as well. The Newspaper Agency, which co-chairs the coalition's public awareness committee, helped develop several projects. In partnership with the National Energy Foundation, they created two newspaper supplements. The first insert was a resource guide with information on alternative fuels and Clean Cities for the elementary and middle school students participating in Utah's ninth annual energy debate. More than 375,000 copies were printed; half were distributed to schools in response to specific requests. The second newspaper insert corresponded to the opening of TRAX, the area's new light rail system, and featured information on alternative transportation systems, as well as the Clean Cities Program. The coalition is currently planning a third supplement on land use issues, which will highlight AFVs and transportation planning.

Also included in Salt Lake's outreach activities is its technician-training program. The coalition developed a program that is offered without charge to technicians representing local entities with AFVs.

It might seem the vehicle, station, fleet recruitment, fundraising, and public outreach activities would be enough to keep the Salt Lake coalition busy. However,

Members of the Salt Lake Clean Cities Public Awareness committee visiting Salt Lake County Health Department's new emissions testing lab. Pictured (left to right, top): Beverly Miller, Ellen Stone, and Robin Erickson; (left to right, bottom): Gordon Larsen, John Bennett, Wendell Combs, Lynne Nichols, Jim Brande, Jim Jeffries, and Richard Valentine.



Salt Lake Clean Cities Coalition

Miller and other stakeholders have also developed a legislative plan. "I feel strongly about the importance of people directly involving themselves in the political process," said Miller. "There isn't anything more American than calling your legislator and voicing your opinion." The coalition has developed a relationship with local and national legislators and regularly informs them of its activities and successes. While in Washington, D.C., at the Fourth National Clean Cities Conference, Miller and several other SLCCC stakeholders made a trip to Capitol Hill and visited with staff members of every congressional representative for the state of Utah. "It's important to work with the staff," said Miller. "They can help you, or they can shut you out." Perhaps it is no coincidence that Senator Orrin Hatch (R-UT) was a co-sponsor of The Alternative Fuels Promotion Act (S. 1003), introduced in 1999, and has announced his support for alternative fuels in numerous forums.

Utah legislators are also helping the SLCCC. As a result of the relationships SLCCC stakeholders have developed, staffers now seek their opinion. "Voters don't typically make phone calls, but when you make yourself known, others will follow," Miller said. The coalition's legislative momentum will continue through the 2000 legislative session. Stakeholders have drafted AFV legislation they hope will be introduced. In the spirit of what Miller calls "grass-roots advocacy," several private sector coalition members are working with a lobbyist to help them with the information—and the courage—they need to call their elected officials and put in a good word.

According to Miller, effective outreach and constant customer interaction help create a favorable environment for AFVs. "If you do something long enough, if you have a constant presence and never forget your message, you'll begin to see some activity," she said. A strong core of support is also essential for success. "I really believe this is a full-time job," said Miller. "At the least, you have to get people involved. I am deeply indebted to about a half-dozen, results-oriented people. You don't need many, but with a core group you can really make things

happen...just find two or three things that you can feel good about so you can advertise your success," she said. The SLCCC Board of Trustees meets regularly, as do most of the coalition's working groups.

In addition to stakeholder involvement, remembering "the basics" is also critical to maintaining coalition support. "It's also important to thank people," Miller added. "You

have to bring people in, make them feel good about what they're doing, and let them know you appreciate their efforts."

Salt Lake Clean Cities continues to be a leader in all aspects of alternative fuel market development. Thank you, Beverly Miller and the Salt Lake Clean Cities Coalition, for setting an outstanding example.



Clean Cities Roundup

Greater Long Island Clean Cities Coalition Celebrates Purchase of 40 AFVs

Before kicking off its millennium festivities, the Greater Long Island Clean Cities Coalition (GLICCC) hosted a different kind of celebration. Together with the U. S. Department of Energy's (DOE's) Boston Regional Office, coalition stakeholders, including KeySpan Energy, DOE's Clean Cities Program, Suffolk County, and Ford Motor Company, celebrated the purchase of 40 natural gas vehicles by Arrow Security, a private security firm based on Long Island. The purchase, recognized as the largest single acquisition of natural gas vehicles by a private fleet in New York state, was made possible by funding and technical assistance from the GLICCC, KeySpan Energy, the New York State Energy Research and Development Authority, and the DOE Clean Cities Rebate program. GLICCC and KeySpan Energy leveraged \$275,000 in public and private financing to help offset the capital costs of the project. For more information, call Mike Scarpino, U.S. DOE, Boston Regional Office, at 617-565-9716.



Brooklyn Union

Pictured here, along with some of Arrow Security's natural gas fleet, are: (left to right) Anne Dillenbeck, GLICCC Coordinator; Robert Cattell, Brooklyn Union Chairman and CEO; Mike Scarpino, DOE Clean Cities Regional Program Manager; AJ Caro, President of Arrow Security; Robert Williams, Ford Motor Company.



The Subway shops of Fairfield County have committed to a partnership with Clean Cities Energy Alternatives of Southwestern Connecticut (formerly Norwalk Clean Cities). Subway has positioned itself as the "Smart Alternative," to fast food, a strategy that the company sees as a perfect fit with the local Clean Cities effort.

In the spirit of healthy living, Subway management has offered its locations as designated sign-up spots for individuals or companies. People who are interested in joining the local Clean Cities coalition can sign up while they lunch at a Fairfield County Subway shop, using coalition membership applications that are available at each cash register. In turn, Subway will have an ad on the application directing companies and/or individuals to the coalition's Web site www.pls.org/ccea.htm. Visitors to the Web site can download a coupon for Subway sandwiches, which is valid at a participating store in the Fairfield County area.

Depending on the success of the pilot program, local board chairman James Hansen will present the idea to Subway's national board to implement nationwide.

Connecticut Subway Restaurants Now Offer More than Just Sandwiches

Now many Connecticut residents can do more than get a sandwich and chips at the local Subway.



From the Automakers

Auto Show Attendees Get a Glimpse of Future Concept Cars

Winter isn't only a season of cold weather, snow, and holiday fun. For many in the transportation industry, it's also the auto show season. In Tokyo and Detroit, automakers impressed audiences, who were anxious to catch a glimpse of the vehicles for the new millennium. Hybrid electric and fuel cell concept vehicles drew much of the attention, as environmentally friendly transportation is a growing concern among consumers. Ford and General Motors (GM) unveiled their hybrid vehicles developed with the help of the U. S. Department of Energy (DOE) through the Partnership for a New Generation of Vehicles (PNGV). The new energy efficient hybrids, still under development, boast fuel economies of 80, 90, and even 100 miles per gallon (mpg). Below are a few of the vehicles showcased last fall in Tokyo and at the North American International Auto Show held in January 2000. Although most are still concepts and do not compete directly with today's alternative fuel vehicles, these hybrid-electric and fuel cell technologies forecast an exciting future for drivers everywhere.

Ford Prodigy

On the outside, the Ford Prodigy looks very similar to the conventional model year 2000 vehicles. What's on the inside, however, is a much different story. The Prodigy, a hybrid-electric concept vehicle designed to be a family sedan, uses a propulsion system with drive units on both axles. An experimental four-cylinder, 1.2 liter diesel engine, and an electric drive motor enable fuel economy of 80 mpg with diesel fuel (the equivalent of 70 mpg in a gasoline vehicle). Made almost entirely of aluminum, the Prodigy is extremely light and aerodynamic; rear-facing cameras replace traditional side view mirrors to reduce drag. But even though Ford uses the latest technology, it has not lost its focus on practicality. Unlike many other hybrid-electric concepts, the Prodigy has a usable trunk.

Honda Insight and FCX

Honda's hybrid-electric Insight needed no introduction, as it was among the first hybrid vehicles to be officially unveiled last year (and it was also showcased at the Fifth National Clean Cities Conference in June 1999). In addition to highlighting the Insight, Honda unveiled its latest advanced technology concept vehicle, the FCX, at the auto show in Detroit. The FCX is a fuel cell prototype sedan that Honda plans to have on the road by 2003. The prototype models include both hydrogen- and methanol-based systems.



Wieck Photo Database



American Honda Motor Company/PIX 07324



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Pictured top to bottom:
Ford Prodigy, hybrid-electric concept vehicle; Honda Insight, hybrid-electric vehicle already in production; Honda FCX, fuel cell prototype vehicle.

GM's Precept and Chevrolet Triax

General Motors (GM) is also working on two new hybrid concepts—the GM Precept and the Chevrolet Triax. The Precept is among the world's most energy efficient vehicles; it can attain 90 miles per diesel gallon (80 mpg gasoline) equivalent. GM unveiled the sleek, aerodynamic hybrid-electric concept vehicle at the North American International Auto Show in Detroit. The Precept features a dual-axle regenerative hybrid propulsion system that combines electric and either gasoline or diesel engine systems. The fuel cell version of the Precept also made its debut in Detroit. It uses a hydrogen hydride storage system, which GM boasts will attain 108-mpg equivalent and up to 500 miles in range.

Wick Photo Database



The Chevrolet Triax, featured at the Tokyo and North American International Auto Shows, is a sharply angled and highly versatile hybrid vehicle that can be produced with one of three powertrains—4WD electric, 2WD gasoline, or 4WD gasoline-electric hybrid. Customers will be able to select the type of powertrain that best meets their needs. In its hybrid form, the Triax has an electric motor that powers the front wheels and captures regenerative braking energy to recharge the battery. A gasoline engine drives the rear wheels, and a second electric motor captures the regenerative braking energy from the rear wheels and starts the engine.

Wick Photo Database



Toyota's HV-M4

Although Toyota showcased its highly popular hybrid, the Prius, in Detroit, the company unveiled its newest hybrid concept vehicle—the HV-M4—at the Tokyo Auto Show last fall. The HV-M4, the world's first hybrid-electric 4WD minivan, is powered by a 2.4 liter gasoline engine and two electric motors, one for the front wheels and one for the back wheels. The HV-M4 is reported to meet Japan's soon-to-be toughest emissions standards, J-ULEV. With room for six and its own mobile power station (internal and external electric sockets that can power a microwave or television without extra charging), the HV-M4 will be an exciting entry into the hybrid world.

Toyota Motor Sales

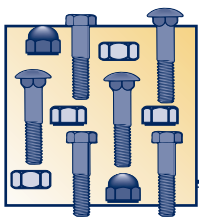


Pictured top to bottom: GM Precept, hybrid-electric concept vehicle; Chevrolet Triax, hybrid-electric vehicle featuring a choice of three different powertrains; Toyota HV-M4, hybrid-electric 4WD minivan.

Look for coverage of DaimlerChrysler's new hybrid, the Dodge ESX3, in upcoming issues of AFN.

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Nuts and Bolts

DOE Awards Alternative Fuel Grants to 33 National Parks

On December 6, 1999, U.S. Department of Energy (DOE) Secretary Bill Richardson and Interior Secretary Bruce Babbitt announced almost \$500,000 in Clean Energy Awards to selected national park fleet managers. These awards are the first for the Green Energy Parks Program.

Thirty-three national parks will benefit from the grants, made possible through DOE funds. The money will support the enhanced use of alternative fuel vehicles (AFVs) in the National Park System. Anticipated projects include building new refueling stations, buying more AFVs, and evaluating emerging engine and fuel system technologies for use in the parks. The Green Energy Parks Program continues this year, with another round of project developments already under way.

Check out www.doe.gov/news/releases99/decpr/pr99319.htm for information about the types of AFVs and fuels being used in the National Park System.

The following parks received funding through the Green Energy Parks Program:

- Grand Canyon National Park, *Arizona*
- Hot Springs National Park, *Arkansas*
- Channel Islands National Park, *California*
- Joshua Tree National Park, *California*
- Whiskeytown Shasta Trinity, *California*
- National Recreation Area, *California*
- Yosemite National Park, *California*
- Rocky Mountain National Park, *Colorado*
- National Capital Region, *District of Columbia*
- Everglades National Park, *Florida*
- Chattahoochee National Scenic River, *Georgia*
- Hawaii Volcanoes National Park, *Hawaii*
- Indiana Dunes National Lakeshore, *Indiana*
- Mammoth Cave National Park, *Kentucky*
- Assateague Island National Seashore, *Maryland*
- Cape Cod National Seashore, *Massachusetts*
- Pictured Rocks National Lakeshore, *Michigan*
- Sleeping Bears Dunes National Lakeshore, *Michigan*
- Voyageurs National Park, *Minnesota*
- Jefferson National Expansion Memorial, *Missouri*
- Scott's Bluff National Monument, *Nebraska*
- Cuyahoga River National Recreation Area, *Ohio*
- Perry's Victory and International Peace Memorial, *Ohio*
- Fort Union National Monument, *New Mexico*

NAFTC Names New Executive Director

The National Alternative Fuels Training Consortium (NAFTC) recently announced the appointment of Al Ebron as its new executive director. Ebron, formerly Alternative Fuels Program Manager for the state of North Carolina, brings extensive experience in alternative fuels to this position at NAFTC. The consortium, headquartered in Morgantown, West Virginia at West Virginia University, is the nation's leading supplier of alternative fuels systems training and education.



Photodisc

Joshua Tree National Park—one of the parks funded in the Green Energy Parks Program.

- Gettysburg National Military Park, *Pennsylvania*
- Fort Sumter National Monument, *South Carolina*
- Wind Cave National Park, *South Dakota*
- San Antonio Missions National Historic Park, *Texas*
- Marsh-Billings National Historic Park, *Vermont*
- George Washington Memorial Parkway, *Virginia*
- Lake Roosevelt National Recreation Area, *Washington*
- Grand Teton National Park, *Wyoming*
- Yellowstone National Park, *Wyoming*



Hot off the Press

EPAct Report Evaluates Progress

The U. S. Department of Energy's (DOE's) Office of Technology Utilization has recently issued the Energy Policy Act (EPAct) Section 506 report. The report evaluates progress made in achieving the fuel displacement goals described in EPAct, the actual and potential role of replacement fuels and alternative fuel vehicles (AFVs) in significantly reducing U.S. reliance on imported oil, and the actual and potential availability of various domestic replacement fuels and AFVs.

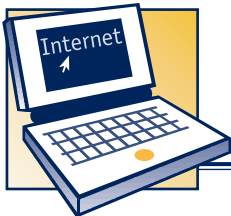
The considerable experience gained from vehicle operation that was mandated by EPAct and related DOE research and development efforts helped determine the following conclusions about transportation replacement fuels:

- The technical barriers to the use of alternative and replacement fuels can be overcome.
- Many people who own vehicles find the performance of flexible and alternative fuel vehicles acceptable.
- The 10/30 replacement fuel goals cannot be met, given today's petroleum product prices and the limited federal authority to promote or require the use of replacement

fuels. DOE, as part of its EPAct rulemaking to determine if private and local fleets should be required to purchase AFVs, will determine whether the goals should be modified, given the current market conditions.

- The public policy goals served by the increased use of alternative and replacement fuels remain strong in terms of reducing U.S. vulnerability to oil price shocks, decreasing emissions of greenhouse gas emissions, reducing criteria pollutants, and promoting the development of the domestic economy.
- It would be prudent for DOE and interested committees of Congress to begin discussions now on additional programs and authorities that would contribute to reaching EPAct goals.

The report, entitled "Replacement Fuel and Alternative Fuel Vehicle Technical and Policy Analysis," was finalized in April 2000 and transmitted to the President and Congress. Copies of the report can be viewed and printed from the "Regulations and Legislative Activities" section of DOE's Office of Transportation Technologies Web site at www.ott.doe.gov as soon as it is available. Printed copies will also be available by calling the Alternative Fuels Hotline at 800-423-1363.



On the Web

Information about Alternatives

The Natural Resources Defense Council recently launched a Web site intended to educate the public about alternatives to the internal combustion engine. Once educated, the council hopes more people will make the change to environmentally friendly cars. Visit the Web site www.nrdc.org/.

The site www.edf.org/pubs/EDFLetter/1999/Dec/h_green.html offers information about how to save money, energy, and clean air. This site is also linked through the government site www.fueleconomy.gov.

Ford's Envirodrive

www.fordenvirodrive.com

Ford Motor Company has a new Web site for its environmentally concerned customers. Unveiled at the Detroit Auto Show, www.fordenvirodrive.com offers the latest information on U.S. fuel economy, emission certification, and manufacturing plant environmental standards information, as well as a glossary of terms. The site also features "E-labeling," which allows visitors to learn about the fuel economy, emissions, and recyclability of various Ford, Lincoln, and Mercury models.

Correction

The last issue listed an incorrect phone number for Carol Butler, National Clean Cities, Inc. The number should be 703-644-9955. She can also be reached at cbutler@psn.net. Our apologies!

Sixth National Clean Cities Conference & Expo San Diego 2000

May 7-10, 2000
San Diego, California

Hosted by the
U.S. Department of Energy

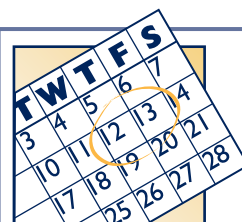
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Conference Hotel

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Upcoming Conferences and Events

National Association of Fleet Administrators 2000

April 16-19, 2000
Opryland Hotel
Nashville, Tennessee
Contact: NAFA @ 732-494-8100

Ethanol Vehicle Challenge 2000

May 13-20, 2000
Ontario, Canada
Contact: Pat Breton @ 613-996-2007

FutureTruck 2000

June 8-15, 2000
General Motors Desert Proving Grounds
Phoenix, Arizona
Contact: www.futuretruck.org

FedFleet 2000: Millennium Madness: A Clear Perspective

July 31-August 3, 2000
Omni Rosen Hotel
Orlando, Florida
Contact: FedFleet 2000 Helpline @
1-888-609-3895

If you haven't gotten the conference brochure with the registration form, call 1-800-CCITIES or e-mail the Clean Cities Hotline at ccities@nrel.gov.

Please mention "Clean Cities" when you reserve your room. A limited number of government rate rooms are available, so be sure to request "Clean Cities Government" if you are eligible for the government rate.

For up-to-date information on more conference hotels and the conference program, visit www.ccities.doe.gov. At press time, the conference hotel indicated it had sold out of government-rate rooms.