

Transportation Partners

1997 Annual Report



Prepared by:

**ICF Incorporated
Hagler-Bailly, Inc.**

For:

Transportation Partners
Office of Policy
United States Environmental Protection Agency



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Executive Summary

The mission of the Transportation Partners program is to reduce the growth in Vehicle Miles Traveled (VMT) throughout the U.S. The program has worked with hundreds of local organizations to achieve this mission over the past three years.

Transportation Partners works with nine organizations, known as the Principal Partners, that work directly with local organizations to institute VMT-reducing projects. These local organizations are known as project partners. There are currently 347 project partners enrolled in the program, ranging in size and scope from a community bicycle program in Tampa to a transit center in Phoenix.

This report highlights a number of important achievements made by the program in 1997:

- ✧ 62 new project partners joined the program, a growth of over 20 percent.
- ✧ Transportation Partners now has 347 project partners located in 42 states and the District of Columbia.
- ✧ The program reduced annual VMT by an estimated 1.25 billion nation-wide in 1997. This figure indicates a VMT reduction that is nearly twice as large as the 1996 reduction.
- ✧ Transportation Partners reduced an estimated 190,000 Metric Tons of carbon equivalent (MTce) in 1997.
- ✧ The program continued to develop communication and outreach activities and documents including the Transportation Partners listserv and web site, the *Shortcuts* fact sheet series, the Principal Partner Resource Guide, and continuation of the Way to Go! Awards.
- ✧ Transportation Partners resulted in a number of additional benefits including improved air and water quality, reduction of toxic pollutants, noise pollution reductions, increased access to transportation, and improved stakeholder participation in the transportation planning process.

By working with communities to reduce VMT and provide increased transportation options, Transportation Partners is playing a vital role in the nation's efforts to limit greenhouse gas emissions. Despite limited funding, the program has made significant headway in achieving its goals and fulfilling its mission. As the program continues to grow and projects mature, it is anticipated that VMT and greenhouse gas reductions will become even more substantial. ❖



Introduction

This report describes the activities of the Transportation Partners program from its inception in 1995 through 1997. For the past three years, Transportation Partners has reduced the growth of VMT by promoting measures that provide alternatives to single occupancy vehicle (SOV) travel. The program grew out of the *Climate Change Action Plan (CCAP)*, a strategy for meeting the United States commitment to reducing greenhouse gas emissions. Transportation Partners plays a vital role not only in reducing the growth of VMT, but also in promoting economic development, providing Americans with increased mobility, and improving community livability.

Transportation Partners has developed a close working relationship with nine organizations, known as the Principal Partners, which work with local partners to develop projects that reduce VMT. The Principal Partners have varying missions and outreach strategies but they are linked together through the Transportation Partners program. Each Principal Partner maintains a network of organizations, known as project partners, who institute VMT-reducing activities. In the last year, 62 new project partners have joined the program, a growth of over 20 percent. Transportation Partners now has 347 project partners located in 42 states and the District of Columbia. Projects focus on one of three areas:

- ✧ *community design* projects such as land-use planning efforts and integrated transit plans;
- ✧ *technology*-based projects, including telecommuting programs and the use of intelligent transportation systems (ITS); and
- ✧ *economic*-incentive projects that use pricing strategies to encourage alternatives to SOV travel.

Projects receive a wide variety of support from Transportation Partners. The program has developed an integrated system of outreach activities to ensure that new projects have up-to-date information on funding sources and project development techniques. The program conducts a monthly conference call with the Principal Partners, publishes periodic fact sheets on transportation topics, holds an annual meeting, and provides support for the creation of a number of technical guidance documents. The Transportation Partners web site serves as a transportation hub on the information superhighway by offering a myriad programmatic and technical resources.

In addition to reducing VMT and greenhouse gas emissions, Transportation Partner projects provide a number of additional benefits. These benefits include: improving air and water quality, reducing vehicle congestion and noise pollution, and facilitating the networking of organizations and the changing of attitudes towards alternative transportation modes.

Transportation Partners plays a vital role not only in reducing the growth of VMT, but also in promoting economic development, providing Americans with increased mobility, and improving community livability.

As part of the *Climate Change Action Plan*, Transportation Partners is responsible for a reduction of 20 billion VMT and an emissions reduction of 2.9 million metric tons of carbon equivalent (MMTce) in the year 2000. The 1996 Transportation Partners Annual Report focused on the program's success in achieving these goals and emphasized the rate at which project partners were added to the program. Given the program's current budget, Transportation Partners no longer emphasizes the number of partners but focuses on intensifying the support to existing partners to maximize both the number of projects per partner and VMT reductions.

To gauge the success of projects in reducing VMT, a revised Partner Profile questionnaire was developed by the program and distributed to all project partners. The response rate in 1997 was significantly higher than in 1996 however a number of projects have not yet been able to successfully quantify VMT and emission reductions. Many projects have extended startup periods and have not yet reached a point where quantification of results is possible. In light of this fact, projects were categorized into one of six classes: bicycle, pedestrian, car/van pool, transit, telecommuting, and land-use. Reductions for each of these classes were developed based on the project questionnaires as well as on a data collection effort and a literature review of expected reductions for different project types. Transportation Partners reduced an estimated 1.25 billion VMT in 1997. This figure indicates a VMT reduction that is nearly twice as large as the 1996 reduction. *Chapter 4* provides a detailed discussion of the methodology and results of this quantification effort.

As this report indicates, Transportation Partners has made significant headway in developing innovative projects that effect change in communities across the nation. *Chapter 1* provides a summary of the history and goals of the program, including a discussion of the CCAP. *Chapter 2*, Program Membership, includes an overview of the nine Principal Partners involved in the program and the 347 projects enrolled in Transportation Partners. The numerous outreach efforts and activities conducted by Transportation Partners are discussed in *Chapter 3*. *Chapter 4* includes detailed information on the quantitative assessment of the program's success while *Chapter 5*, Additional Benefits, provides a discussion of the many other benefits resulting from the program. Finally, *Chapter 6*, entitled Next Steps, contains a brief overview of future activities and goals the program intends to achieve. ❖



Chapter 1: History and Goals

The Climate Change Action Plan

Since its inception in 1995, the Transportation Partners program has worked with citizen groups, companies, and state, regional, and local governments to reduce the growth in VMT throughout the United States. This unique program was formed out of President Clinton and Vice President Gore's *Climate Change Action Plan*. The *CCAP* describes the U.S. response to the Earth Summit, a gathering in Rio de Janeiro where leaders from around the globe sought to develop solutions and forge agreements to combat the Earth's most significant environmental threats. One of the most important agreements forged in Rio was the *United Nation's Framework Convention on Climate Change*, whereby nations of the world agreed to reduce emissions of gasses that are believed to contribute to global climate change.

Quantitative Milestones of the Climate Change Action Plan

The *CCAP* sets forth the steps that must be taken to ensure that the U.S. succeeds in lowering greenhouse gas emissions to 1990 levels by the year 2000. It was estimated that in 1990, total emissions of greenhouse gases were 1,462 million metric tons of carbon equivalent (MMTce).¹ This figure will rise to 1,568 MMTce by the year 2000 in the baseline scenario.² The *CCAP* calls for emissions in the year 2000 to be 1,459 MMTce, three MMTce lower than 1990 levels.

The Transportation Partners program implements Action Items 20 and 21 of the *CCAP*. Action Item 20, entitled "Adopt a Transportation System Efficiency Strategy," is intended to "promote public and private sector policies and activities that reduce growth in vehicle travel." Action Item 21, "Promote Greater Use of Telecommunications," directs EPA and DOT to promote telecommunications through increased funding, education, a work-at-home campaign, and a federal telecommunications pilot project.

The Transportation Partners program is responsible for 44 percent of the transportation sector VMT reductions called for in the *Climate Change Action Plan*. To meet this goal, the program aims to reduce 20 billion light-duty VMT nationally in the year 2000. Such a reduction constitutes 0.8 percent of the VMT baseline outlined in the *CCAP*.³ It is worth noting that the quantitative goals of

"Transportation Partners has been invaluable in the development of our transportation focus within local climate protection activities."
Matt Nichols,
Coordinator, Sustainable Transportation Program, ICLEI

¹Clinton, William J. and Albert Gore Jr., *The Climate Change Action Plan: Technical Supplement*, Coordinated by the U.S. Department of Energy, March, 1994, p. 6.

² The baseline scenario refers to emission estimates that do not include the Transportation Partners program or any other new programs detailed in the *Climate Change Action Plan*.

³ Recent trends suggest that the baseline and action projections in the *Climate Change Action Plan* underestimate actual VMT growth since 1993.

the program may be affected by recent international events such as the conference in Kyoto, Japan in December 1997. Despite these potential changes, the mission of the Transportation Partner's program remains the same.

Goals of the Program

The Transportation Partners program is the responsibility of the Office of Policy of the U.S. Environmental Protection Agency (EPA). EPA headquarters staff who work on the program are referred to as TP Central. The program's mission is to reduce the growth in VMT through the promotion of projects that provide alternatives to single occupancy vehicle travel. Transportation Partners serves these projects by providing technical guidance, networking assistance, and information on funding alternatives.

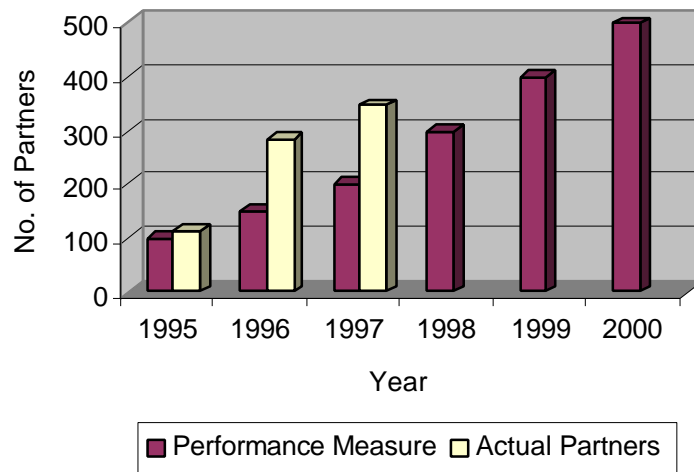
The Transportation Partners program focuses on three types of measures to reduce VMT:

- (1) community design or redevelopment strategies that facilitate walking, bicycling, and transit use by incorporating a mix of land-uses, higher densities, pedestrian and bicycling amenities, and small business/commercial development at transit centers (e.g. Urban Habitat Program in San Francisco);
- (2) market-based measures, including reducing parking subsidies, parking cash-out programs, and peak-period road pricing (e.g. Santa Monica Parking Cash-Out Program); and
- (3) technology applications that take advantage of cutting-edge technologies, such as telecommuting and smart cards, and enhance existing transportation choices and services (e.g. Chattanooga Electric Bus Plan).

It is estimated that in 1997, Transportation Partners reduced nation-wide VMT by approximately 1.25 billion. This is the equivalent of reducing greenhouse gas emissions by approximately 190,000 MTce. Despite limited funding, the program has nearly doubled the estimated VMT reduced between 1996 and 1997. This is attributable to an increase in the number of projects enrolled in the program as well as the growth in VMT reductions from existing projects.

Based on current program funding levels, the Transportation Partners program has also developed milestones for the number of project partners the program will add each year. Figure 1-1 illustrates the success of the program in achieving these goals. ❖

Figure 1-1
Projected vs. Actual Numbers of Partners



Chapter 2 : Program Membership



Over the last three years, Transportation Partners has built a network of organizations that are working to facilitate the development of projects that result in significant VMT reductions. There are two types of partners involved in the program, Principal Partners and project partners. TP Central works directly with the nine Principal Partners to disseminate technical information and engage in communication and outreach activities. Principal Partners, in turn, work with projects at the local level to institute VMT-reducing activities. This chapter provides both a description of the organizations that serve as Principal Partners as well as a summary of project partners that are affiliated with the program.

The Principal Partners

Transportation Partners has developed a cooperative working relationship with nine organizations specializing in various transportation issues. These organizations, known as the Principal Partners, provide direct assistance to projects across the country. The Principal Partners have disparate areas of expertise as well as different networks of members and varying types of outreach activities. By tapping the unique expertise of the Principal Partners, the Transportation Partners program is able to provide support to a wide variety of transportation projects.

Association of Commuter Transportation

The primary mission of the Association of Commuter Transportation (ACT) is to promote alternatives to the solo commute in an effort to reduce congestion, improve air quality, and increase mobility nation-wide. Members of ACT represent major employers, government agencies, rideshare agencies, vanpool providers, transit authorities, consultants, planners, universities and research centers, transportation management associations, metropolitan planning organizations, and others with an interest in transportation demand management (TDM) and commuter transportation issues. ACT also runs the TDM Institute, a non-profit education foundation that conducts research and disseminates information on TDM issues. ACT's web site features information on a variety of TDM subjects and commute alternatives (fimat.cob.fsu.edu/act.htm).



Bicycle Federation of America

The Bicycle Federation of America (BFA) is a national nonprofit organization working to create bicycle-friendly and walkable communities. BFA provides consulting services and training programs to federal, state, and local government agencies as well as private-sector employers on a variety of transportation issues, including bicycle and pedestrian route selection and design, long-range bicycle and pedestrian plans, and technical training for transportation planners and engineers. BFA also manages the National Bicycle and Pedestrian Clearinghouse for the U.S.



Department of Transportation, offering publications on bicycle- and pedestrian-related programs free of charge. More information about BFA's Project Partner services can be found on BFA's web site (www.bikefed.org).

Center for Clean Air Policy

The Center for Clean Air Policy was formed by a group of state governors in 1985 as a bipartisan organization dedicated to developing innovative, market-oriented policy approaches to major state, federal, and international environmental and energy problems. The Center for Clean Air Policy sponsors the Transatlantic Collaboration to Improve Transportation, Land Use, and Air Quality Policy, which enables local leaders to control the effects of rising transportation demand, land use sprawl, and poor air quality. To support these efforts, the Transatlantic Collaboration links U.S. regional teams, composed of members from the public and private sectors, with regional teams in Europe and Canada. Together, the teams develop pilot projects designed to catalyze policy changes in their communities. These pilot projects may serve as models for communities with similar challenges. The Transatlantic Collaboration is now operating in five U.S. regions: Willamette Valley, OR; Portland, ME; Northern Middlesex County, NJ; San Joaquin Valley, CA; and Maricopa County, AZ. Additional services provided by the Center include research and information support, technical and fundraising assistance, and exposure to emerging transportation and land use practices at the Center's Policy Academies.



Environmental Defense Fund

The Environmental Defense Fund (EDF) is a national, New York-based nonprofit organization that links science, economics, and law to create innovative, economically viable solutions to today's environmental problems. EDF's Transportation Program seeks to reduce the negative environmental effects of transportation by focusing on strategies that manage travel demand and motor vehicle use and improve planning and evaluation alternatives. EDF also provides new evaluation tools and strategic guidance to local partners, organizes the exchange of information and experience between regions, and conducts public education programs. EDF offers expertise in developing integrated transportation-land use pricing strategies that can yield significant reductions in future growth of VMT. Finally, EDF offers strategic advice on how regional transportation planning models can be developed and applied to ensure appropriate sensitivity to both current plans and alternative strategies and to consider environmental and equity impacts. More information about EDF's Project Partner services can be found on EDF's web site (www.edf.org).



International Council for Local Environmental Initiatives

The Cities for Climate Protection Campaign (CCP) is a program of the International Council for Local Environmental Initiatives (ICLEI), an international association of local governments dedicated to the prevention and solution of regional and global environmental problems. CCP sponsors the Sustainable Transportation Program, that assists local governments in developing



policies that reduce emissions, air pollution, and traffic congestion. Software and training are provided to enable jurisdictions to analyze and forecast their municipal and community-wide energy use and carbon dioxide emissions. The program assists participating local governments in developing targets for emission reductions and policy measures to achieve those targets. The CCP also provides materials and assistance to promote public education and awareness on global warming and climate protection. The Sustainable Transportation Program produces materials and provides training and assistance on a variety of issues, including employee trip-reduction programs, alternative fuel programs, and the use of economic instruments to reduce travel demand. In addition, ICLEI's Transportation Solutions Grant Program provides funding to local governments to develop transportation alternatives that reduce emissions. ICLEI's web site (www.iclei.org) provides addition information on Project Partner services.

Local Government Commission

The Center for Livable Communities is a national initiative of the Local Government Commission (LGC) that helps communities redirect land use planning toward more livable, resource-efficient alternatives. LGC's Center for Livable Communities supports the creation of compact, mixed-use, and pedestrian- and transit-oriented communities, helping to increase transportation alternatives, lower infrastructure costs, create more affordable housing, improve air quality, preserve natural resources, and restore local economic and social vitality. The Center organizes a variety of conferences, workshops, and training sessions on land use and transportation issues. The Center also distributes visual surveys for several areas, trains local people in how to use them properly, develops area specific surveys, and helps communities develop their own surveys. A toll-free hotline number (800-290-8202) has been established to field requests for information and to provide callers with technical assistance and referrals. The Center's web site (www.lgc.org/clc/) also contains useful information.



Public Technology Incorporated

Public Technology Incorporated (PTI) provides assistance to municipalities that are using telecommuting, intelligent transportation systems (ITS), geographic information systems (GIS), and other technology-based transportation management strategies. PTI holds a variety of executive sessions targeted to elected officials in local government that showcase success stories from member jurisdictions and project partners on topics such as telecommuting, sustainable intelligent transportation technologies, and pricing strategies. PTI also holds sustainable building workshops several times a year focusing on issues such as energy efficiency, resource efficiency, and sustainable design. PTI offers workshops and technology policy connections with the International City/County Management Association, National League of Cities, and National Association of Counties. More information about PTI's project partner services can be found on PTI's web site (www.pti.nw.dc.us).





Renew America

Renew America coordinates a network of community groups, environmental organizations, businesses, government leaders, and civic activists to encourage effective community responses to environmental problems. Transportation Partners Way to Go! Awards are coordinated by Renew America. These awards recognize and publicize successful transportation projects that increase choice and efficiency, reduce the need for vehicle travel, develop innovative uses of technology, or make communities more livable. Renew America also conducts its National Awards for Environmental Sustainability. Approximately 25 awards are given annually in categories relating to natural resource conservation, economic progress, and human development. More information about Renew America's program services can be found on Renew America's web site (www.crest.org/renew_america).

The Surface Transportation Policy Project

The Surface Transportation Policy Project (STPP) is a coalition of over 250 national and local organizations whose goal is to develop a transportation policy that better serves the environmental, social, and economic interests of the nation. As part of its mission, STPP offers advice on increasing access to transportation alternatives while improving the quality of life in local communities. STPP is committed to bringing better data and, as a result, more informed choices into the transportation debate nationwide. To this end, STPP offers information to its grassroots network members in the form of fact sheets and technical publications. To further the goal of providing better transportation data to interested parties, STPP teamed with Transportation Partners to develop the Transportation Action Network, or TransAct, which is available on the World Wide Web (www.transact.org). Through one-on-one consultations, STPP also provides technical assistance for representatives of local communities, grassroots organizations, transportation experts, and policy makers who can get involved in the transportation decision-making process.



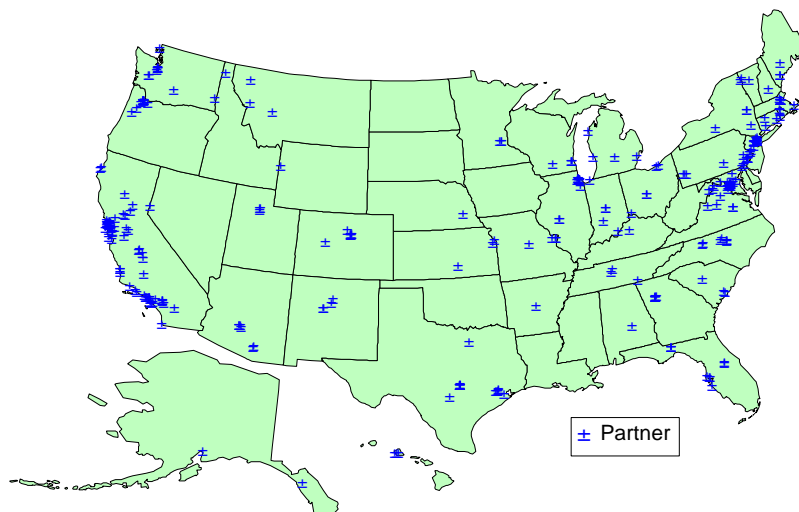
Project Partners

Through the Principal Partners, Transportation Partners recruits project partners which carry out various transportation projects within their individual jurisdictions. The project partners are an integral component of the program because their individual projects contribute directly to VMT reductions. To provide a more realistic profile of program membership, Transportation Partners distinguishes between those partners who seek to implement transportation projects (for which VMT reductions can be calculated) and those partners who serve as outreach or advocacy organizations (that are building institutions to engage in long term planning). These organizations are now referred to as advocate partners. Figure 2-1 depicts the location of all project partners and advocacy partners enrolled in the program.

“We’ve helped hundreds of city and county officials and staff understand the greenhouse gas implications of transportation. We’ve shared numerous practical tools and real-life examples - many from the Transportation Partners network - for reducing emissions while also improving local communities.”

Matt Nichols,
Coordinator, Sustainable
Transportation Program,
ICLEI

Figure 2-1
Project Partners



States with seven or more project partners:
California – 73
Virginia – 18
Oregon – 17
Texas – 17
Illinois – 15
New York – 14
Pennsylvania – 14
District of Columbia – 13
Washington - 11
Florida – 10
Ohio – 10
Colorado – 9
Maryland – 9
Massachusetts – 9
New Jersey – 9
Arizona - 8
Georgia – 8
North Carolina – 7

Appendix A contains a complete listing of partners enrolled in the program. The following is a list of new partners that have joined the Transportation Partners program since January of 1997. ❖

“As more communities take action and gain experience in tackling transportation problems, Transportation Partners promises to be an ever-growing resource.”
Christine Vanderlan,
Center for Clean Air Policy

Pima Association of Governments (PAG), AZ	Golden Empire Transit, CA	Audubon Society of New Hampshire, NH
Regional Public Transportation Authority, AZ	Placer County Transportation Planning Agency (PCTPA), CA	Commuter Check Services Corp. (CCSC), NJ
The Salt River Project, AZ	Sacramento Metropolitan AQMD, CA	Meadowlink, NJ
City of Phoenix Public Transit, AZ	Solano Transportation Authority, CA	O'Connor Management Inc., NJ
Bank of America, CA	Tulare County Resource Management Agency, CA	City of San Jose, NM
California State University – Fresno, CA	City of Anaheim, CA	Santa Fe Land Use Resource Center, NM
Department of General Services-Office of Fleet Administration, State of California, CA	Nevada County, CA	New York State Department of Transportation, NY
Irvine Spectrum Transportation Management Association, CA	Florida Hospital, FL	South Carolina Department of Transportation, SC
Kaiser Permanente, Northern California, CA	Florida DOT Office of Safety, FL	Metropolitan Transit Authority, TN
Riverside County Transportation Commission, CA	Georgia Department of Transportation, GA	TN Transportation Management Association, TN
The Boeing Company, CA	Palouse Clearwater Environmental Institute, ID	City of San Antonio, TX
TVS Consulting, CA	Illinois Department of Transportation, IL	Utah Transit Authority, UT
Bike Stations, Inc., CA	City of Indianapolis, IN	Salt Lake City, UT
Southeast Community Development Corporation, CA	Wichita-Sedgwick County Metro. Planning Dept., KS	Marymount University, VA
City of Auburn, CA	Kentucky State Department of Transportation, KY	County of Arlington, VA
City of Escalon, CA	CARAVAN for Commuters, Inc., MA	Prince William County, VA
City of Oxnard, CA	Cape Cod Commission, MA	Campus Area Transportation Management Association, VT
City of Reedley, CA	Minnesota Department of Transportation – Commuter Information Advisors (CIA), MN	Washington Department of Transportation, WA

City of Rialto, CA	Creve Coeur TMO, MO	City of Yakima, WA
City of Watsonville, CA	Missouri Department of Transportation, MO	Puget Sound Regional Council, WA
Council of Fresno County Governments, CA	City of Winston-Salem, NC	



Chapter 3 : Program Outreach and Activities

Much of the work conducted by Transportation Partners has been in the areas of program communication, outreach, and the coordination of transportation-related activities and technical documents.

Program Outreach

Ongoing Communications

Facilitating the constant exchange of ideas among program participants in disparate parts of the country is an important component of the Transportation Partners program. To this end, the program conducts a monthly conference call with all of the Principal Partners. This regular interaction with members allows the program to maintain its organizational network as well as update partners on new activities and upcoming events.

The Transportation Partners program also maintains a telephone hotline (202-260-6830) that interested organizations can call to request information on the program and on transportation-related issues. LGC, as part of the Center for Livable Communities, also runs a toll-free hotline (800-290-8202) to assist communities in proactive land-use planning.

Conferences

On September 29 and 30, 1997, Transportation Partners held its second annual meeting of program participants. The agenda included the Sustainable Transportation Initiative, a review of ISTEA reauthorization activities, and a summary of outreach and recruitment efforts currently underway.

As in 1996, Transportation Partners and STPP were both Conference Partners at the Rail~volution '97 Conference held in St. Louis, Missouri. The theme of this year's conference was "Building Livable Communities with Transit." Rail~volution draws experts from all over the country who are interested in finding new ways to "grow smart." Presenters included Congressman Richard Gephardt (D-MO), Congressman Earl Blumenauer (D-OR), Congressman James Oberstar (D-MN), and Administrator of the Federal Transit Administration Gordon Linton. Once again, the Way to Go! Awards were presented with the help of EPA Assistant Administrator Fred Hansen.

In 1997, Principal Partners hosted five major conferences that drew over 1,500 participants from across the country. The Principal Partners also conducted more than 75 local workshops where over 1,000 local planners, activists, and leaders participated in learning more about transportation and the environment.

1997 Principal Partner Conferences and Workshops

- ✧ ICLEI's Cities for Climate Protection Campaign: Reducing Greenhouse Gas Emissions from the Transportation Sector
- ✧ Campaign to Make America Walkable: National Pedestrian Conference, BFA
- ✧ Campaign to Make America Walkable: Neighborhood Workshops in over 35 States, BFA
- ✧ LGC's Center for Livable Communities: community design workshops in over 20 communities
- ✧ STPP's Transportation Advocacy and the Internet workshops in 16 cities
- ✧ LGC, Putting Communities Back on Their Feet Conference

Using Information Technology to Reach Partners

Technology is playing an important role in the environmental community and, as a result, Transportation Partners is attempting to utilize new media forms to improve program communication and services. These efforts include the Transportation Partners listserve, the Transportation Partners world wide web site, and the TransAct web site.

The Transportation Partners listserve is an e-mail network that allows program participants and other interested parties to communicate over the information superhighway. Messages containing news releases, updates, and requests for information have all been sent out over this network.

"The Jitney is an innovative idea that will go a long way toward making life more convenient for the Maplewood commuter." Township Committee member and former Mayor Ellen Davenport, Maplewood, NJ. The Jitney was established with a grant from ICLEI and Transportation Partners.

Sample Transportation Partners Listserve News Update

F.Y.I. NJ Jitney takes off!

STRONG RESPONSE TO NJ RAIL SHUTTLE PROGRAM

Eleven municipalities along NJ Transit's booming Morris and Essex Line met the Feb. 27 deadline to submit proposals for NJ Transit's "Community Rail Shuttle Challenge grant." The program was created after the town of Maplewood, with independent funding (from ICLEI and Transportation Partners), showed that a commuter rail station jitney would attract riders and ease parking demand and local traffic congestion. At present, the municipalities will compete for five grants, each worth up to \$50,000 in operating funds and the use of a jitney bus (20-30 person capacity). NJ Transit said it was "delighted by the enthusiastic response."

Over the past year, the Transportation Partners World Wide Web Site (www.epa.gov/tp) has been redesigned. A section on research and publications has been added to the site. The new Transportation Partners resource guide can now be found on the web site as can documents on such subjects as Intelligent

Transportation Systems, the air quality benefits of alternative transportation projects, and the Congestion Mitigation and Air Quality Program.



Transportation Partners Web Sites:

TP Central www.epa.gov/tp	Transact www.transact.org
ACT fimat.cob.fsu.edu/act	BFA www.bikefed.org
EDF www.edf.org	ICLEI www.iclei.org
LGC www.lgc.org/clc/	PTI www.pti.nw.dc.us
Renew America www.crest.org/renew_america	STPP www.transact.org/stpp

In addition, Transportation Partners and STPP have developed an innovative web site, known as TransAct (www.transact.org). The TransAct web site offers users the opportunity to learn more about such topics as transportation and global climate change, traffic congestion, and the reauthorization of the Intermodal Surface Transportation Efficiency Act. The site also contains an extensive library of documents pertaining to transportation and the environment as well as links to other transportation-related web sites. TransAct includes an interactive forum called, "Talk Back," where visitors can communicate directly with TransAct technical staff and receive simultaneous data transfers specific to their needs.

Users can access the [TransAct](http://www.transact.org) web site through direct dial at (202) 319-1861 -or- www.transact.org

Major Activities

Shortcuts

Transportation Partners periodic fact sheet series, entitled *Shortcuts*, has continued in 1997. *Shortcuts* includes guidance to project partners and others on important issues like: integrating transportation alternatives into community development,

reducing greenhouse gas emissions from the transportation sector, and using the internet to promote sustainable transportation initiatives. Shortcuts also provides a forum for updates on Principal Partner news, upcoming events, new partners, and recent publications. The most recent issue of *Shortcuts* was sent to over 900 partners and other interested parties.

The Principal Partner Resource Guide

In September of 1997, Transportation Partners published the *Principal Partner Resource Guide*. This document provides information on the services and publications of TP Central and the nine Principal Partners. The *Guide* also contains detailed information about the Transportation and Market Incentives Group, a program of EPA's Office of Mobile Sources (OMS) that promotes voluntary approaches to reducing mobile-source air pollution. Nearly 400 copies of the *Resource Guide* have been distributed to the Principal and project partners, as well as to other organizations. The *Guide* can also be accessed from the Transportation Partners web site.

Way to Go! Awards

One of the important roles played by Transportation Partners is to provide new projects with a forum whereby they can be recognized for their innovation and creativity in reducing VMT. The Way to Go! Awards, a joint project between Transportation Partners and Renew America, are a culmination of these efforts. Awards are given to projects that increase choice and efficiency, reduce VMT, and improve the livability of local communities. Programs must have been in operation for six months and must currently be underway to be eligible. Four criteria are used to judge Way to Go! Award applicants:

- ❖ Reducing greenhouse gases by reducing vehicle miles or trips
- ❖ Increasing transportation options and quality
- ❖ Improving economic efficiency and development
- ❖ Enhancing community life and environmental quality

For more information on the [Way to Go! Awards](#), see the Transportation Partners web site – www.epa.gov/tp.

1997 Way to Go! Award Winners

Community Design:

- ❖ Licking County Bicycle and Pedestrian Transportation Corridor
- ❖ Long Beach Commuter Bikestation
- ❖ Tempe Transit Tax and Plan
- ❖ Xenia Station, Hub of It All

Economics:

- ❖ City of Aspen Transportation and Parking Plan
- ❖ Easy Street
- ❖ Nissan Commuter Services
- ❖ University of Colorado Student Bus Pass Program

Technology:

- ❖ Oregon Office of Energy Telecommuting Program

"The [Way to Go!] award allows us to make our case for alternative transportation and sustainability more effectively here in Boulder as well as throughout the region and state."
Adam Krom,
University of Colorado at Boulder
Environmental Center, a 1997
Way to Go!
Award Winner.

Other Publications

A number of other publications have been issued through support from the Transportation Partners program. Transportation Partners, along with Public Technology Incorporated (PTI), contributed to two documents: *Slow Down You're Going too Fast – The Community Guide to Traffic Calming* and *Roads Less Traveled – Intelligent Transportation Systems for Sustainable Communities*. STPP also received support from Transportation Partners for the creation of *The Transportation Project Planner*, a guide to understanding and becoming involved in the transportation planning process. Finally, Transportation Partners and the Center for Livable Communities jointly published *Building Livable Communities: A Policymaker's Guide to Transit-Oriented Development*. ❖



Chapter 4 : Measuring Program Success

Transportation Partners has had definite but, in many cases, hard to quantify success in lowering greenhouse gas emissions. Some project partners focus on policy and educational efforts which substantially leverage other projects, but for which direct and immediate progress is difficult to measure. Community design and land-use projects have the potential for very significant VMT reductions, albeit over a long period of time. For partners working on these types of projects and for the state government partners, because of the geographic scope of their efforts, data collection – and quantification of benefits – is difficult. And because many of the partners are policy and public-awareness oriented, and others are engaged in technical information dissemination, many of the Transportation Partners benefits are longer-term and are actualized in projects outside the Program, with data correspondingly less available. Finally, the diverse operational strategies mean that even describing the partners' efforts requires multiple measures, as no single indicator captures the range of work being conducted through the Transportation Partners program. Transportation Partners is estimated to have reduced VMT by approximately 1.25 billion in 1997, despite these obstacles in documenting all of its benefits. Benefits would certainly have been even higher had their been full funding for the program. As Transportation Partners and its medium and long-term projects mature, the program can expect to have even further VMT and greenhouse gas emission reductions.

To enable progress in greenhouse gas emission reduction, one strategy has been Transportation Partners' focus on targeting urbanized areas. Urbanized areas¹ comprise 64 percent of the United States population, 55 percent of the total annual VMT, but only two percent of the land area.² Thus, projects concentrating efforts in just a small geographic area can maximize their impact on traveler behavior, VMT and greenhouse gas emissions. As shown in Figure 4-1, the Transportation Partners program has undertaken focused efforts in target states and areas with high concentrations of VMT.

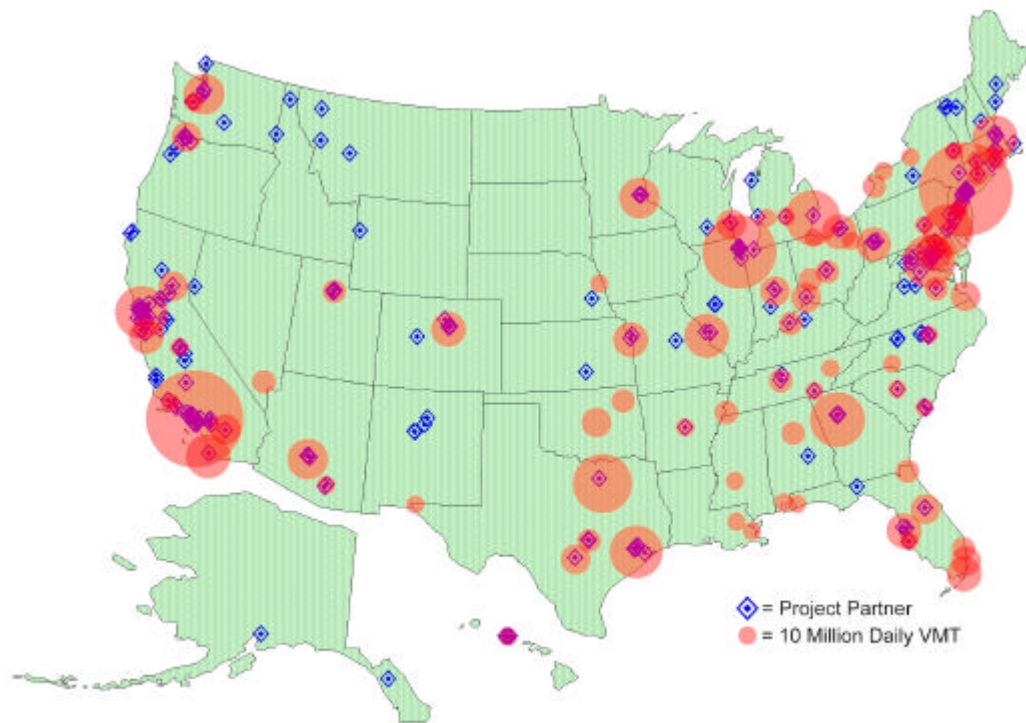
Transportation Partners has identified several dimensions in which partners' efforts may be categorized. There are three broad categories of projects that aid in the reduction of VMT – community design, economic incentives, and technology. As mentioned earlier, projects may alternatively be described as focused on specific operational changes or infrastructure, on policy and public-awareness, or on technical assistance and information dissemination. Projects' geographic scope varies from site-specific, to metropolitan area, to statewide. And projects may fall into six physical or modal categories – bicycle, pedestrian, transit (bus and rail), carpool/vanpool, telecommuting, and land-use measures.³

¹ Areas with a population greater than 50,000.

² Figures derived from 1994 FHWA Highway Statistics and 1996 Statistical Abstract of the United States, U.S. Dept. of Commerce.

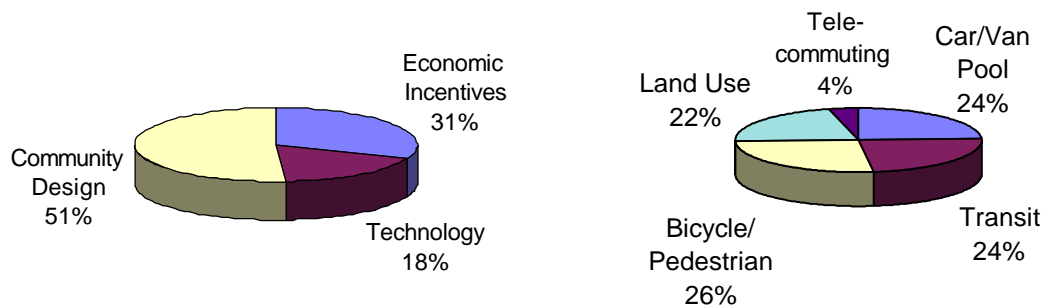
³ The options described below for each project type are discussed in D.S. Eisinger et al., Transportation Control Measures: State Implementation Plan Guidance, prepared for U.S. EPA, 1990.

Figure 4-1. VMT by State and Project Partner Location



Of the Transportation Partners projects categorized to date, 51 percent have been community design (including infrastructure) projects, 31 percent have been projects dealing with economic incentives, and 18 percent have been technology-oriented. Some 26 percent focus on bicycles and pedestrians, 24 percent on transit, 24 percent on car/van pools, 22 percent on land use, and four percent on telecommuting. Figure 4-2 shows the distribution of project classes for the program.

Figure 4-2. Transportation Partners Project Categories



As is discussed later and illustrated in Figure 4-4, projects can be characterized in a number of different ways. Project partners often describe themselves, and projects often are popularly perceived, by the transportation mode that they most directly address. This is also a convenient typology for reporting and estimating project benefits. To describe the different types of projects sponsored by Transportation Partners, and to illustrate the wide diversity of project types being implemented, descriptions are given here of the six modal and physical types of projects.

Bicycle

Bicycles were historically important means of transportation in the U.S. until the last 20 years, providing much of the mobility for youths in particular. In the recent past, bicycle projects have been designed primarily for recreational purposes; there are approximately 62 million Americans who cycle, but only 3.2 million who commute by bicycle. However, bicycle use is now being encouraged at both the local and federal level as an alternative to single occupancy vehicle travel. Various other nations currently illustrate how bicycles can provide a high level of local access for wide segments of the population, as part of a balanced transportation system. Bicycle ownership rates in the Netherlands, Germany, Switzerland, Denmark and Japan range from 60 percent to more than 90 percent (compared with 38 percent in the United States), and the difference between commuting utilization rates is even greater.

Partners in Action

As was originally profiled in last year's Annual Report, the City of Tampa, Florida initiated the development of a Free Community Bike Program with the help of extensive volunteer efforts. Several local hotels were involved in the yearlong provision and distribution of the bicycles, while the local school district provided maintenance through the efforts of students in its shop classes. The program initially provided 100 bicycles, which were used about four times per day, for approximately 400 trips per day. The average trip was around 1.5 miles, for a total of 600 miles per day of bicycle travel. It was further estimated that 80 percent of the trips replace single-occupancy vehicle trips. This results in a VMT reduction of 480 miles per day, or 112,800 VMT annually (using the 235 working days the program was in place in 1997) as well as a reduction of 16 Metric Tons of Carbon Equivalent (MTce). These results represent an increase of 33 percent above last year's forecast reductions of 84,800 VMT and 12 MTce.

Bicycle projects are not limited to plans calling for capital construction, such as bicycle trails. Local governments and individual employers provide facilities and information that encourage bicycle use for commute and other non-recreational

trips, and many see bicycles as an efficient solution for such trips. The range of bicycle strategies includes:

- ✧ Development of bicycle routes, lanes, or paths;
- ✧ Restoration of road design standards to accommodate bicyclists;
- ✧ Provision of lockers, racks, and other storage facilities;
- ✧ Provision of ancillary facilities (such as showers, clothing lockers);
- ✧ Integration with transit, either at stations or on transit vehicles;
- ✧ Provision of bicycle plans and maps; and
- ✧ Educational, media, and promotional campaigns.

Pedestrian

Pedestrian-oriented projects may be individual physical improvements – such as a single intersection redesign, sidewalk, or footpath – or they may be components of a larger scale design plan – such as a neo-traditional development. The potential for VMT reduction is often initially lower than that of other alternative modes, because the average walking trip replaces only shorter motorized trips. However, from an air quality perspective the avoidance of motorized trips and cold starts is itself a substantial benefit. Additionally, once pedestrian-accessible, mixed-use zones reach a critical size, they may replace a great number of longer motorized trips, as the local corner stores' accessibility benefits may begin to outweigh the price savings of the distant “big box” retailers. Possible strategies include:

- ✧ Construction or widening of sidewalks and walkways, especially for a robust network with high sidewalk continuity;
- ✧ Safe facilities such as crosswalks, walk signals, median strips, intersection redesign, and lighting;
- ✧ Improved environment, including benches, street-level shops, and fountains;
- ✧ Connections with transit, particularly shelters and direct access from sidewalks;
- ✧ Traffic calming efforts in appropriate residential and commercial areas;
- ✧ Educational/informational outreach, especially including anti-aggressive driving and Safe Walk to School campaigns; and
- ✧ Improvement of zoning and urban design elements, such as standards for building setbacks, parking lot location (behind vs. in front), residential alleys, and elimination of some parking requirements.

Partners in Action – Way to Go Award Winner

The City of Xenia and Green County, Ohio have teamed up with the Ohio Department of Transportation, the Ohio Department of Natural Resources, and the private sector to convert 60 miles of former railway corridors and a seven acre railroad depot into an alternative transportation center. The transportation center includes bike and pedestrian trails, parking facilities, and a community building. The trails are located within a short walk of every Xenia resident and within ten minutes of most residents in the county. It was estimated that over 300,000 people used the trails to get to work, home, school, and other activities by the end of 1997.

Carpool/Vanpool (Rideshare)

Ridesharing is potentially a very effective VMT reduction strategy because it can target long-distance, work-related trips. Ridesharing may originate from public agencies or individual employers and can include:

- ✧ Area-wide rideshare (third-party coordinators). This type of program acts to match supply of empty commuter service seats through an on-line telephone matching system, pool formation assistance, and marketing/promotions.
- ✧ Transportation management associations. Typically, multiple organizations pool resources to provide commuter services. They can be independent associations, nonprofit corporations, or divisions within existing firms.
- ✧ State and local tax incentives and subsidies for employer participation and tax benefits outreach.

Partners in Action

Kaiser Permanente of California is one of the largest health care providers in the nation. The organization is taking demonstrable steps to reduce pollution and traffic congestion through the KAISERider program. Throughout California, 10,500 employees at sites with the KAISERider program use alternative means of transportation, such as carpooling, on a regular basis. Four KAISERider services alone eliminate approximately 37,000 passenger trips a month or nearly 4 million VMT per year (571 MTce).

Telecommuting

The provision of computer technology at employees' homes or at public sites can lead to reductions in work-related VMT. Although there are some questions regarding telecommuting's ability to reduce trips, when focused on long distance SOV commuters it has a substantial VMT reduction benefit. The three primary means of telecommuting are:

- ✧ Employer-provided computer equipment and/or days to work at home;
- ✧ Area telecenters; and
- ✧ "Job-swapping" or office hotelling at multiple-office companies, so that employees can usually work at the site most accessible to their home.

Partners in Action

The San Francisco-San Mateo Videoconferencing/Trip Reduction Project uses videoconferencing technology to allow attorneys in the Public Defender Office in San Francisco to conduct interviews with inmates at San Francisco's two County Jail facilities located in San Bruno, California. The program has eliminated the need for making the 40 mile round-trip between facilities and reduced annual VMT by 600,000 and carbon emissions by 87 MTce.

Public Transit (Bus and Rail)

While many of the other projects deal with increasing accessibility, or lessening the demand for mobility, transit projects compete more directly with the automobile by providing choices and alternate means of achieving mobility. Efforts to encourage bus and rail projects may fall under any of the three categories of community design, economic incentives, or technology. Transit-type projects may be applied on a permanent basis or a few times a year (e.g., transit free-ride days). They can cover a variety of different areas, including:

System/Service Expansion - includes the introduction of new routes or services, such as:

- ✧ Rail and fixed guideway systems;
- ✧ Express bus service;
- ✧ Local bus service; and
- ✧ Paratransit (on demand) service.

Partners in Action

The HOP shuttle service in Boulder, Colorado operates bus service in downtown Boulder that provides a viable transit option for employees, students, citizens, and visitors to get around Boulder. A fleet of eight, propane-powered, mid-size vehicles operates 12 hours a day, six days a week. The service illustrates how benefits from many projects grow over time, as transportation users gradually shift not just individual trip choices, but auto-ownership and residential and employment location patterns in response to the provision of transit alternatives. The HOP shuttle reduced annual VMT in the area by an estimated 2,500,000 and emissions by 360 MTce in 1997, up 25 percent from last year's reduction figures of 2,000,000 VMT and 290 MTce.

System/Service Operational Improvements – includes:

- ✧ Splitting routes, transfer improvements, schedule coordination, vehicle frequency;
- ✧ Bus lanes, removal of parking, transit-oriented malls; and
- ✧ Operations management – automatic vehicle location, real-time monitoring.

Finance: Demand/Market Strategies, such as:

- ✧ Fare structures/policies, transit subsidy programs;
- ✧ Marketing programs; and
- ✧ Passenger amenities such as signage, maps, elderly/ADA access, and security.

Land-Use

Although policies affecting residential and employment location patterns are seen as critical to reducing single-occupancy vehicle travel, most will require years to realize significant VMT reductions. Among the range of options are design-related

measures (micro-scale land-use/community design), policy and planning issues (both zoning plans and restrictions/requirements, especially parking-related), and economic strategies (location-efficient mortgages, split-rate taxation). Specific land-use measures include:

- ✧ Concurrency requirements (policies that limit the ratio of development to the capacity of the transportation system);
- ✧ Concentrated growth/infill measures;
- ✧ Pedestrian- or transit-friendly site design requirements;
- ✧ Mixed-use development master planning;
- ✧ Zoning changes;
- ✧ Parking ratio caps, parking cash-out; and
- ✧ Development impact fees.

Partners in Action

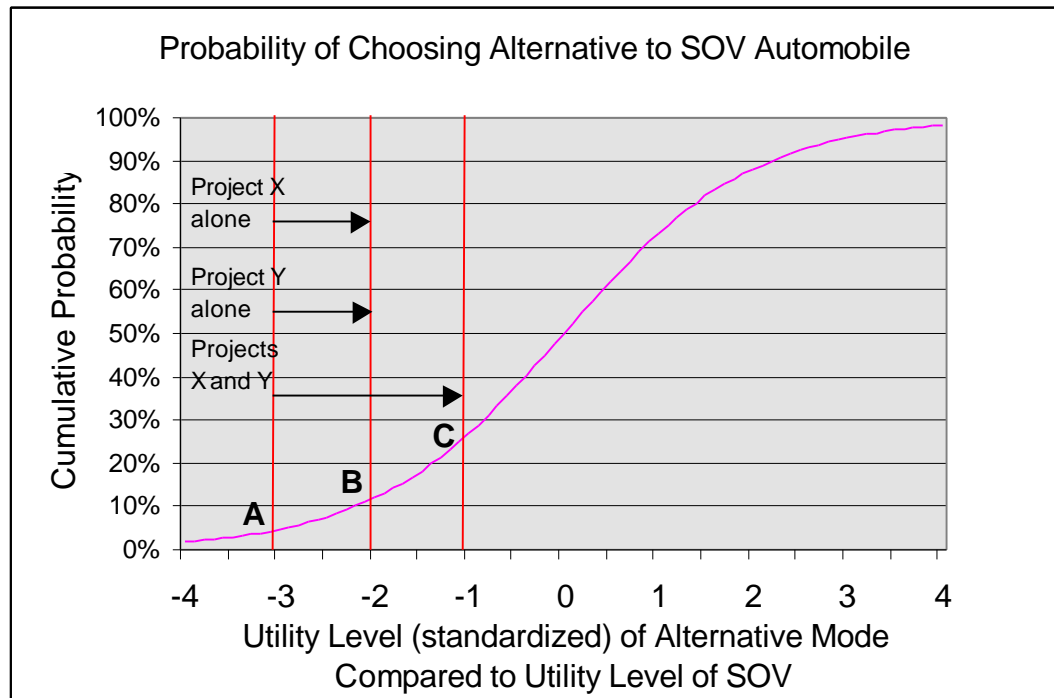
Employers in Seattle, Washington have utilized innovative commuting software to reduce employee trip lengths. The “Proximate Commuting” software allows multi-site employers to significantly reduce unnecessary long distance commuting by matching or trading new and existing employees to work sites closer to their homes. The program has reduced an estimated 411,250 VMT and nearly 60 MTce annually.

Although most of these measures will take years to develop, some have the potential to affect commute behavior in the short term. For example, parking cash-out programs and parking ratio caps can have an immediate effect on VMT by encouraging the use of transit and car-pooling.

Synergistic Effects

Because of the current pattern of mode choice in the United States, with a substantial preponderance of trips reliant on the private automobile, it is likely that multiple efforts undertaken to encourage other modes may have more than a simple additive effect. The transaction costs of changing behavior (auto ownership, housing and job location) and discrete, lump sum costs (insurance, auto payments) associated with automobiles create barriers that mean step levels of change are possible once given cost obstacles have been breached. In particular, small or one-dimensional efforts to change behavior are unlikely to have substantial effects in reducing VMT, as only a few users are likely to assume transaction costs or abandon sunk costs in exchange for a small benefit. But larger, multi-faceted efforts may provide sufficient benefits and incentive to exceed these costs for large numbers of users. Figure 4-3 illustrates this issue in terms of the traditional transportation mode choice concept of random utility theory and the logit probability distribution that is typically used for mode choice modeling.

Figure 4-3
Synergistic Effects of Transportation Projects



The “S” curve represents the cumulative number of transport users who would be willing to switch from automobiles at various levels of utility (utility is typically a function of cost, time, comfort and convenience; the units of measure for the level of utility are often arbitrarily set for computational convenience). From the starting utility level, represented by the left-most line (arbitrarily set at -3), the number of transport users using SOV alternatives (for example, transit commuters) is shown at point “A” (with a value of 4.7 percent). A shift to the right of one unit of higher utility (for example, via Project X – lowering transit fares by \$1.00 – or Project Y – decreasing transit travel time by 15 minutes) results in a shift to point “B” (a value of 11.9 percent transit mode share). Moving from point “A” two units of higher utility to the right (say from undertaking both projects X and Y), results in a shift to point “C” (with a 26.9 percent transit mode share). The synergistic effect at these levels is thus that 22.2 percent (26.9 – 4.7) of users will switch modes, instead of the 14.4 percent (two times 11.9 – 4.7) that would be expected if projects were purely additive.

Potential VMT Reductions from Transportation Control Measures

Measuring VMT reductions with confidence can often be difficult for even a single project. The above descriptions of the modal and physical range of Transportation Partners projects gives one illustration of the diversity of efforts being undertaken within the Program. In addition to projects’ different modal emphases, the efforts may be classified based on their strategic focus (economics, technology, or community design), their implementation mechanism (project, policy outreach

Figure 4-4 Transportation Partners' Projects
By Classification and Cross-Classification

		Modal/Physical Scope							Total	Category				Total	Geographic Scope				Total	Implementation Strategy				Total
		Bicycle	Pedestrian	Transit	Carpool / vanpool	Tele-commuting	Land-use	Unclassified		Community Design	Economic Incentives	Technology	Unclassified		Local	Metropolitan	State	Unclassified		Projects - Operations or Infrastructure	Outreach - Policy or Awareness	Technical Assistance / Information Dissemination	Unclassified	
Modal/ Physical Scope	Bicycle	38							38	25	2	2	9	38	3	13	22	0	38	9	4	0	25	38
	Pedestrian		4						4	2	0	0	2	4	0	4	0	0	4	0	1	0	3	4
	Transit			36					36	6	13	6	11	36	3	29	4	0	36	12	6	3	15	36
	Carpool / van-pool				31				31	3	20	8	0	31	7	18	4	2	31	17	4	5	5	31
	Tele-commuting					6			6	0	1	5	0	6	1	5	0	0	6	2	0	1	3	6
	Land-use						39		39	36	3	1	-1	39	3	29	7	0	39	23	4	0	12	39
	Unclassified							186	186	18	2	4	162	186	13	67	81	25	186	12	95	2	77	186
	Total	38	4	36	31	6	39	186	340	90	41	26	183	340	30	165	118	27	340	75	114	11	140	340
Category	Community Design	25	2	6	3	0	36	18	90	90				90	4	57	25	4	90	31	14	0	45	90
	Economic Incentives	2	0	13	20	1	3	2	41		41			41	7	25	8	1	41	21	4	7	9	41
	Technology	2	0	6	8	5	1	4	26			26		26	1	20	1	4	26	11	0	4	11	26
	Unclassified	9	2	11	0	0	-1	162	183			183		183	18	63	84	18	183	12	96	0	75	183
	Total	38	4	36	31	6	39	186	340	90	41	26	183	340	30	165	118	27	340	75	114	11	140	340
Geographic Scope	Local	3	0	3	7	1	3	13	30	4	7	1	18	30	30				30	10	6	0	14	30
	Metropolitan	13	4	29	18	5	29	67	165	57	25	20	63	165		165			165	49	20	9	87	165
	State	22	0	4	4	0	7	81	118	25	8	1	84	118			118		118	8	74	2	34	118
	Unclassified	0	0	0	2	0	0	25	27	4	1	4	18	27				27	27	8	14	0	5	27
	Total	38	4	36	31	6	39	186	340	90	41	26	183	340	30	165	118	27	340	75	114	11	140	340
Implement- ation Strategy	Projects - Operations or Infrastructure	9	0	12	17	2	23	12	75	31	21	11	12	75	10	49	8	8	75	75				75
	Outreach - Policy or Awareness	4	1	6	4	0	4	95	114	14	4	0	96	114	6	20	74	14	114		114			114
	Technical Assistance / Information Dissemination	0	0	3	5	1	0	2	11	0	7	4	0	11	0	9	2	0	11			11		11
	Unclassified	25	3	15	5	3	12	77	140	45	9	11	75	140	14	87	34	5	140				140	140
	Total	38	4	36	31	6	39	186	340	90	41	26	183	340	30	165	118	27	340	75	114	11	140	340

Notes: The numbers along the main diagonal represent the number of projects placed into the given classification. For example, the upper left number indicates that 38 of the 340 total projects are primarily directed towards bicycles. Of the 340 total projects, 186 were not able to be classified as directed primarily at one transportation mode. The other numbers represent the cross-classification of projects. For example, reading across the top row, 25 of the bicycle projects involved Community Design, two involved Economic Incentives and two involved Technology, while nine were not classified by category. Similarly, three of the bicycle projects were local in nature, 13 were city, or metropolitan-wide, and 22 involved state-wide efforts. Note that the table may be read either across rows or down columns to obtain the same numbers.

and education, or technical information dissemination), and their geographic scope (local, regional, or state). Figure 4-4 provides a breakdown and cross-tabulation of Partners' projects by each of these dimensions. The methodology used here makes an effort to account for each of these aspects of the projects, as well as location-specific information on travel behavior. In addition, this methodology allows an accounting for the incorporation of a variety of reports and studies in the literature (many of which are themselves based on multiple empirical observations).

When calculating the VMT reductions for individual projects for which data were available, the following approach was used. In general, several key components must be considered when estimating the VMT reduction of a particular strategy:

- ✧ The number of daily one-way trips made by alternative mode users;
- ✧ The average one-way trip length of alternative mode users;
- ✧ The number of days the program is in effect; and
- ✧ The number of vehicle trips replaced per alternative mode trip.

The product of these four items is what is typically considered the annual VMT reduction. Conversely, if a project is more regional in nature, then the metropolitan area's characteristics (VMT, VMT per capita, etc.) are utilized to generate these components. Further, in many cases, a local initiative will involve packaging more than one of these project types. Once these individual results were tabulated for projects with available data, the results were then incorporated into the analysis (described below) for projects for which some of this data was not available.

The projects described above may all be referred to as transportation control measures (TCMs). Numerous studies have been conducted to measure or predict the VMT reductions from TCMs. The results of the above, individual profiled project and case study estimates, as well as the two studies that reviewed TCM strategies and proposed ranges of daily regional reductions associated with individual strategies, are shown in Table 4-1. Not all of the figures in these studies are precise calculations; several of the cases came from experience in a specific location, while others from model simulations, applications of elasticities, or other theoretical studies. The disparity in the estimates for the same type of TCMs reflects the uncertainty involved in this field of research, as well as the varying nature of projects. Thus, lower estimates of VMT reductions might represent short-term results or smaller-scale projects, while larger numbers often appeared in studies dealing with longer periods of analysis or large-scale projects. Therefore, in addition to the "project type," other information was incorporated into the analysis, and a consensus figure was reached, as shown in the final column of Table 4-1.

To obtain actual project information, the Principal Partners worked with their respective project partners to address the questions contained in the "Project

Profile” (Appendix B). Unfortunately, many projects have not yet attempted to quantify VMT reductions. As a result, the ranges of estimates provided by Project Profiles and case studies were made based on data from 45 projects, as well as several outside sources of information. The information gathered was then applied in an algorithm, which blended the various data sources to provide a weighted average of the percent VMT reduction for each project. The weighted average emphasized the lower estimates in ranges and the short-term reductions from the literature, as well as discounting projects for which there was less information, and therefore provided a conservative estimate of project benefits. The weighted average of effectiveness was then applied to each project’s “target VMT.” The target VMT was calculated by multiplying location specific VMT per capita data with project-specific population scope information. Thus, the calculation for each project’s VMT reduction incorporated project-type-specific effectiveness rates, location-specific travel rates, and project-specific scope information.

Table 4-1. Project Partner Type, TCM Type and Estimated VMT Reduction

Project Type	TCM description	Estimated VMT Reduction (in percent)			
		1993 Study ⁴	1994 Study ⁵	Profiles and Case Studies	Consensus
Bike/ Pedestrian Facilities	Short-term or low estimate	0.90	0.02	0.00	0.03
	Long-term or high estimate	2.70	0.03	0.04	
Tele- commuting	City / Regional effort	0.00	0.00	0.05 - 0.14	0.05
	Office/firm-level effort	0.10	3.40	0.58	0.35
Bus/Rail	Regional improvements	0.00 – 0.30	0.10 - 0.50	0.02 - 0.42	0.15
	Employer subsidies	0.40 – 1.10	0.00 - 2.60	1.70 - 21.40	10.00
Car/Van- Pool	Area-wide ridesharing; outreach	0.01 – 0.40	0.10 - 2.00	0.04 - 0.33	0.10
	Office/firm-level effort	0.01 – 0.40	0.20 - 1.40	2.18 - 21.00	4.00
Land-Use	Land-use planning	0.40 - 2.70	0.00 - 5.20	0.03 - 0.75	0.20
Multiple	Multi-faceted employer trip reduction efforts	0.50 - 1.00	0.20 - 3.30	1.70 - 38.40	10.00

⁴ *Transportation Conformity and Demand Management: Vital strategies for Clean Air Attainment* and an unpublished literature review and analysis, prepared by Michael Replogle, Environmental Defense Fund, 1993. These documents, as well as the 1994 Apogee study represent a meta-analysis of prior studies and project results, and thus present the results of numerous TCMs that have been implemented or modeled by prior researchers.

⁵ *Costs and Effectiveness of Transportation Control Measures (TCMs): A Review and Analysis of the Literature*, prepared by Apogee Research for the National Association of Regional Councils, 1994.

VMT Reduction Estimates

Using studies such as those described above, data from similar projects, and specific data from the project partners, the project-level estimates of VMT reduction that can be anticipated from a particular project type have been listed in Table 4-2. As additional data are collected in the future from project partners, these estimates will continue to be updated and refined each year. The upper and lower bounds were obtained from actual case studies (both partners and others). Because of the limited amount of data on existing projects to date, even the upper bound could be an underestimate of actual results, and these figures may be conservative from a long-term perspective.

Table 4-2. Estimates of VMT Reduction for Partners Project Types

Project Type	Upper Bound	Lower Bound	Expected
Bicycle -facility	750,000+	1,000	75,000 - 275,000
-statewide initiative	2,200,000+	100,000	700,000
Pedestrian	4,000,000+	1,000	75,000
Telecommuting -firm	2,000,000+	5,000	50,000
-metropolitan initiative	10,000,000+	25,000	250,000 - 1,000,000
Transit (Bus & Rail)	50,000,000+	125,000	2,500,000 - 20,000,000
Car/Van Pool - firm	60,000,000+	10,000	200,000
-metropolitan initiative	160,000,000+	500,000	8,000,000 - 17,000,000
Land-Use	100,000,000+	10,000	7,000,000 - 20,000,000

There is a significant amount of uncertainty surrounding the “expected” VMT reduction for a particular type of project, but the conservative nature of these estimates means that the aggregate figures can be relied upon as a measure of Transportation Partners’ benefits. The land-use figures, in particular, contain the greatest amount of uncertainty due to limited research in the area, the multitude of options available under land-use planning, the time lags associated with land-use implementation, and the potential magnitude of such projects. Transportation Partners Central will continue to collect additional data each year that will assist in reducing the uncertainty and refining the expected reductions for these estimates.

There are two additional reasons for the high level of uncertainty surrounding VMT reduction estimates for individual projects. First, it is assumed that similar projects in different regions and situations will have equivalent impact effectiveness. While this report’s estimates have accounted for observed differences between regions (such as VMT per capita), it naturally would be very difficult to forecast differences in future responses to individual programs. For example, different cities or regions may have other policies or programs in place that will affect (positively or negatively) the amount of VMT reduced.

Second, the potential impacts are calculated as if the projects were isolated from one another. However, it is possible that multiple complimenting projects, such as a pricing program along with an improved transit project, would have synergistic effects, as described earlier. That is, the total VMT impact of the two programs would be greater than the sum of the individual projects. It is difficult to generically quantify such synergy without detailed travel modeling for each project, but to the extent that synergy occurs, the VMT impacts would be larger than those reported here.

Program Progress Relative to the *Climate Change Action Plan*

To understand how Transportation Partners and its overall goals fit into the framework of the *Climate Change Action Plan*, the program must be compared to the other CCAP VMT goals and baseline projections. Table 4-3 depicts these relationships by presenting annual figures for:

- ✧ CCAP Baseline (no action) estimate of total VMT through the year 2000;
- ✧ Projections of all annual reductions in VMT to be achieved under full implementation of CCAP VMT reduction policies (i.e., the Action Plan, which includes the Transportation Partners program);
- ✧ Projections with only the annual reductions in VMT to be achieved under full implementation of the Transportation Partners program;
- ✧ The Transportation Partners program results of estimated annual reductions in VMT achieved given actual implementation and funding levels.

Table 4-3. Annual VMT Reductions

Year	Billions of Light Duty VMT			
	CCAP Baseline	Action Plan Annual Reduction Predicted in CCAP	Partners Annual Reduction Predicted in CCAP	Partners Estimated Actual Annual Reduction
1995	2,244	10.0	0.00	0.01
1996	2,296	16.4	1.8	0.296 – 0.692
1997	2,349	23.1	3.7	1.25
1998	2,403	30.1	7.6	n.a.
1999	2,458	37.4	13.0	n.a.
2000	2,515	45.0	20.0	n.a.

The CCAP Baseline original data points were given only for the years 1990, 1995, and 2000. For the annual figures given in Table 4-3, a constant annual VMT growth rate was assumed for the intermediate years between data points. From 1990-1995, the annual growth is 2.02 percent; between 1995 and 2000, it is 2.31 percent.

It is important to note that Federal Highway Administration (FHWA) estimates of actual VMT per year (1990-1997) – the figures that the CCAP Baseline was attempting to estimate – have shown that the CCAP Baseline was set too low. These figures are given in Table 4-4. The FHWA data are derived from annual Highway Statistics reports from 1990 through 1997.⁶ In addition, light-duty VMT were also assumed to be comprised of three vehicle classes as described by FHWA: “Personal Passenger Vehicles;” all four-tire, two-axle trucks; and 71 percent of six-tire, two-axle trucks. The latter figure is chosen to calibrate the FHWA 1990 light-duty VMT estimate with the corresponding year from the CCAP Baseline.⁷

It is apparent from Table 4-4 that FHWA’s VMT estimates are significantly higher than the CCAP Baseline estimates. In other words, VMT has grown at a faster rate than expected since 1992-1993. In fact, the 1996 numbers show a 1.4 percent difference (33 billion) in VMT between the two data lines. The significance of this discrepancy for the Transportation Partners program is that if the goal is to reduce VMT to a level of approximately 2,495 billion by the year 2000, then the size of the gap between the actual baseline and the goal may be much greater than previously thought. For example, if the difference in the CCAP Baseline and the FHWA statistics remains at 33 billion through the year 2000, the Transportation Partners program would have to reduce national VMT by over 34 billion (0.44 multiplied by 78 billion VMT), rather than the 20 billion designated in the CCAP. It is unrealistic to assume that the Transportation Partners program would be able to respond to such a change at this stage. Stakeholders should also be aware that even if the program meets its reduction goals (20 billion VMT) for 2000, the overall level of VMT and greenhouse gases may be higher than the targets outlined in the CCAP. Thus it is possible that even with complete success in achieving the CCAP annual reduction goals, actual VMT will exceed the annual VMT levels set to be achieved under CCAP.

Because of the actual implementation dates of the program, it is assumed that the CCAP does not show a VMT deviation from the CCAP Baseline until 1995 (program implementation did not begin until 1995). Between 1995 and 2000, a constant annual VMT growth rate of 2.03 percent is assumed under this scenario. Table 4-4 summarizes some of the information, such as annual VMT growth rates and annual changes in VMT and MMTce. In addition, the estimated annual reduction for the Transportation Partners program from 1995-2000 as compared to the overall Action Plan is presented in Table 4-4.

⁶ Due to limited data, the 1997 FHWA data point is an estimate that assumes that light duty VMT growth from 1996 to 1997 is the same as the average annual rate from 1990 to 1996.

⁷ The CCAP considers light-duty VMT to come from vehicles weighing less than 8,500 lbs. Because the FHWA data is not broken down by vehicle weight, the “71 percent assumption” is made. Using 71 percent of the six-tire, two-axle trucks allows the 1990 VMT for the CCAP baseline and the FHWA statistics to be equal. This 71 percent is used as a constant for subsequent FHWA data points in order to assume the same vehicle mix.

Table 4-4. Projected and Actual VMT Comparison

	Average Annual VMT Growth	Change in Annual VMT Growth from CCAP Baseline⁸	Change in Annual VMT from CCAP Baseline (in billions)	MMTce Corresponding with Change in Annual VMT
CCAP Baseline (1990-1995)	2.03%	-	-	-
Actual FHWA Data (1990-1996)	2.32%	+0.25%	+6	+0.87
CCAP Baseline (1996-2000)	2.31%	-	-	-
CCAP Baseline plus all CCAP projected reductions (1996-2000)	2.03%	-0.28%	-7.5	-1.1
CCAP Baseline plus projected reductions from Partners (1996)	2.23%	-0.08%	-1.8	-0.26
Reported Data from Partners (1996)	2.31% - 2.29%	-0.003% - -0.02%	-0.296 - -0.692	-0.043 - -0.100
CCAP Baseline plus projected reductions from Partners (1997)	2.22%	-0.09%	-3.7	-0.54
Reported Data from Partners (1997)	2.27%	-0.04%	-1.25	-0.19

Relying on the earlier estimates of VMT reductions, in 1997 Transportation Partners has reduced approximately 1.25 billion VMT or approximately 0.19 MMTce. While Transportation Partners has thus had noticeable success in reducing VMT, there needs to be a substantial increase in program pace over the next three years if the program is to reach the goals established in the CCAP. ❖

⁸ Comparison of actual and CCAP included 1990-1996 for CCAP baseline and FHWA data.



Chapter 5 : Additional Program Results

The efforts of the Transportation Partners program to reduce vehicle travel have proven to yield a variety of important benefits beyond greenhouse gas reductions. Not only is the program reducing the global threat of climate change, but our partners are also helping to ensure environmental protection and promote economic development in their own communities. In many cases, the local benefits are a primary motivation for our Partners. This section describes how VMT reduction strategies can reduce air, water, and noise pollution, improve public health, and contribute to a high quality of life.

Air Quality

One of the most widely recognized benefits of vehicle travel reduction is the associated reduction in air pollutant emissions. Automobiles, trucks, and other motor vehicles emit pollution through fossil fuel combustion (exhaust) and fuel evaporation during travel, storage, and refueling. Many of these emissions are harmful to human health, and have adverse effects on vegetation, materials, and visibility. As a result, EPA has established National Ambient Air Quality Standards (NAAQS) for six pollutants (called criteria pollutants) to protect public health and welfare:

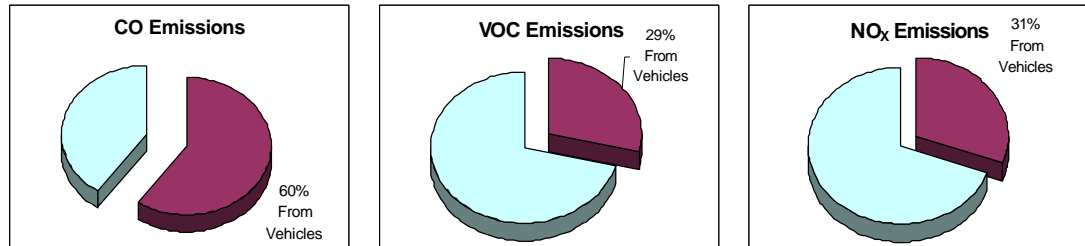
- ✧ carbon monoxide (CO)
- ✧ nitrogen dioxide (NO₂)
- ✧ ozone (O₃)
- ✧ sulfur dioxide (SO₂)
- ✧ particulate matter less than or equal to 10 micrometers in diameter (PM-10)
- ✧ lead (Pb)

Vehicles directly emit each of these pollutants, with the exception of ozone (O₃), which is created when sunlight reacts with nitrogen oxides (NO_x) and volatile organic compounds (VOC) in the air.

While cars and trucks operate much more cleanly today than they did thirty years ago due to cleaner fuels and improvements in vehicle emissions control systems, air pollution continues to be a problem in many parts of the country. Based on 1995 monitoring data, approximately 127 million people lived in counties that had not attained the NAAQS for at least one criteria pollutant.¹ Motor vehicles emit a large portion of nationwide emissions of CO, NO_x, and VOC, as shown in the following figure.

¹ U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards. *National Air Quality and Emission Trends Report, 1994*, (EPA-454/R-95-014. 007) Research Triangle Park, NC, October 1995.

Figure 5-1
Motor Vehicle Share of Air Pollutants Emitted, 1996



Note: percentages are based on anthropogenic emissions, except for PM-10, which includes natural emissions.
Source: U.S. Environmental Protection Agency. *National Air Pollutant Emissions Trends, 1900-1996*. 1997

Increasing VMT threatens to reverse positive trends in per vehicle emission reduction. EPA predicts that this will happen for carbon monoxide, sulfur dioxide, and particulate matter (PM-10) by 2010. Of all pollutants, ground-level ozone associated with smog has proven to be the most complex, difficult to control, and pervasive air quality problem associated with vehicle travel.

Partners in Action

The City of Milwaukee, Wisconsin participates in a number of programs that reduce VMT. The city has a transit subsidy program in which 2060 employees participate. The Department of Public Works is responsible for the city's network of bicycle paths and routes as well as on street bicycle racks and lockers. There are an estimated 100,000 users of the bicycle routes and paths annually. An estimated 300,000 VMT is reduced by the program annually, resulting in a 43 MTce reduction.

Health Effects

Air pollution adversely affects human health, particularly for children and the elderly. Carbon monoxide is readily absorbed into the bloodstream, where it can reduce oxygen delivery. Exposure to high levels of CO can decrease visual perception, work capacity, manual dexterity, learning ability, and performance of complex tasks. NO₂ can irritate the lungs and lower resistance to respiratory infections such as influenza. Continued or frequent exposure to concentrations higher than those normally found in ambient air may cause increased incidence of acute respiratory disease in children.

Ground level ozone damages lung tissue, reduces lung function, and sensitizes the lungs to other irritants. Ozone affects people with impaired respiratory systems such as asthmatics, and also affects healthy adults and children as well. Decreases in lung function are often accompanied by symptoms of chest pain, coughing, nausea, and pulmonary congestion. Since many of the most recent studies suggest that negative health and welfare effects occur at levels lower than the current ambient ozone standard for ozone, EPA has revised the NAAQS for ozone.

Particulate matter also contributes to smog and has been identified as having negative effects on breathing and respiratory systems, aggravation of existing respiratory and cardiovascular disease, damage to lung tissue, alterations in the body's defense mechanisms, carcinogenesis, and premature death. The vast majority of PM-10 associated with motor vehicle travel comes from road dust kicked up from roadways. There is strong evidence that the smallest particles under 2.5 microns in diameter are the most harmful to human health. The smaller, "fine" particles, which come more from vehicle exhaust than the larger particles, penetrate more deeply into the lungs than the coarser PM-10 particles, and as a result are most likely to contribute to premature mortality and other health effects. As a result, EPA has developed a new standard for particulate matter under 2.5 micron in diameter.

"We chose this work not only to protect the climate. We know that we are creating local benefits, too, such as reduced parking congestion, improved pedestrian safety, increased opportunities for economic development, and an enhanced natural environment." *City Councilmember Martha Abbot, Burlington, VT*

Reductions in vehicle travel are expected to improve health significantly. EPA's studies suggest that meeting the new standards for ozone and particulate matter will produce many positive health effects.²

- ✧ Approximately 15,000 lives each year will be saved, especially among the elderly and those with existing heart and lung diseases;
- ✧ The risk of asthma aggravation will be drastically reduced;
- ✧ Aggravated coughing and difficult breathing will be relieved for thousands of children each year;
- ✧ Cases of significant decreases in children's lung functions (decreases of 15% to over 20%) will be reduced by approximately 1 million incidences each year; and
- ✧ Symptoms associated with chronic bronchitis will be reduced by tens of thousands of cases each year.

Effects to Agriculture, Materials, and Visibility

Air pollution is also associated with adverse effects on crops, building materials, and visibility. Ambient ozone is responsible for potentially billions of dollars in agricultural crop damage in the U.S. each year. Ozone also damages the foliage of trees and other vegetation, and can adversely affect certain habitats that are home to endangered as well as other species. Particulate matter in the form of dust, dirt, and smoke contributes to smog and causes damage to materials. It is also a major cause of visibility impairment in many parts of the U.S.

² U.S. EPA, Office of Air and Radiation. "Fact Sheet: EPA's Revised Particulate Matter Standards." July 17, 1997; "Fact Sheet: Health and Environmental Effects of Particulate Matter." July 17, 1997; "Fact Sheet: Health and Environmental Effects of Ground-Level Ozone." July 17, 1997.

Air Toxics

Motor vehicles also emit hazardous air pollutants (HAPs), referred to as air toxics. In particular, motor vehicles are responsible for a large portion of emissions of certain air toxics, such as benzene, butadiene, and formaldehyde. EPA estimates that in 1990, motor vehicles were responsible for the following:

- ◇ 45 percent of benzene emissions;
- ◇ 41 percent of butadiene emissions
- ◇ 37 percent of formaldehyde emissions.

Noise

Motor vehicle travel creates noise from engine operations, pavement-wheel contact, and aerodynamic effects. As a result, increased vehicle travel is likely to cause increased noise disturbances to communities. Because noise diminishes with distance from its source, the most serious transportation-related noise problems are experienced along major transportation corridors. The passage of the federal Noise Control Act of 1972 marked the recognition of the problem as a major detriment to urban living. It is estimated that in 1980, 37 percent of the U.S. population was exposed to noise levels from road use great enough to cause annoyance—defined as Leq greater than 55 dB (A).³ Prolonged exposure to noise can have a range of health effects, contributing to anxiety, depression, and insomnia.

Water Quality

Motor vehicle travel has a variety of effects on water quality. Runoff from roads and parking lots often contains high concentrations of toxic metals, suspended solids, and hydrocarbons. These pollutants, in turn, alter the composition of surface and groundwater. Oil and fuel leaks from a variety of sources, including tankers, motor vehicles, and above- and below-ground fuel storage tanks, also damage water quality.

As a result, reductions in vehicle travel would be expected to reduce pollutant loads in stormwater runoff. Reduced fuel consumption reduces the need for fuel transport and storage, which in turn should reduce these risks over the long-term. Transportation infrastructure development and maintenance also causes changes in a watershed. To the extent that programs reduce the need for additional highway capacity, they will also yield various benefits since:

³ Leq stands for Equivalent Sound Level and is a measure of a steady sound that has the same sound energy as an amplitude-varying sound of the same duration. Sound pressure levels are expressed in decibels (dB). Source: Organization for Economic Cooperation and Development. *Indicators for the Integration of Environmental Concerns into Transport Policies*. OECD Publications, 1993.

Roadways increase impervious surfaces and alter natural drainage patterns. Rather than allowing plant cover to absorb rainwater, water on roadways is typically drained off and discharged to receiving waters. As a result, the volume and rate of runoff is increased dramatically, resulting in decreased stream stability and increased sedimentation.

High volumes of runoff from hot paved surfaces may cause a rapid increase in surface water temperatures, which can harm fish and other aquatic life. Loss of ground water recharge can reduce residential and municipal water supplies and threaten the health of local wetlands that rely on groundwater to maintain wet conditions during dry periods.

In cold climates, the application of road salts and other de-icing chemicals in winter adversely affects roadside vegetation, soil structure, aquatic life, and drinking water.

Habitat and Ecosystems

Vehicle travel demand indirectly affects habitat and ecosystems to the extent that it requires additional road capacity. In the U.S., paved and unpaved roads occupy 10.9 million acres of land, an area equal to the size of Maryland and Delaware combined. Highways and roadway infrastructure cause modifications in vegetation, the creation of microclimates, and changes in habitat. Slight changes in moisture content of an area can cause the migration or disappearance of some species, and other species within the ecosystem may be affected.

Even where roads do not take up a lot of land area, roadways often fragment wildlife habitats by creating barriers between previously joined areas. Fragmentation interferes with wildlife travel, decreases habitat size, and reduces interaction with other wildlife communities.

Roadside vegetation management can also adversely affect habitats and plant life. The use of non-native grasses in median strips has led to invasion of non-native species that have in some cases overwhelmed local species of grasses and plants. Use of pesticides and herbicides also can have negative effects on habitat and water quality.

Other Indirect Effects

Over the long-term, land use changes and transportation investments that reduce vehicle-dependency should reduce demand for personal vehicles. Motor vehicle and parts manufacture are associated with releases of over 114.5 million pounds of toxic chemicals each year, mostly solvents used to clean equipment and metal parts and used in many coatings and finishings. Solid waste generated from the disposal of vehicles, paving, and other materials adds to landfills, contributes to air pollutant emissions if incinerated, and contaminates water systems. Old tires, lead

and acid in batteries, pavement, and used motor oil contribute to the waste stream.

Congestion Mitigation

One of the primary benefits of efforts to reduce vehicle travel is reduced traffic congestion on roadways. With increased VMT, highway congestion has increased significantly in recent years and is projected to get worse. Over 69 percent of peak-hour travel on urban interstates occurred under congested or highly congested (near stop-and-go) conditions in 1993. This congestion wastes valuable time, and also increases vehicle operating costs, fuel consumption, and air pollutant emissions.

"Thanks to the Transportation Partners program, EDF has been able to mobilize support for alternative transportation and land use policies in the Baltimore region from a diverse array of housing, economic development, civic, business and environmental groups, putting new life into the region's metropolitan planning process."
Micheal Replogle, EDF.

Improved Access

In an auto-dependent community, people without vehicles are shut out from vital parts of their community. Efforts to actively develop alternatives to single occupancy vehicles improve access for people of all ages, incomes, and abilities. Efforts to improve public transit, land use measures that provide pedestrian-friendly, mixed-use development, and innovative use of communications technologies to reduce vehicle travel can improve access to employment. Projects promoted by Transportation Partners can be an important part of many states' efforts to get welfare recipients to jobs.

Community and Economic Development

Transportation Partner's projects often come with significant local community and economic benefits. Efforts to improve the pedestrian environment and reduce vehicle travel encourage people to walk, which in turn can improve the safety and desirability of a neighborhood. By getting people out on the streets, urban areas often can support small neighborhood shops and services. Targeted efforts to promote transit-oriented development and pedestrian-oriented settings can help to revitalize communities and add to a sense of community.

Improving Stakeholder Participation

Efforts to involve the public in transportation decision-making and to raise awareness of transportation alternatives result in improved transportation systems that meet the needs of the public. Public involvement helps to raise environmental and community concerns early in a planning process, whether it be for new roads, transit services, or bicycle facilities. This in turn can help a community to develop the way it wants, with a full understanding of alternatives and consequences for quality of life.



Chapter 6 : Next Steps

This chapter includes an overview of activities planned by the Transportation Partners program in 1998, as well as a summary of the success of the program in achieving its goals.

1998 Activities

In 1998, Transportation Partners will continue to focus on recruiting new partners and maintaining its support to current program participants as well as engage in a number of other activities:

- ✧ Assist with the implementation and analysis of several Commute Choice Pilot Programs.
- ✧ Develop direct EPA-Partner agreements for use with specific projects.
- ✧ Assist with TEA 21 outreach to project partners, especially with respect to TCSP, Enhancements, CMAQ, and planning process changes.
- ✧ Target several geographic areas for focused outreach and community involvement projects.

In addition, the Principal Partners are planning a variety of activities, conferences, workshops, and events in 1998:

- ✧ **BFA** plans to convene the Pro Bike/Pro Walk 98, a biennial conference of bicycle and pedestrian activists and professionals.
- ✧ **CCAP** is planning to host two workshops as part of its new initiative, "Repositioning Transit in the Transportation Market". These meetings will bring together transportation practitioners, users, marketers and psychologists in a dialogue format to focus on making transit more attractive to a broader range of users. The first workshop will be held in June, the second in October, in Washington, DC. The Center will also publish a document entitled "Community Benchmarks for Non-Auto Dependent Growth Management". CCAP also plans to release two white papers as part of its "Repositioning Transit" project. One paper will define the concept of repositioning and what Transit operators would need to do to reposition transit services. The second paper will report on two case studies of specific elements of transit planning or operations that have increased ridership.
- ✧ **EDF** will continue to work to improve the long range planning processes in the Baltimore and New York metropolitan planning organizations.
- ✧ **ICLEI** will work to enable the testing of several types of market-based transportation demand management strategies, such as commuter choice. ICLEI's 1998 Transportation Solutions Grants also hit the streets. Ten U.S. communities are receiving direct grant funding to reduce greenhouse gas emissions from the transportation sector. The grant program is co-sponsored

"EPA's Transportation Partners program is a vital catalyst for sustainable transportation and community renewal in America." Michael Replogle, EDF.

by ICLEI, the Transportation Partner program, and the Department of Energy's Clean Cities Campaign. In addition, the fifth national Cities for Climate Protection-U.S. Workshop was held in Washington, DC on March 28-31, 1998. ICLEI is also a co-sponsor of Economic Opportunities in Sustainable Transportation Conference in Toronto Canada on July 9-12.

- ✧ **LGC** will enrich and expand the Personalized Assistance, Tools and Services (PATS) for the Transportation Partners program.
- ✧ **Renew America** is working on the third annual Way to Go! Awards. The application deadline is May 15, and winners will be selected in July. The awards will be presented in September of 1998.
- ✧ **STPP** will continue to empower communities to take advantage of the continuing programs from ISTEA and the new opportunities presented by TEA 21.

Conclusion

The Transportation Partners program made significant headway in 1997 in reducing VMT in the United States. Despite limited funding, the program reduced an estimated 1.25 billion VMT and an estimated 190,000 Mtce. During 1997, Transportation Partners also added 62 new partners and continued to provide program members with valuable technical support and guidance. Outreach activities continued to play a vital role in the program, with particular focus placed on electronic media as a means of both facilitating communication between program participants as well as providing interested parties with access to transportation and environmental expertise. While the program plans to continue to increase membership, efforts are also underway to maximize the VMT reductions from existing partners. Because many projects currently enrolled in the program have long time frames, it is anticipated that program success will increase as these projects develop. In 1997, Transportation Partners continued to lay the foundation for future VMT reductions and made significant progress in developing projects that effect change in communities across the nation.

Appendix A : Project Partners



<i>State</i>	<i>Project Partners</i>
Alabama	Citizen Action - Alabama
Alaska	Alaska Center for the Environment Anchorage Bike Trail Committee
Arizona	Arizona Center for Law in Public Interest Citizen Action - Arizona City of Phoenix Public Transit City of Tucson Maricopa Association of Governments Pima Association of Governments (PAG) Regional Public Transportation Authority The Salt River Project
Arkansas	City of Little Rock
California	Alliance for a Paving Moratorium Bank of America Berkeley Gray Panthers Bike Stations, Inc. California State University - Fresno Cathedral City City of Albany City of Anaheim City of Arroyo Grande City of Auburn City of Berkeley City of Chico City of Chula Vista City of Escalon City of Half Moon Bay City of Newman City of Oakdale City of Oakland City of Oxnard City of Pleasanton City of Reedley City of Rialto City of Richmond City of Riverside City of Sacramento City of San Buenaventura City of San Francisco City of San Jose City of Santa Barbara City of Santa Cruz City of Santa Monica City of Seal Beach City of Visalia City of Watsonville City of West Hollywood Coalition for Clean Air Council of Fresno County Governments County of Humboldt County of San Luis Obispo

<i>State</i>	<i>Project Partners</i>
	Department of General Services-Office of Fleet Administration, State of California
	Earth Island Institute
	Friends of Sunset Park
	Golden Empire Transit
	Greenbelt Alliance
	Hewlett-Packard
	Irvine Spectrum Transportation Management Association
	Kaiser Permanente, Northern California
	Labor/Community Strategy Center
	Los Angeles County
	Marin Advocates for Transit
	Nevada County
	Placer County Transportation Planning Agency (PCTPA)
	Rails-To-Trails Conservancy - California Chapter
	Regional Alliance for Transit
	Riverside County Transportation Commission
	S.E.E.J.A.
	Sacramento Metropolitan AQMD
	San Francisco Bicycle Coalition (SFBC)
	San Joaquin Valley Air Pollution Control District
	San Luis Obispo Council of Governments
	Sierra Club - California Chapter
	Sierra Club - RAFT
	Solano Transportation Authority
	Southeast Community Development Corporation
	Southern California Council on Environment & Development
	Spanish Speaking Unity Council
	The Boeing Company
	Tulare County Resource Management Agency
	TVS Consulting
Colorado	Citizens for Balanced Transportation
	City of Aspen
	City of Boulder / Go Boulder
	City and County of Denver
	Colorado PIRG
	Colorado Environmental Coalition
	Transportation Solutions
Connecticut	Citizen Action - Connecticut
	Connecticut Fund for the Environment
	Trail & Rail Action Coalition
Delaware	American Lung Association - Delaware
	City of Wilmington
	Delaware Greenways, Inc.
District of Columbia	Citizen Action - District of Columbia
	Citizen Action - Maryland
	Washington Council of Governments
Florida	1000 Friends of Florida
	Alliance for Modern Transit and Livable Communities
	Citizen Action - Florida (FCAN)
	City of Sarasota
	City of Tampa
	Florida Department of Transportation Office of Safety
	Florida Hospital
	Hillsborough County
	Orange County Planning Department
	Rails-To-Trails Conservancy - Florida Chapter

<i>State</i>	<i>Project Partners</i>
Georgia	Citizen Action - Georgia
	City of Atlanta
	DeKalb County Board of Commissioners
	Fulton County
	Georgia Department of Transportation
	Georgians for Transportation Alternatives
	Sierra Club - Georgia Chapter
Hawaii	City of Honolulu
	City and County of Honolulu
	Hawaii's 1000 Friends
Idaho	City of Sandpoint
	Idaho Bicycle Coalition
	Palouse Clearwater Environmental Institute
Illinois	American Lung Association - Illinois
	Business and Professional People for the Public Interest
	Center for Neighborhood Technology
	Chicagoland Bicycle Federation
	City of Chicago
	Environmental Law & Policy Center
	Illinois Department of Transportation
	Illinois Public Action
	Lawrence Avenue Development Corp.
	League of Illinois Bicyclists
	Neighborhood Capital Budget Group
	Rails-To-Trails Conservancy - Illinois Chapter
	Sierra Club - Illinois Chapter
Village of Oak Park	
Indiana	CARR
	City of Indianapolis
	Hoosier Environmental Council
Kansas	City of Overland Park
	Wichita-Sedgwick County Metropolitan Planning Department
Kentucky	Coalition for the Advancement of Regional Transportation (CART)
	Kentucky Department of Transportation
Maine	Greater Portland Council of Governments
	Natural Resources Council of Maine
	PACTS
	TrainRiders Northeast
Maryland	Alliance for Community Education
	American Lung Association - Maryland
	Audubon Naturalist Society - Maryland
	Campaign for Better Mobility
	Chesapeake Bay Foundation
	City of Mount Rainier
	City of Takoma Park
	Sierra Club - Maryland Chapter
Sierra Club - Potomac Chapter	
Massachusetts	Cape Cod Commission
	CARAVAN for Commuters, Inc.
	Citizen Action - Massachusetts
	Citizens Transportation Action Campaign
	City of Boston
	Conservation Law Foundation - Massachusetts
	Earth Works Transportation Action
	Smart Routes
	Walk Boston

<i>State</i>	<i>Project Partners</i>
Michigan	East Michigan Environmental Action Council
	Michigan Land Use Institute
	Rails-To-Trails Conservancy - Michigan Chapter
	WMEAC
Minnesota	City of Saint Paul
	Minnesota Department of Transportation - Commuter Information Advisors (CIA)
	Neighborhood Transportation Network
Missouri	Citizens for Modern Transit
	Creve Coeur Transportation Management Organization
	East-West Gateway Coordinating Council
	Metropolitan Energy Center
	Missouri Department of Transportation
Montana	Alternative Energy Resources Organization
	Citizens for a Better Flathead
	City of Missoula/Mountain Line
Nebraska	Citizen Action - Nebraska
Nevada	City of Reno
New Hampshire	Audubon Society of New Hampshire
New Jersey	City of Maplewood
	Commuter Check Services Corporation (CCSC)
	Meadowlink
	New Jersey Department of Transportation
	New Jersey Environmental Lobby
	New Jersey PIRG
	O'Connor Management Inc.
	Rutgers Environmental Law Clinic
STOP	
New Mexico	1000 Friends of New Mexico
	Alliance for Transportation Research Institute
	City of Albuquerque
	City of Albuquerque - Uptown Transportation Management Association
	City of Santa Fe
	Santa Fe Land Use Resource Center
New York	Banana Kelly Community Improvement Program
	City of New York
	City of Yonkers
	Cornell University -- Office of Transportation and Mail Services
	Environmental Advocates
	Ithaca-Tompkins County Transportation Council
	New York City Environmental Justice Alliance
	New York State Department of Transportation
	Scenic Hudson
	S.S. Canadian Preservation Society, Inc.
	Transportation Alternatives
	Tri-State Transportation Campaign
	West Harlem Environmental Action
North Carolina	Citizen Action - North Carolina
	City of Winston-Salem
	North Carolina Alliance for Transportation Reform
	Scenic North Carolina
	Sierra Club - North Carolina Chapter
	Southern Environmental Law Center
Ohio	Capital City Transit Coalition
	Citizen Action - Ohio
	City of Columbus

<i>State</i>	<i>Project Partners</i>
	Earth Day Coalition
	EcoCity Cleveland
	Ohio Alliance for Transportation
	Rails-To-Trails Conservancy - Ohio Chapter
	Sierra Club - Ohio Chapter
Oregon	1000 Friends of Oregon
	Audubon Naturalist Society - Portland
	Bicycle Transportation Alliance
	Citizens for Better Transit
	City of Portland
	City of Sandy
	Getting There: Sensible Transport for Corvallis
	METRO
	Oregon Association of Railway Passengers (AORTA)
	Oregon Department of Environmental Quality
	Oregon Department of Transportation
	Oregon Department of Transportation
	Oregon Environmental Council
	Pedestrian Transportation Program
	Sensible Transportation Options for People (STOP)
	Willamette Pedestrian Coalition
	WVLF
Pennsylvania	Bicycle Coalition of the Delaware Valley
	Citizen Action - Pennsylvania
	City of Philadelphia
	Clean Air Council
	Delaware Valley Association of Railway Passengers
	League of American Bicyclists
	Pennsylvania Environmental Council
	Philadelphia Trolley Coalition
	Rails-To-Trails Conservancy - Pennsylvania Chapter
	Sierra Club - Pennsylvania Chapter
	Towamencin Township
	Tri-State Citizens Council on Transportation
Rhode Island	Department of Transportation Watch
	Sierra Club - Rhode Island Chapter
South Carolina	Charleston Harbor Project
	South Carolina Coastal Conservation League
	South Carolina Department of Transportation
Tennessee	Chattanooga Area Regional Transportation Authority
	Metropolitan Transit Authority
	Tennessee Transportation Management Association
Texas	Austin Neighborhood Council
	City of Austin
	City of San Antonio
	Copell City Council
	GHASP
	People Organized in Defense of the Earth & her Resources (PODER)
	Rail Austin
	ROUTE
	Sierra Club - Lone Star Chapter
	Sierra Club - Texas Chapter
	Texas Bicycle Coalition
	Texas Transit Association
	Walk Austin
Utah	Future Moves

<i>State</i>	<i>Project Partners</i>
	Salt Lake City
	Sierra Club - University of Utah
	Utah Transit Authority
Vermont	Campus Area Transportation Management Association
	Conservation Law Foundation - Vermont
	Vermont GrassRoutes
Virginia	American Pride Properties
	Citizen Action - Virginia
	Citizens for a Quality Community
	Corridor H Alternatives - Virginia
	County of Arlington
	League of Women Voters of Loudon County
	Marymount University
	Piedmont Environmental Council
	Preservation Alliance
	Prince William County
	Sierra Club - Virginia Chapter
	Snickersville Turnpike Association/Route 50 Corridor Coalition
	Virginia Association of Rail Passengers (VARP)
	Virginia Bicycling Federation
	Washington Area Bicyclist Association
Washington	Alt-Trans
	City of Burien
	City of Olympia
	City of Seattle
	City of Yakima
	Coalition of Washington Communities
	NOWBIKE
	Proximate Commute
	Puget Sound Regional Council
	Washington Department of Transportation
West Virginia	Corridor H Alternatives - West Virginia
Wisconsin	Alliance for Future Transit
	Citizens for a Better Environment
	City of Milwaukee
	New Transportation Alliance
	Sierra Club - John Muir Chapter
Wyoming	Jackson Hole Land Trust

Appendix B : Partner Profile



Partner Profile

1. General Information

- Please feel free to attach the following information in a separate sheet.

(A) Organization Name.....

(B) Contact Name.....

(C) Contact Address

.....

(D) Contact Phone Number..... (E) Fax Number

(F) Contact Email Address.....

(G) Organization web site

(H) Please describe program in terms of:

(1)Primary Purpose

.....

(2)Target Audience

.....

(3)Desired Outcome

.....

..... (4)Data Source

.....

(5)Other Relevant Information

.....

(I) Date of Project Implementation:

(J) Location of Program:

(K) No, I would not like a US DOE 1605b form completed from this information

(L) This information may not be released except as required by the Freedom of Information Act.

II. Transit

(A) Fuel Type: Gas Diesel Natural Gas Electric Other

(B) Vehicle Type: Bus or Train (Note: Vanpools should be reported in section 3)

(C) Previous Year's Ridership:

Questions? Call us.

Catherine Preston (202)260-5447 or John Thomas (202)260-9504

U.S. Environmental Protection Agency 401 M Street, SW Mailcode 2126 Washington, DC 20460

- (D) Date of latest data collection:
- (E) This Year's Ridership:
- (F) Transit Fleet Capacity:
- (G) Cost of Project (Total)
- (H) Cost this Fiscal Year.....
- (I) Source of Funding.....
- (J) Volunteer Hours used
- (K) In kind resources donated

III. *Carpool/Vanpool/Paratransit*

- (A) Number of people participating:.....
- (B) Total number of employees in company :
- (C) Number of Drivers:.....

(D) Percent of Vehicles that are: **999%** Cars **99%** Minivans **99%** Vans

(E) Fuel Type: **9** Gas **9** Diesel **9** Natural Gas **9** Electric **9** Other

- (F) Cost of Project (Total)
- (G) Cost this Fiscal Year.....
- (H) Source of Funding
- (I) Volunteer Hours used.....
- (J) In kind resources donated.....

IV. Telecommuting

- (A) Total number of employees telecommuting
- (B) Employees telecommuting
 - 1 day per week
 - 2 days per week
 - 3 days per week
 - 4 days per week
 - 5 days per week
- (C) Total number of employees
- (D) Cost of Project (Total)
- (E) Cost this Fiscal Year
- (F) Source of Funding
- (G) Volunteer Hours used
- (H) In kind resources donated

V. Bicycle and/or Pedestrian Facilities

- (A) Facility type:
- (B) Estimated number of users (annual):
- (C) Estimated average trip length (in miles).....
- (D) Estimated percentage of users who are:

(1) Pedestrians:	99%	(2) Bicyclists:	99%
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- (E) Estimated percentage of uses which are:

(1) Commuting trips:	99%	(2) Recreational:	99%
(3) Shopping:	99%	(4) Other:	99%
- (F) Cost of Project (Total)
- (G) Cost this Fiscal Year.....
- (H) Source of Funding
- (I) Volunteer Hours used.....
- (J) In kind resources donated.....

VI. Planning and Policy Activities

Infrastructure

- (A) Planned change in highway or arterial capacity:
- (B) Planned increase in transit capacity (in terms of riders):.....
 - (1) Increase in bus capacity
 - (2) rail capacity.....
- (C) Planned change in miles of sidewalks:.....
- (D) Planned change in miles of bike lanes
- (E) Planned change in miles of trails

Land Use

- (F) Planned acreage of mixed use development: ----- +/- -----acres
- (G) Planned change in residential density: _____ +/- _____ units/per acre
- (H) Planned change in commercial/industrial density: _____ +/- _____ sq ft per acre
- (I) Planned change in acres of green space: _____ +/- _____

Parking Management

- (J) Parking Cash-Out or Transit Subsidy implemented? yes no
 - (1) Potential number of affected employees
- (K) Parking Freeze implemented? yes no
 - (1) At what level?.....
- (L) Parking maximums implemented? yes no
 - (1) At what level?.....
- (M) Parking fees changed? yes no
 - (1) At what level?.....

VII. Advocacy

(A) Type of measure which you are advocating (check all that apply):

- | | | | |
|-------------------|---|------------------------|---|
| (1) Transit | 9 | (2) Carpool/Vanpool | 9 |
| (3) Telecommuting | 9 | (4) Bicycling | 9 |
| (5) Walking | 9 | (6) Infrastructure | 9 |
| (7) Land Use | 9 | (8) Parking Management | 9 |

(B) Type of advocacy:

- | | | | |
|---------------|---|--------------------------|---|
| (1) Technical | 9 | (2) Legal | 9 |
| (3) Policy | 9 | (4) Grassroots/Education | 9 |

(C) Number of members:

(D) Other organizations with whom you are working:.....

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