



Smart Transportation Investments

■ BENEFITTING FROM SMART TRANSPORTATION INVESTMENTS

Local governments incur substantial costs to provide transportation services. In 1993, local governments spent more than \$17 billion on public transit and over \$26 billion on highways. These sums represented 80 percent and 38 percent respectively, of all governmental expenditures on public transit and highways and accounted for 6.3 percent of local government budgets. In addition, local governments spend millions to maintain and operate large fleets — public works and sanitation trucks, buses, and police and fire safety vehicles. A 1991 survey of 168 cities and 56 counties in California found that fleet costs approached five percent of their budgets, totaling \$885 million.¹

Local governments spent \$43 billion in 1993 on public transit and highways.

Smart Transportation Investments, particularly in efficient transit systems that offer an attractive alternative to the use of automobiles, can both increase public transit revenues and decrease highway construction and maintenance costs. Local governments can also lower fleet maintenance and operation costs by reducing vehicle usage, eliminating underutilized equipment and buying less expensive or cleaner-burning fuels. All of these moves can reduce traffic congestion and air pollution and generally benefit both public health and the environment. Smart Public Transit Investments can also help to revitalize downtown and other neglected urban areas. The resulting opportunities for private investment and development can bring new tax revenues to fund indispensable community services and social programs.

TRANSPORTATION INVESTMENTS AND ACTIVITIES WITH POTENTIAL HIGH RETURNS	
SHORT-TERM	LONG-TERM
Eliminate idle vehicles	Improve public transit
Reduce VMTs on fleet	Design commuting alternatives
Purchase fuel-efficient vehicles	Buy Alternatively Fueled Vehicles

SMART PUBLIC TRANSIT AND COMMUTING INVESTMENTS

EPA TRANSPORTATION PARTNERS PROGRAM

EPA's Transportation Partners Program supports local efforts to expand public transportation and to make it both more efficient and more accessible. In partnerships with local governments, businesses, and citizens' groups, EPA encourages new approaches to public transportation, and provides technical assistance for its improvement and expansion. The program also promotes mass transit, pedestrian-friendly community designs and such alternatives to automobile dependency as carpooling, bicycle commuting and telecommuting. Furthermore, EPA assists its partners with information on financing sources and brings publicity to the most innovative and successful projects through its annual "Way To Go!" awards and national media attention. After only two years in operation, the Transportation Partners Program has enrolled more than 100 organizations.

By late 1997, EPA had cooperative agreements with seven non-governmental organizations to provide technical assistance and guidance to partner communities.

These were: the Association for Commuter Transportation (ACT); the Center for Clean Air Policy; the Local Government Commission's Center for Livable Communities; Public Technology, Inc.; Renew America; the Surface Transportation Policy Project; and the International Council for Local Environmental Initiatives (ICLEI). ICLEI in 1995 established its own Sustainable Transportation Program, with grants to local governments for promoting alternatives to personal vehicle use. In 1996, it awarded seven grants, ranging from \$10,000 to \$16,000, to communities around the country. The grants strengthen the winners' commitment to alternative transportation, helping them to subsidize carpools, shuttle buses and bicycle commuting, as well as commuter education and public transit.



With its emphasis on local solutions and local availability of an extensive technical support network, the Transportation Partners Program challenges and encourages communities to diversify their transportation options as they seek continued growth and economic development. Two communities that have taken that message to heart are profiled below: Chattanooga, Tennessee, a Transportation Partners "Way-To-Go!" Award winner, and Portland, Oregon. While these examples do not illustrate immediate savings, they clearly show how Smart Transportation Investments pave the way for long-term economic benefits.

● CHATTANOOGA AREA REGIONAL TRANSIT AUTHORITY (CARTA)

HIGHLIGHTS

- ▶ Electric shuttle bus reduced traffic congestion and improved air quality.
- ▶ Downtown parking lots relocated, freeing land for prospective \$12 million development.
- ▶ Projected increase of \$800,000 in city and county tax revenues.
- ▶ 90 percent of initial capital costs funded by federal and state grants.
- ▶ Free shuttle service reduced car commuting.
- ▶ Shuttle costs paid from parking fees and lease of retail space at new parking facilities.
- ▶ EPA Transportation Partners Program “Way to Go!” award.

The Chattanooga Area Regional Transit Authority (CARTA) has revitalized the local economy by reducing the number of parking lots in the city, where 65 percent of the downtown land was once reserved for that use. As an alternative, the city established peripheral “park and ride” facilities served by an efficient electric shuttle bus connection to the downtown.

The shuttle project, winner of a Transportation Partners “Way to Go!” award in 1996, promises significant economic benefits to the community. Relocating parking to the periphery of the city and freeing up valuable downtown land for commercial redevelopment is expected to bring \$12 million in new development and generate \$800,000 in new city and county tax revenue. With 90 percent of the initial capital costs for the parking facilities and the shuttle buses funded by grants from the Federal Transportation Administration and the Tennessee Department of Transportation, CARTA was able to offer the shuttle service free of charge, thus encouraging increased use of mass transit. Once the parking facilities are complete, the system’s operating costs of about \$500,000 a year will be covered by parking fees and the lease of retail space at parking facilities.

The project’s environmental benefits are already tangible. By increasing the availability and convenience of public transit, the shuttle attracts one million riders each year. The city’s traffic congestion from automobiles and diesel-fueled buses is reduced and air quality significantly improved. The introduction of zero-emission electric shuttles has decreased particulate emissions by 600 pounds, carbon monoxide emissions by 2,900 pounds, nitrogen oxide emissions by 10,800 pounds, and carbon dioxide emissions by 3.5 million pounds a year.^{2,3}

● TRI-MET (PORTLAND, OREGON)

HIGHLIGHTS

- ▶ Light rail lines serve as corridors of new development.
- ▶ Transit system is a magnet for over \$1.3 billion in new development.
- ▶ Transit use increased 220 percent.
- ▶ Six-lane downtown freeway replaced with a riverfront park.
- ▶ Eliminated the need for six parking structures.
- ▶ Voter approval of \$600 million in bonds to fund system expansion.
- ▶ Community outreach and public involvement through "Transit Choices for Livability."

Tri-Met, the regional transit authority for Portland, Oregon and the surrounding metropolitan area, has taken an aggressive approach to Smart Public Transit Investments with the development of its MAX light rail system. By working with the area's local governments on plans for growth along the light rail corridors, Tri-Met has encouraged transit-oriented rather than automobile-oriented commercial and residential development. As a result, transit use has increased by 220 percent, and no increase in road capacity has been necessary in downtown Portland for the past 20 years, despite growth in population and employment. The transit system also has enabled the city to replace a six-lane expressway with a downtown riverfront park, eliminated the need for six large parking towers and contributed to air quality improvements. Public support for Tri-Met's transit strategy has been strong; voters in 1990 and 1994 overwhelmingly approved general obligation bond issues totaling \$600 million to expand the MAX system from 15 to 58 miles. This strong support reflects the success of Tri-Met's outreach and public involvement efforts (see Chapter 7).

Tri-Met's transit-oriented plans were governed by one principle: to build rail lines in areas that offer prime opportunities for development, in the hope that businesses will follow and locate where both employees and customers have easy access via public transit. And indeed, the effect on the region's economy has been spectacular. MAX lines have attracted more than \$1.3 billion in new development over ten years, with prospects for \$440 million more. The assessed value of property in the vicinity of transit stations has increased two to seven times faster than the county-wide rate, and two-thirds of local business owners report that their proximity to MAX rail lines benefits business. For city and county governments, increased property values translate into higher tax revenues, while for local developers and business owners access to light rail means lower parking ratios, lower development costs and a location advantage over the competition.⁴

ALTERNATIVE COMMUTING PROGRAMS

Traditional commuting in many urban areas accounts for 20 to 25 percent of all automobile trips. It adds to the wear and tear on roadway infrastructure and -

raises local governments' costs for road maintenance and expansion. Many communities across the country encourage the use of alternative transportation for commuting as a way of reducing the costs associated with traffic volume, air pollution and the need for more roads and parking facilities. Successful Trip Reduction Programs (TRPs) often include incentives for ride sharing or the use of public transit, parking restrictions for single-occupant vehicles and accommodations for bicycle commuters. Greater use of transit relieves congestion and can also increase revenues for public transportation. The examples below illustrate a variety of approaches to successful local government TRPs that encourage commuting alternatives among public sector employees.

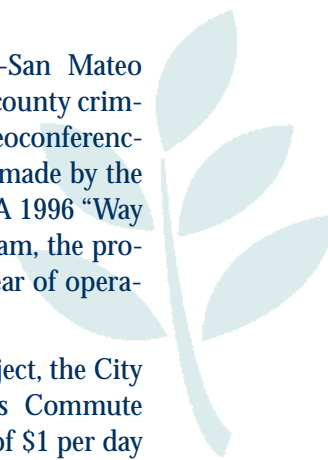
- **Bellevue, Washington.** The City of Bellevue provides a variety of incentives to its 725 employees to discourage the use of single-occupant vehicles (SOVs) for commuting. SOV commuters are charged \$35 per month for parking. That accounts for \$100,000 of the annual TRP budget of \$125,000. Out of those funds, the city provides a \$15 per month bonus to employees who walk, bicycle, or carpool to work at least 80 percent of the time. Employees who take the bus at least 80 percent of the time receive a monthly payment of \$31.50, equal to the cost of a monthly transit pass. Employees using alternative transportation at least 60 percent of the time can park for free on the days they drive. All city employees also have access to vanpools operated by the regional transit agency and partly subsidized by the city.
- **Los Angeles, California.** The City of Los Angeles, with 55,000 employees, has a Commuter Services Program that encourages ride sharing, public transit use, telecommuting, and bicycling. One of the city's most effective and popular options is its Alternative Work Schedule program, allowing workers to choose from three flexible schedules that permit them to work fewer days while still putting in the required 80 hours in each two-week period. The Commuter Services Office has estimated that the program has resulted in an annual reduction of more than 1.2 million vehicle miles traveled.
- **Chula Vista, California.** The City of Chula Vista emphasizes telecommuting in its Trip Reduction Program. The city has established two neighborhood telecenters to serve the entire community, allowing both private and public employees to work from remote locations. Workers who live near the centers are encouraged to bicycle or walk, and the city operates an electric shuttle service for those who live further away. City officials estimate that the telecenters eliminate 5,320 automobile trips annually, reducing VMT by more than 1,500 miles per month.
- **Boulder, Colorado.** Through its "GO Boulder" campaign, Boulder provides its employees with "Eco Pass" photo identification cards for the Regional Transportation District (RTD), allowing them to ride all its buses free of charge. To encourage private employers' participation in the Eco Pass program, the city subsidizes 25 percent of their pass costs for the first year and offers free Eco Passes to all private sector employees in the down-



town area, an initiative it funds through a special tax on downtown businesses. “GO Boulder” also offers free training for Employee Transportation Coordinators, its designated representatives at local businesses who promote alternative transportation options among coworkers. Almost one-third of Boulder’s labor force works at companies with Employee Transportation Coordinators. The city’s efforts produced a 14 percent increase in rides on RTD buses between 1992 and 1993.

■ **San Francisco-San Mateo, California.** The San Francisco-San Mateo videoconferencing/trip reduction program helps the city and county criminal justice staff do their work with less travel. It employs videoconferencing technology to reduce the number of 40-mile round trips made by the staffers to meet with their clients at the county’s two prisons. A 1996 “Way to Go!” award winner in EPA’s Transportation Partners Program, the program is expected to eliminate 15,000 round trips in its first year of operation, reducing automobile travel by 600,000 miles.

■ **Santa Monica, California.** As part of its Sustainable City Project, the City of Santa Monica has taken an aggressive approach to its Commute Reduction Program. The city pays its employees a minimum of \$1 per day for each day they do not drive to work alone, reimburses employees for bus fares, offers a carpool matching service, provides its fleet vehicles for carpooling of at least three employees and arranges preferential parking for carpool riders. The city also has instituted a pilot telecommuting program. As a result, the average number of riders per vehicle at the city’s four largest employment sites increased from 1.13 in 1990 to 1.68 in 1995, which is significantly higher than the Southern California regional average of 1.28. The program has reduced the annual vehicle miles traveled by city employees by 1.25 million, eliminating approximately 1,600 tons of auto exhaust emissions.



FINANCING SMART TRANSIT INVESTMENTS AND COMMUTING ALTERNATIVES

A variety of federal programs provide funds for local government transportation-related investments. The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) established several sources of funding for public transit projects and commuting alternatives. Through the Congestion Mitigation and Air Quality Improvement Program (CMAQ), the Federal Highway Administration funds projects that improve air quality. In addition, the Federal Transit Administration, through its Surface Transportation Project (STP), finances several alternative transportation initiatives, ranging from mass transit improvements to telecommuting. Under both CMAQ and STP, local governments may apply federal funds previously reserved for highway projects to public transit development.



SMART VEHICLE FLEET INVESTMENTS

Fleet costs represent a significant expense for many local governments. Public works trucks, police cars, buses and passenger vehicles used for city and county business must all be refueled, maintained, insured and eventually replaced. Local governments can often lower their fleet costs by reducing the number of vehicle miles traveled on city and county business, eliminating unnecessary vehicles or purchasing more fuel-efficient vehicles. For example, the City and County of Denver have enacted a “Green Fleets Executive Order” designed to reduce both costs and air pollution. In 1994, by removing 47 nonessential vehicles from the fleet, the city and county saved \$52,000 in operations and maintenance costs. Under the Executive Order, the city and county are also downsizing vehicles to smaller, more fuel-efficient models.

Depending on the price and availability of fuels, local governments may also be able to reduce fleet costs through the purchase of Alternative Fuel Vehicles (AFV). Under the Clean Air Act of 1990 (CAA) and the Energy Policy Act of 1992 (EPAct), local governments in certain areas will eventually be required to buy vehicles powered by alternative fuels such as compressed natural gas (CNG), propane or electricity. Although purchase prices are generally higher for AFVs than for conventional vehicles, federal and state grants and loans are available to offset these higher costs. Thus, local governments may quickly achieve savings on both fuel and maintenance costs. At present, both CNG and propane cost considerably less than gasoline or diesel fuels in many areas of the country, and CNG, electric and propane-powered vehicle maintenance costs are also lower than those for conventional vehicles. As a result, local governments are beginning to report cost saving success stories about their use of AFVs.

- **Jefferson, Wisconsin.** Jefferson’s entire police fleet of twelve dedicated AFVs and five dual-fuel vehicles has been running on propane since the 1979 oil crisis. Each car is kept in service for two years, and fuel and maintenance cost savings over that time more than offset the cost of conversion. In addition, the cars fetch 15 to 20 percent more at auction than conventional vehicles.
- **Portland, Oregon.** In response to rising gasoline and diesel prices, the Portland School District began converting its school bus fleet to propane in 1983. The district estimates that current fuel savings on its fleet of 350 propane-run buses amount to \$156,000 a year.
- **Evansville, Indiana.** In 1986, the Evansville-Vanderburgh School Corporation invested \$250,000 in converting school buses to CNG. This capital outlay was paid back in one year by fuel cost savings. Current CNG fuel cost savings are approximately \$0.60 per gallon compared to gasoline.
- **Long Beach, California.** The City of Long Beach estimates that with its current cost savings of \$0.30 per gallon for CNG, the city could save \$175,000 annually by switching from gasoline to CNG fuel for its entire 100-vehicle police fleet.

FINANCING ALTERNATIVE FUEL VEHICLE INVESTMENTS

A number of federal funding mechanisms and federally supported partnerships are available to assist local governments in the purchase of AFVs. Under a \$90 million EPAAct program, DOE funds projects in communities with populations of at least 100,000 to demonstrate the feasibility of alternative fuel use in urban buses. The program also gives financial assistance to local school districts for AFV purchases and conversions. Through its Clean Cities program, DOE offers funding for AFVs and the development of related refueling infrastructure, and provides technical assistance for fleet managers and mechanics. Under ISTEA, Federal Highway Administration CMAQ grants are available for public fleet conversions to AFVs.⁵ In addition, as part of its Climate Change Action Plan, EPA, in partnership with Public Technology, Inc.'s Urban Consortium, funds and supports ICLEI's Green Fleets project, an international initiative to reduce greenhouse gas emissions. Eight U.S. cities and counties are currently participating in Green Fleets.⁶

Many states, utility companies and private businesses also supply funds for local government AFV programs. More than 25 states offer some form of subsidies, rebates, loans or other incentives for AFV purchases or vehicle conversions. Ten of these — Alabama, Delaware, Georgia, Iowa, Louisiana, Oklahoma, Texas, Virginia, West Virginia and Wisconsin — have grants or low interest loan programs specifically to assist local governments and school districts. Utility companies in 29 states offer their customers cash rebates, reduced rates for gas or electricity, or other financial incentives for the use of AFVs.⁷ California communities may also be eligible to receive funds from local air quality districts under the state's Transportation Fund for Clean Air. The Bay Area Air Quality Management District, for example, collects about \$17 million annually through a surcharge on vehicle registration fee, to fund public demonstration projects for clean fuel buses and AFVs.⁸ Similarly, the South Coast Air Quality Management District has awarded two grants totaling over one million dollars to the Los Angeles Department of Airports to offset the cost of purchasing liquefied natural gas (LNG) shuttle buses for the Los Angeles International Airport.⁹



FINANCING AFV PURCHASES AND PROGRAMS

- EPAAct \$90 million community assistance program
- EPAAct \$25 million loan program
- ISTEA grant program
- ICLEI Green Fleets financial support
- State rebates, grants, loans and incentives
- Utility customer rebates, discounts and incentives



GETTING STARTED

TIPS FOR MAKING \$SMART TRANSPORTATION INVESTMENTS

Local governments can take several steps to evaluate the suitability of various \$Smart Transportation Investments for their communities.

- Assign a committee or task force to assess community transit weaknesses and needs, and to determine which weaknesses create a barrier to economic development. Meetings with neighborhood groups and local businesses are an effective means to identify transit priorities and foster support for \$Smart Transportation Investments that may require capital expenditures.
- Engage local businesses in a dialogue about employees' commuting patterns and possible strategies to encourage alternative commuting.
- Begin tracking mileage for fleet vehicles to identify low-use, possibly non-essential vehicles.
- Investigate the local availability of alternative fuels that offer potential cost savings over conventional fuels. Local gas or electric utilities may offer subsidies to cover the cost of AFV purchases or conversions. Also research the availability of state and federal grants and loans to purchase AFVs.



SOURCES OF ADDITIONAL INFORMATION

EPA TRANSPORTATION PARTNERS

EPA Office of Policy, Planning and Evaluation
 401 M Street, SW
 Washington, DC
 Contact: Paula Van Lare,
 Transportation Partners Coordinator
 Phone: (202) 260-3729

EPA Transportation Partners Hotline
 Phone: (202) 260-6830
 Internet site: <http://www.epa.gov/tp/>

Public Technology, Inc.
 Contact: Robert Hicks,
 Business Director, Transportation Programs
 Phone: (202) 626-2400

International Council for Local Environmental
 Initiatives (ICLEI) World Secretariat
 City Hall, East Tower, 8th Floor
 Toronto, Ontario M5H 2N2
 Canada
 Phone: (416) 392-1462
 Fax: (416) 392-1478
 Internet Site: <http://www.iclei.org>

ICLEI's members comprise more than 175 local gov-
 ernments of different sizes from around the world,
 including approximately 20 from the United States.
 ICLEI coordinates a variety of programs and offers
 publications promoting energy efficient buildings,
 land use planning, transportation and sustainable
 development planning.

PUBLIC TRANSIT SYSTEMS

Federal Transit Administration (FTA)
 U.S. Department of Transportation
 Office of Transit Administration and Safety
 400 7th Street, SW, Room 6102
 Washington, DC 20590
 Phone: (202) 366-8511
 Internet Site: <http://www.fta.dot.gov/>

The FTA distributes ISTEA funds for public transit
 construction through the Surface Transportation
 Project

Tri-County Metropolitan Transportation District of
 Oregon (Tri-Met)
 4012 SE 17th Avenue
 Portland, Oregon 97202
 Contact: Steve Johnson,
 Public Information Officer
 Phone: (503) 238-5854

Tri-Met is the transportation authority for the
 Portland metropolitan area, and can provide infor-
 mation on Portland's experience with its innovative
 light rail system.

PUBLIC TRANSIT SYSTEMS *continued*

<p>American Public Transit Association (APTA) 201 New York Avenue, NW, Suite 400 Washington, DC 20005 Phone: (202) 898-4000 Internet site: http://www.apta.com</p>	<p>APTA maintains a 10,000 volume library on urban transportation and publishes the APTA Directory, Passenger Transport: The Weekly Newspaper of the Transit Industry, and Transit Fact Book. APTA also holds annual conferences and triennial international expositions</p>
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COMMUTING ALTERNATIVES

<p>National Growth Management Leadership Project 300 Willamette Building 534 SW Third Avenue Portland, OR 97204 Phone: (503) 223-4396</p>	<p>The project conducts national land use and transportation research to demonstrate how changes to land use can increase the economic feasibility of alternatives to automobiles.</p>
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<p>Community Transportation Association of America 1341 G Street, NW, Suite 600 Washington, DC 20005 Phone: (202) 628-1480 Internet site: http://www.ctaa.org</p>	<p>The Community Transportation Association is a coalition of organizations working to improve mobility and access to services for the elderly and disabled.</p>
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<p>Surface Transportation Policy Project 1100 17th Street, NW Washington, DC 20036 Phone: (202) 466-2636 Internet site: http://www.transact.org/stpp.htm</p>	<p>The Surface Transportation Policy Project is a non-profit coalition of groups promoting transportation policies that conserve energy, protect the environment, and make communities more livable. Its Internet site includes a listing of publications on transportation policy, land use, and community planning.</p>
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<p>International City/County Management Association (ICMA) 777 North Capitol Street, NE, Suite 500 Washington, DC 20002-4201 Phone: (202) 289-4262 Fax: (202) 962-3500 Internet Site: http://www.icma.org</p>	<p>ICMA is a professional and educational association for more than 8,000 local government administrators worldwide. ICMA provides training programs, technical assistance, data services and publications to improve the quality of local government management and administration.</p>
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ALTERNATIVE FUEL VEHICLES

<p>Alternative Fuels Data Center (AFDC) National Renewable Energy Laboratory 1617 Cole Boulevard Golden, CO 80401-3393 Phone: (800) 423-1DOE Internet: http://www.afdc.doe.gov</p>	
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ALTERNATIVE FUEL VEHICLES *continued*

Clean Cities Program
 U.S. Department of Energy
 1000 Independence Avenue, SW
 Washington, DC 20585
 Contact: Jeff Hardy, Co-Director
 Phone: (202) 586-1885

National Clean Cities Hotline
 P.O. Box 12316
 Arlington, VA 22209
 Phone: (800) 224-8437

Office of Heavy Vehicle Transportation
 U.S. Department of Energy
 1000 Independence Avenue, SW
 Washington, DC 20585
 Contact: Richard Wares
 Phone: (202) 586-8031

Federal Highway Administration (FHWA)
 U.S. Department of Transportation
 400 7th Street, SW
 Washington, DC 20590
 Phone: (202) 366-0660
 Internet site: <http://www.fhwa.dot.gov/>

The FHWA distributes ISTEA funds for projects that improve air quality, including public fleet conversions to alternative fuels, through the Congestion Mitigation and Air Quality Improvement Program

ENDNOTES—CHAPTER 5

1. The Results Center, Division of IRT Environment, Inc. California Energy Commission. Energy Partnership Program. The Results Center Profile #64. 1993.
2. U.S. Environmental Protection Agency, Office of the Administrator. "Chattanooga Electric Bus Program," in EPA's Transportation Partners Presents the Way to Go! Awards. September 10, 1996; p. 8.
3. U.S. Department of Energy. Center of Excellence for Sustainable Development, Cities and Counties Success Stories. "Chattanooga/Hamilton County, Tennessee", available on the world-wide web at <http://www.sustainable.doe.gov/ss/CHATTANO/index.html>.
4. Tri-Met Strategic Planning Department. Beyond the Field of Dreams: Light Rail and Growth Management in Portland. September 1996.
5. U.S. Department of Energy, National Renewable Energy Laboratory. Cities and Counties Resource Guide. December 1994.
6. International Council for Local Environmental Initiatives. "Green Fleets Project Description." Available on the Internet through ICLEI's world-wide web page at <http://www.iclei.org>. See also, U.S. Environmental Protection Agency. "EPA's State and Local Outreach Program." Available on the Internet through EPA's EnviroSense page at <http://es.inel.gov>.
7. U.S. Department of Energy, Clean Cities Program. Clean Cities Guide to Alternative Fuel Vehicle Incentives and Laws - 1st Edition. Available in summary form on the Internet through the Clean Cities Program world-wide web site at <http://www.ccities.doe.gov>.
8. California Energy Commission. "Laws, Regulations, and Requirements Affecting Alternative Fuel Vehicles." Available on the Internet through the Commission's world-wide web site at <http://www.energy.ca.gov>.
9. U.S. Department of Energy, Clean Cities Program. "Clean Cities Profile: Los Angeles Clean Cities Program." Available on the Internet through the Clean Cities Program world-wide web site at <http://www.ccities.doe.gov>.