FEDERAL AGENCY

transportation management program

handbook

General Services Administration

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1.1 introduction

Section 1 – Introduction & Overview

SECTION 1 – INTRODUCTION & OVERVIEW

1.1   INTRODUCTION

1.1.1   Purpose

This handbook provides Federal agencies in the National Capital Region (NCR)* with procedures and guidelines on how to prepare a Transportation Management Program (TMP). The preparation of TMPs is one tool in the overall field of Travel Demand Management (TDM). The general goal of TDM is to reduce the demand on existing transportation resources. The specific goal of a TMP is to reduce the number of vehicle trips to Federal agency worksites. Federal air quality regulations, local trip reduction ordinances, and National Capital Planning Commission master planning requirements require trip reductions.

The purpose of this handbook is to:

• Define Travel Demand Management in general, why it is important in the National Capital Region, and demonstrate how a TMP can benefit a Federal agency.

• Describe specific TDM strategies and programs available in local jurisdictions.

• Describe specific TDM strategies available to Federal agencies.

• Provide a step by step process on how to design and implement a TMP.

• Identify resources and contacts available to aid TMP efforts.

The need for a handbook initially evolved from initiatives sponsored by the General Services Administration (GSA), Metropolitan Washington Council of Governments (MWCOG), and the National Capital Planning Commission (NCPC). This revised handbook is a result of recommendations from the Congestion and Mobility Summit for the National Capital Region held in 1998 and the deadlines established for emission reduction as set forth under the Clean Air Act Amendments of 1990.

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* Jurisdictions within the NCR include: Arlington, Loudoun, Prince William and Fairfax Counties, and the City of Alexandria in Virginia; Prince George's and Montgomery Counties in Maryland; and the District of Columbia.

This Handbook is intended for the following personnel who have TMP planning, administration and/or implementation roles and responsibilities:

- Facility Managers
- Directors of Human Resources
- Employee Transportation Coordinators (ETC)
- Directors of Labor Relations
- Union Representatives

1.1.2 Organization of the Handbook

This handbook is intended to be easy to use and readily available. For these reasons, the handbook is designed as a tabbed three-ring binder to allow the flexibility of adding sections or modifying the handbook as programs and services are changed. This handbook is also published electronically and is available on the Internet. Links are provided from the homepages of NCPC (www.ncpc.gov), MWCOG (www.mwcog.org), and GSA (http://ncr.gsa.gov).

In order to be concise, some topics in this handbook are addressed briefly because more extensive resources are readily available. The Appendix lists additional sources of information related to specific municipalities, and identifies outside resources which can be used in the preparation and implementation of a TMP.

This handbook is organized into the following five sections:

- Section 1 provides an introduction to this handbook and an overview of the transportation management planning process for facility managers and employee transportation coordinators (ETCs).

- Section 2 discusses the roles and responsibilities of parties involved in the TMP process.

- Section 3 describes the different strategies and tools available in the development and implementation of a TMP.

- Section 4 provides step by step guidance to the Employee Transportation Coordinator or manager in the preparation of a TMP.

- The Appendix contains reference material, including local ordinances, sample worksheets, a glossary, a bibliography, and a listing of TMP resources and contacts in the NCR.

Federal agencies are encouraged to supplement this handbook and the agency's resources by contacting local and regional officials responsible for TMP development, implementation, and monitoring. There are a wide range of resources available to employers, including Federal agencies, in the Washington

metropolitan area. There is also a genuine desire on the part of local governments to work with the Federal government in meeting the challenges and requirements of Travel Demand Management to reduce congestion in the Washington Metropolitan Region.

1.1.3 Background

Congress created NCPC to serve as the central Federal planning agency for Federal activities and interests in the National Capital Region. One of NCPC's principal responsibilities is to coordinate development activities of Federal agencies in the region. In 1991, NCPC adopted project plan submission guidelines that include the requirement that a TMP be prepared for projects meeting specific criteria. In accordance with these guidelines, a TMP is required for any project that will increase the employment level on a worksite to 500 or more employees (including existing and proposed employees). Over and above this requirement, sponsoring agencies are encouraged to prepare TMPs for projects that will increase employment levels to 100 or more employees.

 NCPC guidelines suggest that the TMP should incorporate the following:

• stated goals for trip reduction, mode split, and vehicle occupancy;

• strategies to minimize vehicle work trips and discourage single-occupant travel during peak and off-peak hours;

• measures to monitor achievement of goals and to adjust trip reduction strategies, as needed;

• a description of existing and projected peak hour traffic by mode and a summary of existing and proposed parking by type of assignment (official cars, vanpools, carpools, single-occupant vehicles, handicapped persons, visitors, etc.);

• an evaluation of projected transportation impacts and description of proposed mitigation measures;

• a summary of the relationship of the TMP provisions to transportation management requirements of local, state, and regional agencies, including provisions for working cooperatively with affected agencies to address these requirements.

NCPC is not alone in identifying the need for addressing TMP requirements and responsibilities. Executive Order 12191, dated February 1, 1980, delegated to GSA the primary responsibility for program development, implementation and administration of the Federal Facility Ridesharing Program including a nationwide system of Federal facility Employee Transportation Coordinators.

As part of GSA's continuing role in supporting the network of Federal agency ETCs, GSA and MWCOG established a Memorandum of Understanding (MOU) to cooperate in the training of Federal ETCs in the NCR, provide various marketing materials and assistance to these ETCs, and link the Federal ETCs into regional services on an as-needed basis. MWCOG has taken a role in this, with the publication, distribution, and coordination of several TDM activities. This handbook is a continuation of these combined efforts.

This handbook and the workshop at which this handbook will be initially distributed are one result of a letter authored by Secretary of Transportation Rodney Slater and NCPC director Harvey Gantt. The letter is included in the Summary Report of the Congestion and Mobility Summit held in May of 1998 and was sent to Federal agencies in the Metropolitan Washington area. It urges that agencies "actively support measures…to reduce the federal contribution to gridlock and pollution…" and sets forth an invitation to the April 29,1999 workshop "where we will discuss the ways these management tools can be applied to improve transportation strategies at your agency's worksites." The letter specifically points out the benefits of Transportation Management Programs as an "important first step in assessing current agency programs and developing new transportation strategies." A copy of this letter is included in the appendix of this handbook.

1.1.4 The Challenges: Traffic Congestion & Air Pollution

For the Washington metropolitan area, automobile use in general and, in particular, use of single occupant vehicles (SOVs) in the morning and evening rush hours, should be discouraged in the future because of the impact of commuter travel on traffic congestion and air quality.

Some facts and figures relating to increased growth in the region and the subsequent growth in vehicle trips, traffic, delays, and pollution are as follows:

- Between 1990 and 2020, the region is expected to gain approximately 56,000 people annually; by 2020, the region's population is projected to reach 5.6 million, 43% more residents than in 1990.

- The majority of growth will occur outside the Beltway, in areas with limited road capacities and public transportation services.

- The number of trips made daily by Washington residents is expected to grow by more than 65% between 1990 and 2020, and the number of miles driven will increase by more than 75%. At the same time, improvements in the current regional long range transportation plan provide for only a 23% increase in the region's highway system and very little expansion of the transit system during the same period.

- Two out of three daily trips in 2020 are expected to be suburb-to-suburb travel, while highway infrastructure is oriented largely to the central jurisdictions. These commutes are more often than not SOV trips, as there are fewer transportation options in suburban areas.

- The use of alternative modes of commuting, such as transit and ridesharing, has declined as a percentage of travel. Nationally, carpooling has declined, as has transit use.

Each of the trends identified above points toward continued expansion of commuting travel by private vehicle. These travel trends have productivity and quality of life implications for all employers and commuters.

According to MWCOG, if existing development trends continue and no highway improvements are made beyond those currently under construction or programmed, the following transportation impacts in the NCR region would likely occur:

- Average travel speed on highways during peak periods would drop, thereby significantly increasing travel times. Commuters could spend over 90 extra hours per year commuting to and from work. Multiply this "lost" time by the number of employees, and the productivity loss is substantial;

- Declining rush-hour speeds would result in longer morning and evening travel periods;

- The significant majority of all peak-period auto travel would occur in stop-and-go traffic, with major delays happening routinely; and

- A substantial percentage of the regional roadway network would operate at an unacceptable level of congestion during morning and evening rush hours.

Increases in traffic volumes, distances, and delays contribute to other problems, such as air pollution. How does vehicle operation affect pollution? Ozone, the prime ingredient in smog, is formed when gases in motor vehicle exhaust react with oxygen in the air. As more trips are made and as trips become longer, higher emission levels result, causing an increase in ozone and smog.

Evidence is mounting that young people raised in heavily polluted areas are losing lung capacity faster than young people from less polluted areas. The implications of lifetime exposure to polluted air include greater suffering from respiratory infections, such as colds, croup, and asthma attacks from exposure to air pollution.

In summary, traffic congestion and air pollution problems pose continued, significant challenges ahead for the nation and the NCR, in particular. Eliminating the growth in population and workforce is an improbable goal. However, using policies and strategies to mitigate the growth in traffic by focusing on more efficient movement of people and goods, is an achievable goal. One of the fundamental strategies for

meeting these challenges requires a sharing of responsibilities: employees must make an effort to reduce their SOV trips and employers must make alternative travel modes more convenient.

1.1.5 The TMP as Part of the Solution

A TMP offers a set of strategies to reduce congestion and pollution. The success of a TMP requires actions to be applied. If commuters are presented with alternatives offering equal benefits to driving alone, commuting behavior may change. Changing commuter behavior and commuting patterns can significantly reduce vehicle trips and ultimately alleviates congestion and improves air quality. TMPs are an important and effective tool in meeting these goals.

1.2 overview

Section 1 – Introduction & Overview

1.2   OVERVIEW

1.2.1   What is a Transportation Management Program?

A Transportation Management Program (TMP) is an employer's active program to foster more efficient employee commuting patterns. The plan includes specific strategies to encourage change in employee travel modes, trip timing, frequency and length, and travel routes so as to reduce traffic congestion and improve air quality.

1.2.2   What are the Benefits of a Transportation Management Program?

TMPs offer the following potential benefits to the Federal Agency:

• Reduces tardiness and absenteeism.

• Expands the regional area from which to draw more qualified candidates.

• Contributes to the acheivement of local governments' trip reduction ordinances as required under the Clean Air Act where such ordinances are in force.

• The cost of preparing and implementing a TMP is low; most of the activities focus on low cost marketing efforts and training.

• Offers a low cost method of reducing turnover due to a relocation from an area with high levels of transit service to an area with low levels of transit service.

• Reduces traffic congestion at and around Federal facilities.

• Provides alternatives and assists employees who must make longer commutes or switch travel modes when relocating to a new or existing site.

• Reduces demand for parking spaces.

• Shows the Federal agency is concerned about reducing traffic.

• Improves regional air quality.

• Conserves energy.

1.2.3   What is Included in a TMP?

The overall process follows a plan , implement , check , and act cycle. The four steps of the cycle are as follows: the Federal agency plans a change to its employee transportation policies and programs to comply with particular regulations or agency needs. The program is implemented and the Federal agency checks the results. Based on the results of the evaluation, the Federal agency acts either to adopt

changes or to begin the cycle again based on new information gleaned from the evaluation.

Details of how to accomplish the four steps are provided in Sections 3 and 4. They are summarized here:

(1)   Program Initiation

To begin the preparation of a TMP, the Federal agency must define the mobility problem. This definition includes a summary of the work location's existing transportation facilities, programs, and resources. This definition is necessary in order to develop initial goals.

As a next step, specific performance objectives, such as increasing the average number of people per vehicle, reducing the agencies contribution to the regional VMT, or reducing the number of trips during rush hour, must be established. This objective may be set by local or regional ordinances. Setting realistic objectives often requires a Federal Agency to conduct a baseline survey of employees existing commuting patterns to establish a realistic starting point. This information can then be used to evaluate the effectiveness of various programs.

(2)   Selecting TDM Strategies

There are numerous strategies, tactics, and services a Federal agency can utilize in the preparation and implementation of a TMP.

The following list contains the possible components of an agency's TMP. These are described in more detail in Section 3:

- Parking Management
- Carpooling
- Ridematching
- Vanpooling
- Transit Services
- Subsidies
- Travel Allowance
- Guaranteed Ride Home
- Bicycling/Walking
- Telecommuting
- Alternate Work Schedules
- Commuter Centers

Regional and local efforts often augment these strategies initiated by employers. Examples include the provision of ridematching services and construction of HOV lanes. Agencies can also make use of MWCOG's Commuter Connections Program, which includes ridematching and Guaranteed Ride Home programs, among other services.

By providing a menu of TMP options to employers, local governments allow for flexibility and foster creativity in complying with objectives. The reluctance to prescribe specific actions for all worksites is due to the diverse nature of each worksite's operating environment and business requirements.

The TDM field is not sufficiently developed to predict outcomes with a high degree of certainty, unless specific market research particular to that location is conducted. Mixes of strategies and pricing levels can have dramatically different results in different combinations and locations. This reinforces the need for an iterative TMP process.

(3)   Implementing a TMP

To facilitate the implementation of selected strategies, a work plan of each service or product to be offered is be prepared. This work plan should contain the following:

- Strategy Description/Objective
- Identification of transportation mode(s) impacted by strategy
- Description of current and forecasted levels of participation
- Marketing Plan
- Performance measures and monitoring procedures
- Budget
- Timetable
- Responsibilities and staff time allocations
- Priorities

(4)   Monitoring a TMP

Monitoring the progress of the TMP is crucial to improving performance and productivity and controlling costs. A successful evaluation will use procedures that determine one or more of the following:

- The extent to which the program has achieved its stated objectives (e.g., increases in average number of persons per vehicle).

- The extent to which the accomplishment of the objectives can be attributed to the TMP (direct and indirect effects).

- Degree of consistency of program implementation to plan (relationship of planned activities to actual activities).

- The relative effectiveness of different strategies (which ones worked, which did not, how well).

2.1 the federal government role

Section 2 – Roles & Responsibilities

SECTION 2 – ROLES & RESPONSIBILITIES

TMPs assist Federal agencies in making more efficient use of the region's transportation system by changing commuter behavior at individual worksites. There are numerous entities at each worksite that contribute to the success of a TMP. To begin to design and implement a TMP, the Federal agency needs two key ingredients: strong management support and a motivated, enthusiastic Employee Transportation Coordinator.

2.1 THE FEDERAL GOVERNMENT ROLE

2.1.1 The Roles And Responsibilities Of The Federal Agency

How an employee chooses to commute is based on employment policies as well as other factors, such as out-of-pocket costs, convenience, reliability and safety. Employers influence employee behavior with certain policies. These are described in this section of the handbook below. Adjustments to these policies contribute to minimizing vehicle work trips and discouraging single-occupant travel during peak hours.

2.1.1.1 *Federal Agency Policies Affecting Mode Choice Decisions*

Parking Policies

Federal agency parking policies can be used as either an incentive or disincentive. "Free" parking or heavily subsidized parking supports driving alone among employees. However, market rate pricing can have a dramatic impact on mode choice. To support ridesharing, Federal agencies are encouraged to provide preferential parking areas for carpools and vanpools.

Another parking policy is the assignment of limited parking spaces. For example, vanpools and carpools could receive top priority in assignment of parking privileges. Assignment of spaces close to the entrance of a worksite for carpools and vanpools is a low cost incentive.

Work Hours Policies

Another influence on employee behavior is the agency's work hours policy and practices. The scheduling of last-minute, or late in the day, meetings places a burden on employees who must meet a bus or carpool. While a common perception is that ridesharers of all kinds are "clock watchers," employers have found that increased carpool activity helps reduce tardiness and absenteeism.

Alternative work schedule programs such as flextime, staggered work hours, compressed work weeks and telecommuting help increase the flexibility of

individuals in meeting work schedules. They also may help employees in meeting transit schedules and forming carpools.

Unscheduled overtime requirements can also place a burden on ridesharers. However, more TMPs now include Guaranteed Ride Home (GRH) programs as low cost "safety valves" for these situations. GRH programs are described in more detail in Sections 3 and 4. Agencies in the NCR may not need to initiate a GRH as MWCOG currently provides a comprehensive free program.

Telecommuting Policy

If an employee has the option to work from home or from an alternative worksite location, such as a satellite office or Telework center, his or her commute decisions may be altered.

2.1.1.2 What is Required of the Federal Agency?

While each Federal agency is encouraged to use its existing role and responsibilities to affect how employees choose to commute, some agencies are required to submit a TMP. NCPC requires the following process be followed for Federal agencies undertaking any project that will increase the employment level on a worksite to 500 or more employees (including existing and proposed employees):

*   Consult at an early date with the NCPC staff about applicable NCPC policies and guidelines and arrange for early consultation with local governments and regional agencies.

*   Consult with affected local planning and transportation officials to identify what their current plans and programs are, as well as the mitigation and/or management techniques that may be necessary, and related implementation commitments that may be required.

*   Each agency should prepare a Transportation Management Program related to its proposed action. (If GSA is undertaking a construction or other applicable program for an agency, GSA can assist the agency in preparing this program).

*   Submit the TMP as part of the agency's planning submission for NCPC review and regional referral to the affected local, regional and state agencies.

*   Be prepared to make the necessary commitments to implement the TMP, including participation in the funding of construction of off-site improvements.

2.1.1.3 What are the "Necessary Commitments"?

The Federal agencies' "necessary commitments" to TMP implementation (referred to above) may include some or all of the following:

- Develop a written policy statement that an effective TMP is consistent with the agency's mission.

- Provide decision making authority to the Employee Transportation Coordinator.

- Allocate funds in the budget to provide the ETC the means to conduct employee surveys; hold information meetings for employees; design and distribute marketing materials; and actively participate in local, regional and national continuing education and training efforts to foster professional development in travel demand management efforts.

- Adopt policies that:

  - Encourage employees to use alternatives to driving alone to and from work.

  - Encourage participation in joint public-private initiatives for managing traffic concerns, such as transportation management associations (TMAs) and regional trip reduction programs.

  - Move toward greater flexibility in use of agency funds and revenues to permit investment in facilities and services in alternative modes that offer the most cost-effective solutions, such as the reinvestment of employee parking revenues into traffic mitigation projects.

  - Explore incentives for cost-effective use of the agency's transportation assets, such as parking pricing differentials for SOVs, carpools and vanpools.

  - Encourage effective management and use of transportation assets by requiring the evaluation of alternative TDM options and management techniques that enhance performance and capacity of parking and impacted roadways.

2.1.1.4   Taking the First Steps

The common thread in all successful TMPs is a motivated, enthusiastic Employee Transportation Coordinator. One of the first steps towards the preparation and implementation of a TMP is to designate the best person to carry out the program and provide them adequate support.

2.1.2 The Roles and Responsibilities of the Employee Transportation Coordinator (ETC)

The ETC's specific responsibilities are defined by the needs of the community, agency, and employee. The needs of the community and agency require changing commuter behavior. These needs cannot be effectively met until the ETC first succeeds in satisfying the needs of the individual employee.

Actions of a typical ETC could include:

- Investigate the employee commuting practices, develop a database, and determine the potential for change.

- Select goals and objectives to reduce employee commute trips, plan appropriate strategies and the tasks for carrying them out, develop a timetable, and establish a budget.

- Actively solicit support from Federal agency management, other departments, and key individuals within the Federal agency.

- Advertise and market the programs to employees in order to create awareness and interest in participating in alternative commute options.

- Create conditions and incentives that will encourage employees to change their commuting patterns.

- Personally facilitate the formation and utilization of commute options.

- Track and report changes in commuting patterns.

The role of an Employee Transportation Coordinator is multi-faceted. The ETC must be one part insightful planner, one part effective communicator, one part consummate customer service representative, and one part proficient transportation analyst. The ETC will find that many of these skills will be called upon as the Federal agency proceeds with the development and implementation of the TMP.

Other highly desirable qualities sought in ETCs include the desire for variety in their work and a capability to adapt quickly to change. In developing a new TMP or expanding an existing one, the roles the ETC plays will change with each stage of its development. Fortunately, the Federal agency and the ETC have other sources of outside help including GSA, NCPC, MWCOG, local transit and ridesharing agencies, and others. A sample job description for an ETC is included in Appendix A-1.

2.1.3 The Roles & Responsibilities Of GSA, NCPC, & MWCOG

To help the ETC and the Federal agency with the development and implementation of a Transportation Management Program, GSA, NCPC, and MWCOG (and its member jurisdictions) continue to play integral roles. These are briefly described below.

2.1.3.1 GSA

GSA's role in this process is to assist Federal agencies in program development, implementation, and administration of TMPs. GSA will directly assist in developing a TMP if an agency's construction project is being managed, designed or funded through GSA. In addition to providing TMP support, GSA also performs the following functions:

- Coordinates ridesharing efforts with MWCOG on behalf of Federal agencies. The coordination includes publishing a newsletter for Federal ETCs; printing ridesharing promotional information for Federal employees; providing standing displays for marketing materials; establishing links to MWCOG's Commuter Connections ridematching system when required; and coordinating commuter fairs with MWCOG and local TMP personnel.

- GSA, in cooperation with MWCOG, sponsors training sessions for Federal ETCs. In addition to learning new marketing techniques and keeping abreast of changes, the sessions offer the opportunity to meet and exchange ideas with ETCs from other Federal agencies.

- GSA has the authority to regulate and police parking facilities or may delegate the authority. GSA's current policy is to delegate the responsibility to the individual agencies.

GSA's policy regarding the assignment of parking spaces are provided in the Federal Property Management Regulations (FPMR). Agencies are directed to assign spaces in the following order of priority:

1. Official Needs
2. Handicapped
3. Executive personnel and persons who work unusual hours
4. Vanpools and carpools
5. Persons who use their private vehicle regularly for Government business
6. Other employees

In addition to the assignment of parking spaces, the Federal regulations address the issue of pricing. Title 40 U.S.C., Section 490(k) requires that parking revenues in excess of the actual operating and maintenance costs be returned to the Treasury as miscellaneous receipts. Unfortunately, this effectively prohibits the use of parking revenues to offset other TMP strategies such as transit subsidies.

GSA is also charged with running and maintaining a Telework center program, providing satellite work centers for Federal employees.

2.1.3.2   NCPC

The responsibilities of NCPC include approving plans for new Federal buildings in the District of Columbia and reviewing plans for Federal buildings and installations in the NCR including master plans. For any project in the NCR that will increase the employment level on a worksite to 500 or more employees, the NCPC approval process requires the submission of a TMP. Furthermore, federal agencies are encouraged by NCPC to submit such plans for projects that will increase employment levels to 100 or more employees.

2.1.3.3   MWCOG

MWCOG is the regional planning body whose responsibilities include coordinating transportation planning and air quality planning of the various local and state governments within the NCR into comprehensive and cohesive regional strategies to common problems. The commuter program, Commuter Connections, is operated by MWCOG staff.

The key components of the Commuter Connections Program are as follows:

- Overall implementation of the regional Guaranteed Ride Home program.

- Overall implementation of a regional ridematching service.

- Overall administration and employer outreach assistance through the Employer Outreach Program which includes Employer Outreach for Bicycling.

- Providing commuter assistance through the Commuter Operations Center

- Assistance for the establishment of employer telecommuting programs and Telework centers, through the Metropolitan Washington Telework Resources Center.

- Enhanced transit, telecenter, park & ride information, bicycling and full service travel information through the Commuter Connections software, web site, and nine information kiosks, under the Integrated Ridesharing project.

- Assistance on voluntary commuting actions that can be taken by employers and the general public to reduce mobile source emissions, particularly on Ozone Action days.

NCPC and GSA are committed to working with MWCOG to reduce traffic congestion in the region and to meet all applicable transportation management goals. This handbook was conceived as an initial step in assisting Federal agencies in this regard and will serve as a guide in keeping agency transportation managers abreast of new requirements as they are promulgated. MWCOG's resources are significant and extensive. MWCOG should always be the first place an ETC checks in finding information and mining resources in the development and implementation of a TMP.

2.1.4   Federal Requirements & Resources

2.1.4.1   Clean Air Act Requirements

The Clean Air Act, first enacted in 1970 and amended in 1990, was developed to protect the health and welfare of the public from air pollution. The Act requires certain municipalities, including the Washington, D.C. metropolitan area, to attain

clean air standards within certain deadlines. The Washington area exceeds the Federal standard for one pollutant: ground level ozone. December 1999 is the deadline for Washington to meet standards prescribed by the 1990 Clean Air Act Amendments.

The majority of ground level ozone pollutants are the result of motor vehicles, and it is for this reason that clean air requirements and transportation planning are interrelated. Also, Federal highway funding for certain projects can be withheld if clean air standards are not met.

Initially, the Metropolitan Washington Air Quality Committee submitted a State Implementation Plan (SIP) on behalf of Virginia, Maryland and the District of Columbia for the Washington region. This regionally coordinated SIP detailed how the region was to reduce ground level ozone by 15% by 1996, from baseline 1990 levels.

Two Plans for improving air quality have been submitted since the initial SIP. In 1997, the Phase One Attainment Plan was submitted to the Environmental Protection Agency. This Plan shows how the region planned to reduce certain pollutants by 9% between 1996 and 1999. A Phase Two Attainment Plan addresses attainment of health standards by the 1999 timeframe.

The Washington metropolitan region has seen significant reductions in ozone levels as the result of current emission reduction strategies. MWAQC has reviewed ozone level trends from 1985 to 1996. In 1985, the region experienced an average of twelve days a year in which ozone levels exceeded standards. By 1996, such events were occurring half as often, an average of six a year. As more emission reduction strategies are implemented, continued reductions in ozone readings will take place.

2.1.4.2   Transportation Planning & the Clean Air Act

Each of the regional air quality plans submitted establishes maximum emissions levels for motor vehicles on a regional basis. All future road improvement projects must conform to the maximum levels of emissions established in these plans. Since motor vehicle use and motor vehicle emissions are expected to increase significantly, regional transportation plans include measures to ensure that emissions do not surpass the air quality plan's maximum levels. These measures call for the preparation of TMPs and for the implementation of TDM measures.

All regional transportation plans are reviewed by the National Capital Transportation Planning Board to ensure that they conform with air quality plans. Although vehicle emissions are declining as a result of cleaner cars and cleaner gasoline, they are still predicted to increase in future years as the vehicle miles traveled continues to increase. When selecting transportation projects for future funding, the regions; transportation planners will be required to give careful consideration to the effect projects will have on vehicle miles traveled and the overall level of pollution from vehicles.

2.1.4.3   The New Ozone Standard

In July 1997, the Environmental Protection Agency (EPA) announced a new National Ambient Air Quality Standard for ground level ozone. The new eight-hour standard is intended to protect the public from longer exposure to ozone pollutants. The difference between the previous one-hour standard and the new eight-hour standard is that the eight-hour standard measures air quality over a longer eight-hour time period that better represents sustained, harmful time periods of air pollution. The eight-hour standard is a more difficult standard to achieve.

2.1.4.4   Ozone Action Days

The Ozone Action Days program, begun by the EPA, is a voluntary initiative by employers and other organizations, including government, to take extra action and implement additional measures to prevent air pollution on days when unusually high ozone levels are predicted. Because ground level ozone forms under certain weather conditions, a regional team of meteorologists can predict when ground level ozone concentrations may exceed health standards. These are typically hot sunny days with little or no wind. Days when ozone levels are forecast to reach unhealthful levels or are approaching unhealthful levels are declared "Ozone Action Days." Ideally, individuals and businesses will take additional measures to modify their activities in order to reduce ozone-producing emissions.

2.1.4.5   Commuter Choice Program

"Commuter Choice" is the name given to benefits that employers can offer employees, tax-free, that encourage them to commute to work by methods other than driving alone. Under IRS rules, they are also referred to as "qualified transportation fringe benefits."

Under the provisions of the Federal Employees Clean Air Incentives Act of 1993, Federal employees are eligible to receive up to $65 per month, tax-free, in transit and vanpool benefits from their agency. The law made permanent the Federal participation in a pilot transit benefit program, allowing Federal agencies to establish programs to encourage non single-occupancy vehicle travel to work. This includes the provision of transit passes, bicycle facilities, and non-monetary incentives (5 USC 7905).

The Transportation Equity Act for the 21st Century (TEA-21), among other things, amended the Internal Revenue Code to permit employees to receive tax-free transit or vanpool benefits in lieu of compensation in the same manner as was done for parking under the Taxpayer Relief Act of 1997. It also raised the monthly tax-free limit for transit and vanpool benefits from $65 to $100 in 2002.

For additional information, the "Commuter Choice" website address is located in Appendix A-4.

Federal agencies may provide these benefits in any of three ways:

1. Agencies may give their employees up to $65 per month in benefits to commute to work by transit or eligible vanpools. The agency can pay for the benefit using existing appropriated funds, usually taken from administrative accounts such as salaries, benefits, travel, etc. Employees receive the benefit completely free of all payroll (Social Security and Medicare) taxes, Federal income taxes, and Virginia, D.C., and Maryland state income taxes.

2. Agencies may permit their employees to swap some of their pre-tax income for transit or eligible vanpool benefits. Agencies do not pay for the benefit but permit employees to exchange some of their gross income to pay for commuting expenses, before taxes are computed, up to a maximum of $65 per month. Employees save on Federal payroll and income taxes on the amount of the benefit they purchase, since that amount is no longer treated or reported as taxable salary. Agencies' payroll costs are reduced since payroll taxes do not apply to the funds used for the benefit. The benefit is also exempt from Virginia, D.C., and Maryland state income taxes.

3. Agencies may share the cost of commuting with their employees. Agencies can give their employees part of the commuting expense tax-free in addition to their salary using appropriated funds, and allow the employees to exchange part of their gross income (in lieu of salary) to pay the remaining amount, up to the maximum total monthly limit of $65. For example, the agency could provide the employee a transit pass worth $35 in addition to salary using appropriated funds and the employee could use pre-tax income that is exchanged for a $30 transit pass, for a total monthly benefit of $65. The employee saves on Federal payroll and Federal, Virginia, D.C., and Maryland income taxes on the exchanged amount of $30 for the balance of the benefit and the agency saves on payroll taxes.

In the National Capital Region, the Washington Metropolitan Area Transit Authority (WMATA) administers the Metrochek Program. Metrochek is an exchangeable voucher that is accepted by more than 80 different transportation organizations region wide. Federal agencies that choose to provide transit or vanpool benefits for their employees must purchase Metrocheks for distribution to their employees. Employees exchange the Metrocheks for fares on any type of public transportation serving the National Capital Region, including Metrorail, Metrobus, MARC Rail, Virginia Railway Express, county and commuter buses, and qualified vanpool services. Cash reimbursement for transit or vanpool expenses is not allowed in the National Capital Region under the Internal Revenue code, since vouchers (Metrocheks) are readily available and can be exchanged for transit or vanpool media. Vouchers are available in the following denominations: $1, $5, $10, $15, $20, $25, $30.

2.1.4.6 Federal Teleworking Program

In September of 1992, Congress appropriated $5 million to establish telecommuting centers in the greater Washington, D.C. area and to promote and implement telecommuting within the Federal Government. Since that time, an additional $1 million was appropriated in 1993 and an additional $5 million in 1995. These increases were due to the success and popularity of the program.

The physical result of this program has been the establishment of several Telework centers in the metropolitan area. These centers are satellite work centers that offer employees the opportunity to work closer to home. Centers are typically leased office spaces that are equipped with telecommunications equipment, copiers, computers, and other basic office needs.

Employees typically work at these centers instead of their normal work location, thereby eliminating several commutes during the work week.

The program is administered by the General Services Administration. A list of Telework locations is available through MWCOG's Commuter Connections Program and in Appendix A-4.

2.1.4.7 Congestion Mitigation & Air Quality (CMAQ)

The Congestion Mitigation & Air Quality (CMAQ) Improvement program is part of the current Federal transportation legislation, the Transportation Equity Act for the 21st Century (TEA-21). The national total authorized funding is at $8.1 billion for the six years of the Act. CMAQ provides a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. CMAQ funds are typically subject to a State or local funding match. States acquire and distribute CMAQ funds in different ways, depending on the State's overall TEA-21 funding allocation structure. CMAQ funds are only eligible for use in areas that do not meet the National Air Quality Standards (nonattainment areas), as well as former nonattainment areas that are now in compliance (maintenance areas).

2.2 local jurisdictional requirements

Section 2 – Roles & Responsibilities

2.2 LOCAL JURISDICTIONAL REQUIREMENTS

Individual jurisdictions in the National Capital Region have requirements for the preparation and implementation of TMPs. These requirements may apply to Federal agencies located in these jurisdictions. Local requirements are included in Appendix A-2. A brief summary of each jurisdictional requirement follows.

2.2.1 Arlington County

Arlington County has adopted a policy relating to Travel Demand Management that is used as a guide for new developments. The policy prescribes strategies that should be included in the TMP based on one of four land use categories. Which category is applicable depends on the proposed project's consistency with planned land uses and/or density levels as stated in Arlington County General Land Use Plan and forecasted traffic congestion areas.

Performance measures include:

• Reduction of peak hour work travel by achieving a reduction in single occupant vehicle trips.

• Peak hour level of service (LOS) at major intersections at or better than LOS D.

The implementation of TDM strategies is not required for new developments; however, approval submissions for new projects will be examined for their consistency with the Travel Demand Management policy.

2.2.2 City Of Alexandria

A Transportation Management Plan (TMP) special use permit must be submitted and approved for any building or structure, combination of space, project, complex, or development which contains:

• 50,000 or more useable square feet of commercial and/or professional office space;
• 40,000 or more useable square feet of retail space;
• 250 or more residential units.

The City describes the purpose of a TMP to "mitigate the traffic and related impacts of certain office, retail, industrial, and residential uses."

Requirements for what should be included in a TMP is included in Section 11-700 of the Zoning Ordinance. These requirements include:

• During the peak hour, 10 to 30 percent of the trips to the project site should be non-single occupant vehicle trips, and

• No more than 40 percent of the SOVs to the site can arrive or leave during the morning and evening peak hours, respectively.

Lists of registered carpool and vanpools using the preferential parking spaces must be submitted quarterly. An annual report is required based on the results of an annual survey of employees. Noncompliance with requirements can result in a revocation of the Special Use Permit. Failure to reach objectives despite good faith and earnest attempts to reach goals would not necessarily constitute non-compliance.

Mandatory elements of the TMP include preferential parking for carpools, an ETC (though not necessarily full-time or located on-site), annual surveys of building occupants, and an annual report.

2.2.3 Prince George's County

Princes George's County uses Transportation Demand Management Districts (TDMD) to implement Maryland's adequate public facility ordinance in areas where the transportation infrastructure supply and vehicle demand is out of balance and a Level of Service D cannot be maintained at key intersections during peak hours.

A TDMD could be established by petition or through designation of a Transit District Overlay Zone or adoption of an Area Master Plan. A TDMD could be triggered when 20% of the intersections or interchanges in a given area begin to operate at LOS E or 10% at LOS F. The proposed thresholds that would trigger trip reduction requirements are subject to change.

Currently, the Prince George's County Council has discussed adoption of a trip reduction ordinance, but has not taken formal action.

Trip reduction goals are determined in each area by existing capacity, comparable trip generation rates for proposed land use, and planned improvements. Mandatory and recommended programs are included in each TDOZ.

Performance measures include:

• Reduction of peak hour work travel from trip generation levels calculated using the Guidelines for the Analysis of the Traffic Impact of Development.

• Peak hour level of service at major intersections at or better than LOS D. Proposed monitoring and compliance measures would include quarterly progress reports and annual reports by the Transportation Management Association or other responsible entity. Violations for unsuccessful compliance, non-compliance resulting from deceitful actions, and non-compliance resulting from non-cooperation include varying levels of penalties. The penalties and surcharges are derived from the cost per seat of providing transit service.

Transportation Management Associations, parking policies, and bicycle programs are identified as key elements of the workplace-related traffic demand management process.

2.2.4 Montgomery County

Montgomery County requires employers in designated Traffic Management Districts to prepare Traffic Mitigation Plans. TDM measures are required to be included in such plans. Currently, only employers in the Silver Spring Traffic Management District are required to develop Traffic Mitigation Plans.

New developments in congested areas are also required to develop Traffic Mitigation Plans in order to offset the impact of new peak hour trips generated by the new development. TMP activities to reduce trips are prescribed on a case-by-case basis through negotiations with developers.

Transportation Management Associations, parking policies, personalized ridematching assistance programs are identified as key elements of the workplace-related traffic demand management process.

Review and approval of these plans is via the Montgomery County Planning Board as part of the development approval process.

2.2.5 Loudoun County

In the Loudoun County Countywide Transportation Plan, the use of TDM measures are discussed and encouraged; however, there are no requirements stated. The County may include such requirement in the future updates to the Countywide Transportation Plan.

2.2.6 Prince William County

Prince William County, in it's zoning legislation, requires a Traffic Impact Analysis to be conducted for new developments. Travel Demand Management measures may be included in this analysis upon submission to the County for review and approval. During the review process, the County examines the overall impacts of a proposed development. Planned implementation of TDM measures that mitigate traffic impacts are viewed favorably by the County and may be strongly encouraged. However, TMPs are not explicitly required and there are no guidelines for their development.

2.2.7 Fairfax County

Fairfax County has no explicit TDM policy or requirement for the preparation of TMP. The County uses the proffer system to encourage TDM measures with respect to new public and private sector developments within the County. Sample TDM measures are available from the County.

2.2.8 District of Columbia

The District of Columbia has no explicit TMP ordinance, policy, or requirements. However, MWCOG assists the District government in the evaluation of proposed developments. This evaluation includes potential traffic impacts and the potential prescription of TDM strategies. TDM services are also available to the District through MWCOG's Commuter Connections Program.

3.1 alternative modes of travel

Section 3 – TDM Strategies

SECTION 3 – TDM STRATEGIES

This section of the handbook presents different Travel Demand Management (TDM) strategies that may be included as part of a Transportation Management Program (TMP). TDM strategies can be classified based on their characteristics and their ability to reduce SOV trips as follows:

Alternative Modes Of Travel

- Carpool Programs
- Vanpool Programs
- Transit Service
- Bicycle/Pedestrian Facilities & Site Improvements

Incentives & Disincentives

- Economic Incentives
- Subsidies
- Travel Allowance
- Parking Management
- Employer Complementary Support Measurements
- Guaranteed Ride Home
- Commuter Center

Alternative Work Arrangements

- Alternate Work Schedules
- Flex-time
- Compressed work week
- Staggered Work Hours
- Telecommuting

Each strategy is described in detail including benefits, applicability, factors for success, complementary measures, effectiveness, and cautions. The strategies selected will depend on program objectives, worksite analysis, and employee needs/preferences.

Studies show that TMPs are more effective when they include TDM strategies from each category.

3.1   ALTERNATIVE MODES OF TRAVEL

3.1.1 Carpool Programs

Carpool programs or personalized matching involves introducing and matching potential ridesharers. Most people are hesitant to rely solely on a matchlist and need help in approaching their ridesharing matches. As in most social situations, someone

has to "break the ice"; and in the case of ridematching, it is an ETC who can bring the appropriate people together.

To increase ridesharing, the ETC can:

• Personalize the employee's introduction to ridematching by marketing the program and meeting most of the ridesharers in person;

• Personalize the matching and mode formation process and reduce the anxiety involved in meeting and finding people who are potential carpoolers; and

• Assist in the maintenance of existing and new arrangements through on-going follow-up on the status of carpools and vanpools.

Through personalized assistance to employees, the employer can develop a high profile transportation program. This will increase ridesharing at a worksite and serve as an excellent marketing tool for the program. Employees feel more comfortable in approaching ridesharing partners when someone has taken the first step to introduce them to one other. Personalized assistance takes the shyness out of ridesharing.

Personalized assistance is essential to a ridesharing program in medium to large size Federal agencies, where employees may not know their colleagues who appear on the matchlist. In smaller agencies, the ETC may not have to dedicate as much time to personalized assistance, because most of the employees may know each other and do not need the ETC for the initial introduction.

Complementary measures include a regional rideshare matching program, preferential parking for carpools and vanpools, guaranteed ride home program, and marketing efforts.

The following factors should be considered when implementing a personalized assistance and ridematching program:

• Commuters with less than 10 mile and/or 20 minute commutes are not likely to carpool. The regional average distance is 23 miles for carpools and 29 miles for vanpools.

• Carpooling requires riders to commit to a common schedule. This can cause difficulties for commuters whose work hours are not consistent from one day to the next. A staggered work hours program can make it more difficult to form carpools because employee work hours are not compatible throughout a worksite. However, the effect flextime has on ridesharing is less clear. It may create a similar effect as a staggered work hours program in some cases, or it may allow employees to shift their arrival times to accommodate carpool schedules.

• Conditions which foster ridesharing include: having no available car, a long commute, tight parking supply, availability of nearby (or in-route) HOV lanes,

limited transit service, high concentrations of employees in general work area (250+), and/or residential concentrations of employees.

• Cooperation with nearby employers or other Federal agencies will significantly increase the opportunities for successful placement of employees into carpools.

• Even though the ETC can play an active role in bringing potential ridesharers together, the ETC needs to let the employees know that they are responsible for making the final selection. They need to be prepared to screen the other party for many issues such as a preference for smoking, type of music, flexibility of schedule, etc.

• It should not be assumed that those who request and receive a list will act on the list.

• Provision of follow-up assistance to start and maintain carpools is strongly recommended.

3.1.2 Vanpool Programs

Vanpooling can be an essential component of a TMP. It refers to an arrangement where several people (7-15) share the ride to work in a van. For the purpose of employer subsidies, a vanpool must have a seating capacity of at least 6 adults (not including the driver). At least 80 percent of the van mileage must be for the purposes of transporting employees between their residences and their place of employment and on trips during which the number of employees transported is at least one-half of the adult seating capacity of such vehicle (not including the driver). Vanpooling is ideal for employees who live at least 15 miles from the work place. The regional average trip length of vanpools is 29 miles. There are three basic types of vanpooling, as follows:

Third Party Vans: A group of employees lease a van from a vanpool vendor. Fares are paid by the employees to the vendor.

Owner Operated Vans: An individual employee independently buys a van and administers all aspects.

Employer Purchased or Leased Vans: An employer buys or leases the vans and administers the program and then recovers the cost through fares. This is not considered an option available to Federal agencies and is mentioned here for completeness.

Employees and employers can benefit from vanpooling as follows:

• Employee productivity is enhanced as a result of reduced commuting stress;

- Tardiness is minimized because the driver and riders have a schedule to keep that allows them to meet the agency's start schedule;

- Morale and general satisfaction with work increases;

- Savings are achieved because of reduced parking expenditures;

- Savings in commuting time results when used with High Occupancy Vehicle (HOV) lanes;

- Employees benefit from savings in commuting costs;

- Employees gain increased personal time on the van/bus to read, sleep, or work;

- Congestion is reduced; each van can remove as many as fourteen other vehicles from the road; and

- Air quality is improved

Vanpools can only be formed if an adequate number of employees live near each other and work the same hours. Vanpooling is only cost effective for long distance commuters living at least 15 miles away from the office. A density study, showing the distribution of employees residences in relation to the work place, is a valuable tool for determining vanpooling potential at a worksite.

Complementary measures include preferential parking for vanpools, guaranteed ride home program, regional rideshare matching program, driver training programs, and flextime.

The following factors should be considered when implementing a vanpool strategy:

- The highest vanpool potential is among employees who live 20 miles or more from work and have travel times of 30 minutes or greater.

- It is best to cluster 15 to 30 people for a 12 or 15 passenger vanpool. The cluster area should generally be no greater than two to three miles in size, but with commuting distances of greater than 30 miles, larger cluster areas may become viable. Clusters oriented to the vanpool route can be set up; these are composed of smaller groups picked up along the route to work.

- Caution should be utilzed in driver selection. Usually the driver can take the van home on weekends and nights.

- Most vanpools start with less than a full complement of riders. Subsidies, including local government support should be sought to subsidize the cost of empty seats for several months to increase ridership.

- "Erosion" of interest in vanpools should be expected - some potential riders will change their minds.

- Adequate insurance for the vanpool is needed. Adding to a driver's own automobile coverage is generally insufficient.

- Maintenance and upkeep of vehicles is an issue. Access to an alternate van in the case of a breakdown is needed.

3.1.3 Transit Service

Although transit usage varies greatly between metropolitan areas, a very small percentage of American commuters use mass transit. Buses and rail transport could play a much larger role in our daily commute if more information were available on access and scheduling. Although traditional transit services will not be able to meet all transportation needs in a cost-effective manner, the ETC can help market transit along with other transportation alternatives. Transit service is usually available in the form of buses, rail, park & ride services, express, limited service, and commuter service.

Federal agencies benefit when their employees use mass transit because employee productivity may increase as a result of reduced commuting stress. Employees like to use mass transit because in many cases it reduces their commuting costs. It also may eliminate the need for an extra automobile for commuting purposes. Commuters perceive the cost of using transit in two contexts: first, how the transit fare compares with the cost of driving (mainly fuel and tolls) and parking; and second, ease of fare payment.

Mass transit is an excellent choice for commuting where services are readily available and accessible. The Metropolitan Washington area provides an excellent transit network of commuter rail, Metrorail and public and private bus services.

Employment sites are sometimes located in somewhat remote locations and are often set apart from commercial areas and shopping. Access to shops, restaurants, day care, bands, dry cleaners, and other retail outlets are important factors in choosing a commuting option.

Transit service improvements available might include:

- Express buses from park & ride lots to the worksite.
- Shuttle buses between multiple agency sites or between the worksite and nearby retail areas (generally mid-day trips)

Complementary measures include transit subsidies, guaranteed ride home program, transit system marketing efforts, convenient payment (Commuter Center), flextime, and parking management programs.

The following factors should be considered to encourage transit use by agency employees:

- Consider transit availability at the worksite and employee's residences.

- Look for concentrated residential locations of employees.

- Be aware of the current level of transit utilization at the site. Remember that, in spite of efforts, not all employees will be able to use transit. The level of transit usage at the site could be such that it will be economically infeasible to attract more employees from SOV trips.

- Transit programs can be very expensive to operate; therefore, it is very important to identify the market potential for the service, and weigh the cost and trip reduction benefits against those for other TDM strategies.

- Make transit route brochures available in convenient locations.

- Assist employees in determining the best transit route from home to work.

3.1.4 Bicycle/Pedestrian Facilities and Site Improvements

Bicycling and walking are often overlooked in modern day commuting, with growing interest in health and exercise, both are becoming increasingly popular.

Benefits include:

- Reduced need for parking,
- Improved employee health and well being,
- Reduced stress in the work place,
- Overall attitude and morale improvement, and
- Low commuting cost.

In many areas weather conditions, the unavailability of bike routes, worksite showers and lockers, and the remoteness of the worksite, make conditions difficult for walking and bicycling. An ETC should use good judgement when promoting these options. The ETC should also realize that walking and bicycling might provide seasonal alternatives to driving alone and might not be year round options. Additionally walking and bicycling are usually ideal for employees who live close to work, unless they are avid athletes. In Europe, the percentage of employees bicycling and walking to work is 20% to 25%. In the U.S., 1% would be an achievement.

There are three important ways in which bicycle and pedestrian facility improvements can be implemented into a TMP:

- As a primary mode of access to the worksite,

- As a feeder mode to connect with transit or ridesharing modes for longer trips, and
- For circulation within a worksite and/or to nearby facilities that provide access to retail, restaurants and other support activities (e.g., day care, bank, etc.)

Bicycle and pedestrian facility improvements should not be disregarded even if worksite characteristics are not suitable for their implementation as a primary mode to access the site. Improvements to these facilities to use them as a feeder mode and for circulation will provide an incentive to the employees to use transit.

The following factors should be considered when promoting bicycling and walking as a TDM strategy:

- Provide special attention to bicycle facilities when overnight storage is required or bicycles need to be left at transit stations.

- Currently, certain buses and Metrorail trains are equipped to transport bicycles. Collect and disseminate specific information on availability.

- Contact local Bike/Walking Clubs to help educate bicyclists and pedestrians on safety precautions such as: always riding with traffic, wearing a helmet, watching out for car doors, etc.

- On days of poor air quality, encourage employees who are bicyclists and walkers to use another commute alternative.

- If the worksite is located in a remote or unsafe area, encourage walkers to walk in groups and during day light hours.

- Provide adequate bicycle storage and shower and locker facilities at the worksite.

3.2 incentives & disincentives

Section 3 – TDM Strategies

3.2   INCENTIVES & DISINCENTIVES

3.2.1   Economic Incentives - Subsidies

Transportation costs play an important role in determining how employees choose to travel to work. Financial incentives for ridesharing can cause a mode shift from solo commuting to ridesharing.

Most employers offer subsidies in one or more of the following:

- Vanpool subsidy: The employer provides a financial incentive on a limited or continuing basis to ridesharers.

- Empty seat subsidy: Employers or local jurisdictions may subsidize the empty seats on a vanpool for a limited amount of time to keep the ridesharing arrangement in place without causing the remaining riders to pay extra.

- Transit subsidy: The employer can pay part or the full cost of a transit pass or voucher to encourage use of public transportation. These subsidies are described above in Section 2.1.4.

The agency can offer these subsidies by providing vouchers (such as Metrochek) or developing a payroll deduction process in which the employer handles the administration of the program, including payments to transit operators.

Subsidies are beneficial in that they make driving in a single occupant vehicle less attractive and more costly than other transportation modes. Subsidies can significantly increase the APO and reduce trips especially in conjunction with increases in parking prices. Providing subsidies works best when the solo drivers have to pay to park, while the ridesharers pay less and are therefore rewarded for choosing an alternative mode to driving alone.

Complementary measures include parking management programs, guaranteed ride home program, regional rideshare matching program, and transit marketing efforts.

3.2.2   Parking Management

Parking management is a set of strategies used to balance the supply and demand for parking. Parking management is one of the most powerful tools that can be used for modifying mode choice. The decision of commuters to drive alone, carpool, vanpool, or use mass transit depends a great deal on the cost, availability, and the location of parking.

In most urban areas it costs approximately $1,000 per space to construct a surface parking space, $5,000 to $10,000 per space for an above ground parking deck and up to $20,000 per space for below ground parking. In addition, there are ongoing costs

for maintaining and operating parking lots. A parking management program can result in major cost savings.

There are three parking management strategies that are commonly used to reduce the number of solo commuters to a worksite. These include:

- The pricing of parking: Most commuters (over 90% nationwide) park free of charge at work. Research on this issue has shown that when employees are actually charged for parking, they alter their behavior. One option for implementing a parking pricing program is to offer differential rates for solo drivers versus ridesharers. It should be noted that the Federal government considers any transit subsidy above $65 as taxable income to the employee, while parking subsidies are tax-free up to $175 per month per employee.

- Preferential parking: By offering preferential parking to ridesharers, employees can be encouraged to share a ride instead of driving alone. Usually preferential parking locations are close to parking lot elevators or main building entrances. These spaces are usually marked and a monitoring system put into place.

- Parking supply reduction: The surest way to ensure trip reduction with parking management or any other TDM strategy, is to limit the amount of parking available to employees. If all employees do not have a space to park their single occupant vehicle, some employees will look for other commuting options.

Other strategies include: providing peripheral parking areas, separating parking charges from the building lease, and sharing parking facilities with neighboring offices or worksites.

The benefit of a parking management program for an employer is that it can substantially reduce the need for parking and will modify the mode split. Some employees like parking management programs because they reward non-solo drivers for choosing an alternative mode. Additionally parking management programs can reduce overall congestion and fuel consumption, while improving air quality.

From an application viewpoint, parking pricing and travel allowance strategies are ideal for a setting in which on street and/or off street parking supply is limited and expensive. Initially most pricing programs are faced with antagonism from employees. Preferential parking can still be applied in areas where parking is cheap and abundant. Preferential parking is not effective where most parking is convenient and near entrances.

Complementary measures to a parking management program include a regional rideshare matching program, transit subsidies, travel allowances, and marketing efforts.

The following factors should be considered when implementing a parking management program:

- A pricing strategy may be controversial. Make sure the employees understand how the choice was made and what the impact will be.

- The Federal government considers free parking as a non-taxable benefit up to $175 per month. A subsidy and travel program may affect employee income taxes. Let employees know which subsidies are considered taxable income.

- If the agency's work force is organized into labor unions or other associations with bargaining power, check the agreements to circumvent potential problems.

- Agencies should be careful of specific parking strategies resulting in spillover parking into the neighborhoods or residential communities surrounding a worksite.

- Consider the availability of surrounding parking facilities. The projected reduction of SOV trips may not be achieved if drivers are able to allocate "inexpensive" parking within walking distance to a site.

3.2.3 Employer Complementary Support Measurements

3.2.3.1   *Guaranteed Ride Home*

A Guaranteed Ride Home (GRH) program is key in implementing a successful TMP. Most drivers do not like ridesharing because they think they cannot get home in case an emergency arises or if they have to work overtime. A GRH program guarantees the ridesharers a ride home or to the emergency (e.g., sick child at school). It takes the fear and anxiety out of ridesharing.

A GRH program is based on offering the riders a convenient and reliable mode of transportation. The most common transportation options for GRH programs include:

- MWCOG: MWCOG offers a free comprehensive GRH service under it's Commuter Connections Program. This program is used by many employers and Federal agencies can utilize the program.

- Taxi service: This is a subsidized service; most taxi companies bill the employer directly.

- Short term auto rental: This is ideal for employees who need to travel more than 20 miles from the worksite.

- Shuttle services: Some airport shuttles serve the GRH market. Dial-a-Rides are also an option.

- <u>Back up vans</u>: If there is a back up van, the ETC may choose to make it available for the GRH program.

- <u>Public transit</u>: An accessible bus or rail service may also present a viable option.

- <u>Transportation Management Associations (TMAs)</u>: TMAs offer a variety of GRH options.

For employers, the most important aspect of offering a GRH program is that it can improve the ridesharing program while reducing the need for parking spaces. Additionally it encourages employees to rideshare without worrying about unscheduled overtime or attending to unexpected emergencies. Employees are generally very positive about GRH programs.

Typically between 1% to 20% of people eligible use GRH resources in a year. The existence of the program can increase interest in the other elements of the TMP by approximately 20% to 30%.

A GRH program is applicable everywhere and complements all other TMP strategies. Each Federal agency will need to pick the combination of transportation options that works best for each location and employee needs.

The following factors should be considered when implementing a GRH program:

- Although the program may appear potentially very expensive, employee usage of GRH programs is not very high.

- Make sure that procedures prevent employees from abusing the program. Limit usage of the program to a few times a year per employee.

- Address use of the program during snow emergencies by employees sharing a ride with employees of neighboring agencies or companies that may have differing snow emergency or leave policies.

3.2.3.2   Commuter Centers

A Commuter Center is a location where employees can get information about all available commuting options and provides personalized service to commuters from a prime location. The Commuter Center should not be defined as being in the ticket selling business -- the Center is in the people business. In other words, the Center's focus should be customer service. Just as the GRH program eliminates the fear and anxiety of ridesharing, a well implemented Commuter Center should eliminate the inconvenience of finding accurate and timely information and services needed by the ridesharers. This concept has the following benefits:

- Provides multi-modal marketing of regional transportation alternatives for commuters and employers;

- Centralizes transit information and fare purchase operation for employers, commuters, and visitors;

- Operates from a prominent location;

- May use a for-profit small business to manage the Center;

- Allows employees to purchase transit fare by check or credit card; and

- Provides a mechanism to distribute and exchange transit benefit vouchers.

Commuter Centers can serve large numbers of transit and ridesharing employees, perhaps for multiple agencies. They are rather new mechanisms for delivering TMP services. The degree that they offer personal service and convenience is thought to increase frequency of use and increased awareness.

Complementary measures include transit subsidies, travel allowances, transit services, guaranteed ride home, regional rideshare matching program, and marketing efforts.

Factors to be considered when implementing this strategy are as follows:

- The tax-free portion of employer-provided commute fringe benefits to $65 per month for transit. The law also extended the benefit to allow employers to subsidize vanpools. It limits the tax-free portion of employer-paid parking to $175 per month.

- Selling commuter-related retail products may meet with opposition from nearby businesses.

- Time-sensitive tickets or passes may require additional staffing to meet demand as the new time period approaches.

3.3 alternative work arrangements

Section 3 – TDM Strategies

3.3   ALTERNATIVE WORK ARRANGEMENTS

3.3.1   Alternate Work Schedules

These strategies allow the scheduling of work hours outside the normal 9:00 to 5:00 pattern. Given that 40% of all families report scheduling conflicts with the eight-hour workday, variable work hour programs are an attractive alternative. Allowing greater flexibility in establishing working hours allows employees greater opportunities to minimize commute times.

Several demographic and economic changes have made alternate work schedules programs very palatable. These changes include: the influx of women into the labor force, the increase in multiple worker families with multiple demands, a high incidence of single parents, and the need for flexibility on part of a large aging population.

The three most popular strategies include:

•   <u>Flextime</u>: Employees can select their arrival and departure times and length of their lunch period. They work eight hours and have to be in the office during a core period.

•   <u>Compressed Work Week</u>: Employees can complete the number of weekly hours in fewer days per week. Common deviations include a four day work week, or working 80 hours in nine days and taking the tenth day off.

•   <u>Staggered Work Hours</u>: The employer staggers the arrival and departure time of groups of employees, so that the employees do not all arrive and leave work at the same time.

For employees and employers, variable work hour programs provide the following benefits:

•   Reduced traffic congestion during peak hours,

•   Reduced peak hour bus overcrowding by spreading peak trips,

•   Increased productivity,

•   Reduced operating costs (for the day off),

•   Reduced staff turnover and improved recruiting,

•   Extended customer service hours,

•   More flexibility for employee personal needs,

- Reduced commuting time by removing trips from the peak,

- Increased job satisfaction,

- Occasional three-day weekends,

- Improved air quality by eliminating some commute trips,

- Increased transit use as a result of permitted schedule changes for employees,

- Facilitated child care and ridesharing (flextime), and

- Better communication across time zones.

In addition to reducing peak period vehicle trips (i.e., shifting them to other times), Flextime and compressed work week strategies may reduce the total number of vehicular trips. Flextime suits most government operations and is highly successful in the Washington metropolitan region. It is particularly useful for agencies that need to communicate with other time zones or need extended hours of operation.

Staggered hours, if well planned, are a good tool for improving congestion at and around the worksite. They are appropriate in organizations where units can work independently of each other. This strategy may create some difficulty to people trying to participate in a ridesharing program.

Flexible work hours permit employees to adjust work schedules to accommodate transit or carpool arrangements and, as a result, there may be a shift of HOV mode use (transit to carpool). Staggered and compressed schedules appear to decrease vehicle miles traveled and increase travel time savings, though the extent varies widely.

The following factors should be considered when implementing these strategies:

- Make sure these strategies are in line with the goals or requirements of each specific worksite. Give special attention to the relationship between the changes and the measures of effectiveness of a program.

- Try to be flexible; these programs may not suit the needs of all employees and may conflict with existing arrangements for ridesharing, child care, taking kids to school, or other personal programs.

- Do not force employees to be on a schedule if it does not fit their needs.

- Make sure that the agency's legal counsel reviews labor laws and that specific State and Federal laws do not prohibit agency's employees from participating in a specific program. Dedicate enough time to trouble shooting once the program has started. The agency will need to monitor the program very closely.

- Compressed work weeks may be tiring for some employees. Watch out for employee fatigue and decreases in productivity. Cross train employees so that they can provide adequate coverage.

3.3.2   Telecommuting/Teleworking

Telecommuting is becoming increasingly popular in corporate America. According to Telecommuting Magazine (February 1999) the number of U.S. teleworkers rose from 8.7 million in 1996 to 15.7 million in 1998, an increase of 80%. Telecommuting refers to the option of working at home or at an office close to home on a full (4-5 times a week) or part time (once every other week to 2-3 days per week) basis. Although computers and other telecommunications technologies facilitate telecommuting, the telephone is still the most basic tool for working at an alternative location.

There are currently three popular forms of telecommuting.

- Work at home: This is the most common and the least expensive form of telecommuting.

- Satellite Work Center: This form of telecommuting refers to an arrangement where an employer provides some of its employees with the option of working at an office close to their home. Satellite work centers are usually housed within the existing company infrastructure. Often, when an employee works at a satellite work center, their supervisor and coworkers are still reporting to the normal worksite.

- Neighborhood Work Center: The neighborhood work center leases or sells space to a number of different companies. The neighborhood work center provides an opportunity for employees to work closer to home. Tenants in a neighborhood work center usually share support services such as clerical help, telecommunications equipment, photocopying machines and office supplies.

- Federal Telework Centers: These are Federally operated satellite work centers. (see page 2-9).

Many experts believe that satellite and neighborhood work centers will replace the work-at-home option in the near future. Although work centers are more expensive to set up, they are easier to sell in concept to management because they more closely resemble the traditional office.

Telecommute Magazine estimates that by the year 2000 the telecommuting population will increase to 18.0 million. Telecommuting is known to be very popular with employees. There are many factors accounting for the growth in telecommuting. Increase in technological support and a decrease in computer prices are the two most

important reasons. The following lists some of the benefits of telecommuting to employers, employees, and the community:

- Increased productivity as a result of fewer distractions, continuous work time;

- Improved morale and employee satisfaction;

- Decreased absenteeism based on the ability of employees to work in spite of emergencies, such as car trouble or weather conditions;

- Improved recruitment and ability to retain skilled workers;

- Opportunity to expand hiring to include the handicapped and others unable to meet traditional working hour requirements;

- Decreased overhead in times of office expansion;

- Reduced employee commuting time, stress and cost; and

- Reduced trips to the central worksite resulting in reduced VMT (i.e., less traffic congestion, air pollution, and highway cost).

Telecommuting is applicable for jobs that can be performed at least part time away from the office. Telecommuting requires jobs to be portable. It is being widely used in many sectors of the economy as an alternative work arrangement. Telecommuting is ideal for employees who have strong time management skills, who are above average performers, and who can work with little direction.

The following factors should be considered when implementing telecommuting as a TMP strategy:

- Telecommuting is NOT a substitute for childcare or eldercare arrangements.

- Job performance has to be measured by results under clearly defined tasks and deliverables.

- Telecommuting may not work for all employees, so make sure it is a voluntary program. Employees can come back to the office if working at home does not work for them. Additionally, supervisors have the right to ask the employees to come back to the office if the employees' productivity is decreasing, or other problems arise.

- The agency's labor unions should be involved in designing the program. Some unions may initially have problems with decentralizing the work force or may not fully understand telecommuting.

- Spell out all arrangements in a Telecommuting Agreement. Any violation of the rules may result in termination of the telecommuting arrangement. Gain agreement between the employer and telecommuter on ownership and use of equipment.

- Do not expect the program to be perfect; adjustments will be necessary. Make sure that communication channels within an organization are open for discussing potential problems.

- This strategy may require the agency to address "cottage industry" inspection laws, liability for injuries occurring while working at home, and the application of OSHA regulations. The employer, with reasonable notice, may make on-site visits to determine if the site is safe.

- Help employees understand tax implications relating to the home work space.

4.1 initiating the TMP

Section 4 – A Guide to Preparing a TMP

SECTION 4 – A GUIDE TO PREPARING A TMP

This section serves as a guidance tool for the ETC or the person in charge of creating a TMP for a worksite. The TMP process may have started by the agency's need to respond to a trip reduction regulation, to solve a transportation-related problem, to expand employee benefits, or to reduce expenses. Regardless of what initiated the program, there are four steps to the TMP process: 1) Initiating the TMP ; 2) Selecting the TMP Strategies ; 3) Implementing the TMP Strategies , and 4) Monitoring & Evaluation . Each of these is described in this section of the handbook.

4.1   INITIATING THE TMP

The first step in preparing a Transportation Management is to execute several components in order to initiate the program. Future steps will build off base information gathered in this step. These components are: establish goals and objectives, select a basis for measurement, evaluate the work setting, and evaluate employee behavior.

4.1.1   Establish Goals & Objectives

4.1.1.1   Set Management Goals

Goals are broad statements of the mission of the program. They should include what a Federal agency wants or needs to accomplish. Sample goal statements might include:

- "To reduce traffic congestion, conserve energy, and improve air quality by seeking to reduce the number of employee single occupancy vehicle trips in the workday commute."

- "To make the best use of limited on-site parking facilities and travel ways."

- "To comply with NCPC master planning requirements and other government mandates."

- "To support mass transit as a resource for the agency, as well as other governmental bodies, businesses, and the community at large."

- "To reduce the impact of trips generated by the agency on the local and regional road network."

4.1.1.2   Set Program Objectives

Objectives differ from goals in that they describe problem-related outcomes of the TMP, not the strategies. Measurable program objectives are preferable. Program objectives that are measurable become the criteria by which the program's effectiveness can be judged. Each objective should tell who is going to do what and when, to achieve how much of a result, and how the result will be measured.

How the ETC decides to reach stated objectives could take several different directions. For example, an agency may determine an objective to be: increase the Average Passenger Occupancy (APO) of employees commuting to the workplace over its current 1.22 persons per vehicle to 1.52. The agency could set several contributing objectives as stated in the following examples to reach this primary objective:

- Increase the percentage of employees using transit to 28% by the end of the first year as measured by a pre-program/post-program employee survey.

- Increase the percentage of employees in carpools from 12% of the workforce to 44% by end of the first year.

In all likelihood, the objectives will include a mix of strategies to achieve the desired end result based on employee needs and desires.

4.1.2   Select Bases For Measurement

In order to develop a successful TMP, it is necessary for all information regarding commuting patterns to be measured in a consistent fashion; this is so the ETC can "compare apples to apples." It is therefore necessary to select how information will be measured. There are several bases commonly used for measuring the success of TDM strategies implemented by an agency. These include: average passenger occupancy, vehicle trips, mode split, vehicle miles of travel, and level of service. Changes in these measures over time provide indicators of TMP effectiveness. The advantages and disadvantages of each are discussed below. The measures of effectiveness more widely used by regulating agencies are: the number of vehicle trips during the peak periods of the daily total, the level of service along adjacent roadways, and the average vehicle occupancy.

4.1.2.1   Average Vehicle Occupancy

Average Vehicle Occupancy (AVO) represents the ratio of employees to vehicles. Typical numbers can range from 1.05 to 1.50 persons per vehicle. Average Vehicle Occupancy (also referred to as Average Passenger Occupancy or Average Vehicle Ridership) is calculated as follows:

$$AVO = \frac{\text{\# of employees reporting to the worksite}}{\text{\# of vehicles in which employees report}}$$

AVO is increased by reducing the number of vehicles. Taxi's and other "small" vehicles dropping passengers count as drive alone or carpool depending on the number of passengers being dropped off. Vehicles that count as "zero" include vanpools with seating for nine or more, buses, and bicycles. Employees who work from home all day or who work compressed work weeks have zero vehicles on days they do not report to the worksite. Vehicles left at transit terminals, park & ride lots, etc. more than two miles from the worksite are not counted. Carpools are counted as a fraction of a vehicle (i.e., 1/4 vehicle per person for a four-person carpool).

The inverse of AVO is the Vehicle Per Employee Ratio (VER).

EXAMPLE: (assumes 200 employees)	Persons	Vehicles
Drive Alone	150	150
2 person carpool	24	12
3 person carpool	6	2
4 person carpool	0	0
Vanpool	2	0
Bus	10	0
Commuter Rail 4	0	
Bike	2	0
Walk	2	0
	200	164

In this example, the AVO equals 1.22 and the VER = 0.82.

This measure of effectiveness can be assessed through cordon counts or surveys. Cordon counts should allow for employees, who walk, bike, park off-site, or ride transit.

The advantages of using AVO include:

- Reflects the number of vehicles per 100 employees and can be used to estimate impact of part-time residesharers.

- Easy to understand by transportation community.

The disadvantages of using AVO as the measure of effectiveness include:

- Not easily understood by the public and non-transportation management personnel. Seemingly small increases (e.g., 25% increases in APO from 1.10 to 1.37) could require significant changes in behavior.

- Difficult to measure through multi-tenant site cordon counts as changes in usage may be the result of fluctuations by day of week, weather, observer error, visitors, or other employers.

A deviation of this measure (useful to assess your carpool program) will be calculated as:

> AVO = # of employees reporting to the worksite by/in private vehicles.
> # of private vehicles in which employees report

4.1.2.2   Vehicle Trip Reduction

Vehicle Trip (VT) Reduction measures the number of trips rather than the number of persons per trip or miles reduced. VT reduction could be measured as a daily total, peak period or peak hour reduction depending on goals and objectives.

This measure of effectiveness can be assessed through surveys or vehicle counts.

An advantage of using VT is the close relation with most of the desired objectives (e.g., reduce vehicles on the road).

The disadvantages of using VT as the measure of effectiveness include:

- Increases of VT could be experienced if the vehicle left at home is used by other family members in the peak period though VMT may be reduced.

- Increases in VT can occur if the vehicle is driven to a site, such as a park & ride lot. Since much of the pollution occurs with the cold start condition, pollution may not be reduced at the same rate.

- It may not account for part-time trip reductions (such as those produced by compressed work schedule or telecommuting).

4.1.2.3   Mode Split

Mode split is the percentage of people using each mode of travel. By analyzing the current travel modes and commuting characteristics of those using each mode, the appropriate target group of employees can be identified. The following is an example of a mode split table:

Drive Alone	75%
2 person carpool	12%
3 person carpool	3%
4 person carpool	0%
Vanpool	1%
Bus	5%
Commuter Rail	2%
Bike	1%
Walk	1%
	100%

Even if other measures of effectiveness are required; it would be useful to collect this information in order to better select your TDM strategies. This measure of effectiveness can be assessed by drawing an imaginary line around the site (i.e., "cordon") and counting in the field the traffic by type that crosses the cordon. Cordon counts should allow for employees who walk, bike, park offsite, or ride transit. Employee surveys can also be used to collect the information.

The advantages of determining mode split include:

- Reflects actual behavior, not simply commute trip lengths.

- Easy to understand by public and others.

The disadvantages of using mode split as the measure of effectiveness include:

- Benefits such as reduction in air pollutants, traffic congestion and parking needs are not readily quantifiable from mode split.

- Changes in mode share in High Occupancy Vehicle (HOV) modes such as carpooling may come from other HOV modes (bus to carpool) that effectively may increase the number of trips.

- Changes in mode split also may be due to a relocation of home or work location where transit service is different from the previous location.

- Neglects the part-time use of other modes.

4.1.2.4   Vehicle Miles of Travel

Vehicle Miles of Travel (VMT) is a measure of the number of trips multiplied by the distance of those trips. For instance, five single occupant vehicles traveling 20 miles to work each day would equal 100 vehicle miles of travel. If two of those five people formed a carpool, VMT would decrease to 80.

This measure of effectiveness can be assessed through surveys.

The advantage of using VMT is that it relates closely with most of the desired objectives (e.g., to reduce traffic and air pollution).

The disadvantages of using VMT as the measure of effectiveness include:

- Benefits, such as the reduction in air pollutants, traffic congestion, and parking needs, are related to commute characteristics of workforce. One long distance commuter that reduces his or her VMT by 40 miles per day is equivalent to four employees reducing their VMT by 10 miles per day each. However, given the fact that much of pollution is related to the initial starting of an engine (i.e., "cold start"), the removing of four cold starts versus one is significantly better.

- VMT tends to yield better benefits for programs in remote sites that are best served by carpools and vanpools. Therefore, similar organizations in different settings could have significantly different VMT benefits for similar mode splits.

4.1.2.5   Level of Service

Level of Service (LOS) is a measure of quality of traffic flow. LOS designations are determined for intersections and specific road segments. These intersections and roadway segments are usually selected based on: their proximity to the site, traffic access patterns and whether they are currently perceived as problem locations. A description of each LOS designation is provided in Appendix 3.

This measure of effectiveness requires computation of data collected during a traffic survey and counts at the specific location.

The advantages of using LOS includes:

- Relates closely with most of the desired objectives (improved traffic flow, expanded passenger capacity of roadways).

- This measurement is frequently used by area transportation and planning professionals.

The disadvantages of using LOS as the measure of effectiveness include:

- LOS is more applicable to broad, region-wide or corridor TDM strategies because of the wide range of variables and environmental conditions affecting the LOS.

- Imprecise measurements of average travel speed, etc., can result in mislabeling LOS for a particular road segment or intersection.

- It is extremely difficult to discriminate between commuter and non-commuter traffic impacts.

4.1.3 Evaluate the Work Setting

After developing goals and objectives and determining which consistent bases for measurement, an initial evaluation of the work setting can now be made. This evaluation includes analyzing the worksite's available commuter services and amenities, current levels of usage of these services, and current management policies.

4.1.3.1   Conduct Worksite Analysis

This component provides a description of the worksite's transportation-related infrastructure, services, and amenities. The analysis would include:

- The number, price, location, and assignment of parking by type.

- Identification and evaluation of existing mass transit services to the area.

- Transportation programs of nearby worksites.

- Bicycle and pedestrian facilities; and highway access (including HOV lanes).

- Traffic conditions in the nearby area (e.g., congested intersections).

- Approved improvements for transportation facilities.

- Availability of on-site nearby services; (e.g., restaurants, child care, banks, supermarkets, laundry services, etc.).

4.1.3.2   Identify Existing Transportation Programs

This section of the TMP would describe the Federal agency's existing programs and policies for reducing travel by single-occupant vehicle. It would include the name of the ETC, current level of resources, services offered, alternative work hours policy, telecommuting policy, transit subsidy program and its participation level, parking assignment and pricing policies. MWCOG and other sources may be able to provide the agency with information about the existing levels of participation in the various TMP services offered in an area.

4.1.4 Evaluate Employee Behavior

After the "infrastructure" of the work site has been examined, it is now possible to evaluate how employees use those transportation choices that are made available to them. This information includes current commuting behavior, percentages of employees using each mode of travel, the number of vehicles being used to transport employees to the site, arrival and departure times, and employees perceptions and attitudes about their decision to use or not use a particular method of commuting. There are several methods of collecting data about employee behavior, four are

described below. Which method is selected will depend on the program objectives and budget.

4.1.4.1 Surveys

Surveys are perhaps the most effective tool in determining employee behavior. A sample employee survey is included in Appendix A-2.

- Purpose of surveys:

    - Determine current travel behavior (mode split, average vehicle ridership, vehicles per employee).
    - Identify clusters of common employee intents (similar residential location and similar hours).
    - Find out employee's awareness of commute alternatives.
    - Discover attitudes about commuting; interest in ridesharing; why people do not currently rideshare.
    - Determine which incentives or disincentives would cause drive-alone commuters to change their mode of travel.

- Tips on surveying:

    - Focus very precisely. Every item should directly address one specific issue or topic.
    - Keep each item brief. The longer the question, the greater the burden on the respondent, which leads to more error and bias.
    - Strive for clarity.
    - Use common words.
    - Use simple sentences. Two simple sentences are better than one compound sentence.
    - Avoid specific sources of bias. Do not ask leading questions.
    - Use structured questions.
    - Classify multiple-choice answers carefully by ensuring that the list of answers is all inclusive, mutually exclusive, and there is more variance in the meaning between categories than within them.
    - Choose appropriate categories.
    - Use scaling effectively to position the answer within some category or along some spectrum.
    - Select appropriate sample size.
    - Place sensitive questions at the end.
    - Supply complete information.
    - Make questions applicable to all respondents.
    - Ask additional questions if one will not result in complete information.
    - Test the survey on objective volunteers.
    - Try to repeat the same questions over time for comparison.
    - For a conservative approach, treat each non-respondent as a drive-alone for existing and future conditions.

- Do not disregard the probability of conducting two surveys, if the alternative will be one long survey.

- Types of survey questions:

    - Open-ended or unstructured questions. Only the question is expressed and not alternative answers are listed for the respondent.
    - Multiple choice or structured questions. Ask a question and list the alternative answers for the respondent to choose.

4.1.4.2 Vehicle Counts

Vehicle counts record the number of vehicles entering an exiting a worksite, at what time of day, and vehicle occupancy.

- Purposes of vehicle counts:

    - Determine current travel demand (average daily traffic, peak hour/period traffic, level of service).
    - Identify traffic congestion "hot spots".
    - Determine baseline conditions from which to measure success in reducing trips including time of day.

- Tips on vehicles counts:

    - Count vehicles entering and exiting driveways.
    - Count during peak hours; autumn is best time of year; mid-week.
    - Count vehicle trips only (not person trips).
    - Count only employee traffic.
    - Transportation consultants can be contracted to do vehicle counts and/or to collect other data needed.

4.1.4.3 Focus Groups

A focus group is a small group of persons (8 to 12) selected to represent a cross-section of a large group and assembled to discuss a particular problem, issue, or idea. While surveys focus more on determining quantitative measures of employee behavior, focus groups can better reveal qualitative factors in employee commuting decisions. The focus group is excellent for testing out new ideas (i.e. get employees reaction), such as a new shuttle bus program or guaranteed ride home program; focus groups are developed as a survey technique by companies testing new products before they are released to the market place. Be aware that you can expect to get a slightly higher approval/participation rate from the focus group testing than you will when the idea is actually implemented.

Focus group interviews are used as a way of facilitating an understanding of employees' needs and feelings towards the commute to work and alternatives to the

single occupant vehicle. Focus groups can reinforce the importance of talking with employees in a one-on-one or small group manner to aid project design. As a direct outcome of these sessions, the commute alternatives can be better delineated, the reasonableness of the values of each alternative's attributes confirmed, and the clarity of the survey instruments improved.

- The purposes of the focus group sessions could include:

    - Identify employees' perceptions of possible commute options.
    - Identify important factors determining mode choice.
    - Identify groups within target population with access to similar transportation resources.
    - Evaluate performance of components of current transportation systems and identify problems currently faced by employees.
    - Identify the range of policies the Federal agency should consider implementing.
    - Test survey instruments or promotional ideas for clarity, length, and reasonableness.

- Tips on focus groups:

    - Determine needed level of sophistication.
    - Make participants feel comfortable so you can get their true opinion (e.g., there are not right or wrong answers, their answers will not affect their jobs, do not lead them to an answer, etc.)
    - Prepare a Focus Group Plan.
    - Do not generalize based on focus group findings.
    - Make participants aware that the meeting is for planning purposes and some of the ideas may not be implemented, (i.e., do not create false expectations).

4.1.4.4   Internal Personnel Records

Personnel records offer an opportunity to roughly estimate the potential for various types of TDM strategies. Depending on the number of employees, home addresses or home zip codes could be plotted on a map and referenced. By clustering similar groups of employees by home location or route to work corridor, the potential demand for services, such as the extension of transit service or a new vanpool, can be examined.

Access to position titles or grade levels could examine the need for different levels of service and marketing strategies.

4.1.4.5   Other Sources

Other possible secondary sources of data to evaluate trends and effectiveness of particular measures include the following:

- Management interviews.

- Data collected for other purposes (parking permits).

- Metropolitan Washington Council of Governments (MWCOG) Commuter Connections Program.

- Trade associations such as the Association for Commuter Transportation, American Public Transit Association, and Institute of Transportation Engineers (ITE).

- Local planning agencies.

- Local transit and ridesharing agencies.

- Transportation Management Associations.

- Washington Metropolitan Area Transit Authority (WMATA).

4.1.5   Initiating the TMP - Conclusion

At the end of the "Initiating the TMP" step a good deal of base information has been gathered. This information includes goals and objectives, a base (or bases) for measuring information, existing conditions at a worksite, and employee behavior patterns. All of this information will be used in the remaining steps of the TMP process and should therefore be compiled in an easily accessible, understandable, and easy-to-use format.

4.2 selecting the tdm strategies

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4.2   SELECTING THE TDM STRATEGIES

Now that base transportation information about a worksite has been compiled, it is time to select which TMP strategies are most appropriate for implementation. The following are the steps recommended for selecting the potential TDM strategies for a particular site.

Step 1:   Identify Baseline Traffic Conditions

The first step in selecting appropriate TDM strategies requires an assessment of the existing baseline conditions of a worksite. As described in Section 4.1.4, the most effective means of obtaining this information is through an employee survey. As noted, a sample survey is included in Appendix A-2, Example #1.   The following list includes some essential baseline conditions of a site. This list should not be considered all-inclusive.

- Residential Location of Employees: This data defines where employees are commuting from, and would typically be available from human resources records. The data can be transferred to regional planning agencies such as MWCOG and WMATA for integration into their Geographic Information Systems and travel time data.

- Determination of Employee Trips by Mode & Average Vehicle Occupancy: These factors are discussed in Section 4.1 above. Useful tabulation sheets are included in Appendix A-2, Examples #2 and #3.

- Employee/Person Miles of Travel: This measure indicates the proximity of the employee to the site. It may also show a relationship to travel cost, and may suggest opportunities for incentives inducing shifts in travel modes.

- Travel Time: An important factor for employee selection of commuter travel mode is the travel time associated with each mode. This information can be obtained from appropriate questionnaire items, as well as from regional planning agencies and public transportation providers.

- Parking Usage Data: Studies show that parking management is among the most important TDM strategy for an effective TMP. Therefore, the collection of parking related data should be as detailed as possible. As a minimum, the following parking usage data should be collected or obtained as part of the assessment of baseline conditions:

  - Number and location of available on-site parking spaces
  - Parking assignment policies and procedures
  - Parking pricing policies
  - Capital and operational cost per parking space
  - Site levels of parking usage (Supply vs. Demand)
  - Adjacent area levels of parking usage and pricing

The baseline condition data is not all-inclusive. Other items of information pertaining to congestion, major capital transportation improvement projects, and other issues, which affect regional mobility, are important items to be considered as background to the TDM strategy selection process.

Step 2:   Define the "Modal Bias"

In simple terms, a "Modal Bias" refers to what mode of travel employees at a worksite use and are likely to use. A major objective of TDM strategies is to induce a shift from Single Occupant Vehicle (SOV) trips to alternative modes with higher occupancy per vehicle, or modes that eliminate the need for the trip. The two major high occupancy vehicle modes are transit (e.g. bus, Metro, rail, etc.) and ridesharing programs (e.g., carpool, vanpool, etc.). Knowing the "Modal Bias" at a worksite will assist in determining TDM strategies with the greatest potential impact.

The "Modal Bias" of a site could be as follows:

1. Transit Favorable: This indicates that most non-SOV (i.e. all methods except drive-alone & motorcycle) employees utilize transit for their work trips. This is true if more than fifty percent of non-SOV trips are transit trips.

2. Rideshare Favorable: This indicates that most non-SOV employees participate on a rideshare program (e.g. carpool, vanpool, etc.) for their work trips. This is true if more than fifty percent of non-SOV trips are rideshare trips.

3. Mode Neutral (No Bias): This indicates that current travel patterns reflect no bias to either transit or ridesharing.

Step 3:   Set TDM Goal

As part of Section 4.1 (Initiating the Program), the program goals and objectives would have been defined. Some goals and objectives have clear measures of effectiveness attached. The purpose of this step is to "translate" or "convert" the broader goals into a specific number of SOV trips that need to be reduced in order to achieve the goals and objectives. This reduction needs to be specific on the time or period to which they should be applied. The table in Appendix A-2, Example #4, can be helpful in this process.

Step 4:   Prescribing a Level of Support

A "Level of Support" is a term describing the commitment made to Travel Demand Management at a worksite. By prescribing a level of support, parameters for the scope of the TMP are created. A level of support is dynamic and should change as resources, employee interest, and commuter behavior changes. Based on preferences determined from the employee survey and the baseline conditions, a level of support can be chosen. MWCOG has developed a hierarchy for support levels which is based on participation levels by a worksite. The MWCOG grouping (Bronze, Silver, Gold,

and Platinum) is one framework for developing levels of support. These are described in Appendix A-2.

Step 5:   Development of TDM Alternatives

In this step, different alternatives are developed. Each alternative is a set of TDM measures and an implementation strategy. To develop the alternatives, the following should be compared: the baseline information (Step 1), the Modal Bias (Step 2), Goals (Step 3), and support levels (Step 4). It is useful to develop a matrix or table in order to list and compare the information. From this comparison, the most appropriate and potentially successful TDM strategies can be determined. It is important to develop more than one alternative from this comparison. The alternatives are expected to have some common elements, particularly those that can be easily implemented or at a minimal cost in terms of resources. Typically, no more than five alternatives should be developed. These alternatives would be subject to final review and selection by managers, and will ultimately be based on factors such as cost, complexity, compliance with current policy, and level of support from prospective participants.

When deciding on which TDM strategies to implement, it is important to select strategies that are flexible and that can support other strategies that may be implemented in the future. A good example of a flexible TDM strategy would be the Guaranteed Ride Home program. This strategy can be easily implemented through employee participation in the MWCOG sponsored Commuter Connections program. It is also supportive of a number of other strategies, including transit ridership, car/van pools as well, as non-vehicle travel modes.

Step 6:   TDM Selection

Steps 1-5 should result in a listing of TDM strategies that the agency plans to implement and a level of support within which those strategies fit. This should include alternative strategies for meeting the goals and objectives of the agency. While managers of an agency ultimately make the final decisions regarding which TDM strategies will be implemented, participation by the ETC is necessary and active participation by agency staff is highly desirable.

4.3 implementing the tdm strategies

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4.3 IMPLEMENTING THE TDM STRATEGIES

Now that TDM strategies have been selected for a worksite (Section 4.2), the next step is to implement the Strategies. This section of the Handbook gives guidance on how to implement chosen strategies. The ETC is encouraged to contact GSA and MWCOG for assistance in implementing these strategies.

The following is an outline of the components for inclusion in the implementation plan. A brief summary of each strategy should be prepared. Each should include:

- Strategy Description/Objective

- Identification of transportation mode(s) impacted by each strategy.

- Description of current and forecasted levels of participation

- Marketing Plan

- Performance measure and monitoring procedures

- Budget

- Timetable

- Responsibilities and staff time allocations

4.3.1 Beginning the Implementation

In order to initiate the implementation process, the following tasks are suggested:

- Designate the agency's Employee Transportation Coordinator and obtain on-going training for him or her.

- Determine time and resources available for TMP preparation. Assess need for outside expertise.

- Contact GSA regarding support for the ETC and preparation of the TMP.

- Contact MWCOG for information about available resources at the regional and local level.

- Contact NCPC regarding TMP requirements for the agency's planning efforts.

- Contact the locality's Planning Department regarding TMP requirements at the local level.

- From management interviews, determine current policies and programs regarding parking, alternative work hours, telecommuting, and transit subsidies.

- From agency interviews, determine existing and projected parking needs and the allocated official parking requirements. Develop a table that shows the number of spaces needed by type (handicapped, visitor, carpool/vanpool, etc.) and square footage, and the annualized cost per space to build and maintain.

- From zoning/code documents, determine the minimum and maximum amount of site parking space required or permitted.

- List all agencies that the Federal agency has identified as providing transit, vanpooling, or ridesharing services to employees. Through interviews with those agencies, verify the services provided, level of service (e.g., frequency and distance from transit stop to site) and costs.

- Identify the facilities available to support walking and/or biking to the worksite (number of racks, bike lockers, clothes lockers, showers, lighting, and paths)

- Identify the type and quality of highway and street access including location of nearest freeways, operating conditions, and proximity to high occupancy vehicle facilities.

- Identify factors that make alternatives to driving alone particularly convenient and attractive (e.g., high occupancy vehicle lanes, tight parking supply, expensive parking)

- Identify the locations of the following amenities: cafeterias, restaurants, banks, ATM machines, day care facilities, post office and dry cleaners.

- Develop and administer the employee survey. The survey results should be compared to previous period results, if available, and modes which are increasing and which are decreasing identified. From the survey, the following factors affecting existing employee commuting patterns should be identified:

  - How employees choose to commute by mode (drive alone, 2-person carpool, 3-person carpool, 4+ person carpool, vanpool, transit, commuter rail, walk, bike, telecommute) and how frequently they use each mode to commute each week;
  - Where employees live;
  - Employee frequency distribution by travel time and distance. Produce a histogram of each. Calculate descriptive statistics;
  - Interest and acceptability of various alternatives through surveys or focus groups;
  - Arrival and departure time in 15 or 30 minute increments;
  - Occupations of employees;

- Car availability to individuals (i.e., cars per household, and workers with drivers licenses per household);
- Employees' predisposition towards each of the modes;
- Advantages, disadvantages, and willingness to try each of the modes; and
- The potential for each mode as compared to the existing mode share.

- Determine the proportion of employees who are qualified to use each of the various alternatives (i.e., market potential) under current and proposed conditions.

- Determine the duration of use for each method of commuting (e.g., how long have they been a member of a carpool?)

- Identify the benefits, challenges, and features of options that compete with the agency's programs.

- Catalog the operating and regulatory constraints faced by those competitive options.

- Perform necessary field measurements of traffic levels.

- Calculate current effectiveness measures (e.g., mode split, APO, etc.).

4.3.2 Overarching Implementation Tasks

In order to implement the TDM strategies selected in Section 4.2, several tasks should be completed that are not specific to any individual strategy. Regional agencies, such as MWCOG, NCPC, and GSA can provide assistance in developing these base tasks. These overarching implementation tasks are as follows:

- Determine whether the TDM strategies being considered contribute directly to fulfilling the agency's TMP objectives.

- Determine whether the TDM strategies selected match the needs of the target employee group.

- Estimate the costs of each TDM strategy selected.

- Evaluate the marketing effort for each strategy and seek ways to improve acceptance or expand the strategy to new groups of employees.

- Determine internal and external channels of providing commuting information to employees on a periodic or continuous basis.

- Develop the program to incorporate commuting information dissemination as part of the new employee orientation program. Consider using the program as a marketing tool to attract candidates.

- Create an image for the program among employees that is preeminent, distinctive, and employee-oriented. It is advisable to include a program logo and slogan on all marketing materials.

4.3.3   Implementing Selected TDM Strategies

Based on the strategies selected in Section 4.2, the activities used to implement and market these strategies should be determined. The following tasks, as appropriate depending on the strategies chosen, are suggested as steps in implementing individual strategies:

4.3.3.1   *Personalized Assistance and Ridematching*

- Offer "Meet Your Match Parties" - Small gatherings are usually arranged by the ETC to bring together people from the same neighborhood or zip code. These meetings are informal and can be scheduled during breaks or as a "brown bag" lunch.

- Meet all the new employees and introduce them to the ridesharing program. Usually new employees are more receptive to changing their mode of transportation.

- Introduce potential carpoolers to each other or call them to tell them about each other.

- Schedule presentations for different departments. Let the employees know who the ETC is and how the ETC is willing to help them.

- Refer ridesharers to existing carpools. Track the existing carpools so that in case a carpool or vanpool needs a rider, the ETC can refer a potential carpooler.

- Be available. Let the employees know that the ETC is available to assist them and that he or she has an open door policy.

4.3.3.2   *Vanpooling*

- Decide on the vanpooling arrangement that will suit the needs of the Federal agency.

- Identify potential vanpoolers based on a plot of employee residences (i.e., density map), an employee survey, or review of employee records.

- Develop employee interest by announcing potential routes.

- Determine potential by meeting with the candidates. Combine with "Meet Your Match" parties.

- Identify possible drivers among the potential vanpoolers.

- Arrange a meeting of the potential vanpoolers if there are enough people who are interested.

- Describe the program components such as cost, insurance, maintenance, etc.

- Select drivers and back ups.

- Conduct a driving record check on the drivers and the back ups. Obtain a medical certificate from them.

- Discuss and establish procedures for collecting fares for the first month.

- Order vans and set up a van delivery date in accordance with agency vehicle pool policies. Make arrangements for the van by working with any of the following: a commuter company, an independent operator, or a charter company.

- Make sure that the ETC keeps the vanpoolers interested if there is a delay period.

- Provide on-going assistance once the program is operational and track the ridership.

4.3.3.3 Transit

- Evaluate how well transit serves the Federal agency needs by assessing access and availability from the employees' homes to the worksite. Valuable questions include: What is the distance from the transit station to the worksite? Is the scheduling of service compatible with the Federal agency needs? Are the areas where the employees live easily served by transit?

- Negotiate with local operators for changes in routes or stops to improve service.

- Provide transit information on routes, schedules, fares. Try to customize this to the worksite by setting up a map showing appropriate routes and schedules.

- Provide Metrochek benefits to all employees or set up a Commuter Center to sell transit and vanpool fare media.

- Assist in the initial trip planning by identifying routes and schedules for employees.

- Promote the transit program by distributing marketing materials and by featuring articles on transit riders in the employee newspaper or other Federal agency publications.

- Address employee safety concerns by improved patrols (especially in winter months), enhanced lighting and "buddy system" for transit riders who must walk any significant distance to a transit stop.

4.3.3.4 Bicycling/Walking

- Provide maps identifying bike routes and walking paths.

- Provide bicycle parking that will protect the bikes from weather damage and from being stolen. Bike racks, enclosed bicycle lockers, and provision of indoor parking are all popular options.

- Showers and lockers are a necessity for most bicyclists and some of the walkers. If you can not offer such facilities, you may choose to make arrangements with a local health club or with a nearby building.

- Offer your bicyclists and walkers an incentive for not driving to work. If you subsidize carpoolers and vanpoolers, you may choose to also give those who walk/bike a travel allowance.

- Make literature on bicycling safety available.

4.3.3.5   Subsidies

- Determine the feasibility of charging for parking and/or offering subsidies. Conduct a small survey by calling at least 5-10 other nearby employers and asking them about their parking operations.

- Charge market value for those who opt to drive alone.

- Select appropriate subsidy level (e.g., 25% for 2 person carpool, 50% for 3 person carpool, 100% for 4+ carpools and vans).

4.3.3.6   Parking Management

- Form an internal committee to evaluate the existing parking situation, to research parking in the surrounding areas, and to decide on the appropriate strategy.

- Develop scenarios based on different pricing strategies (if using pricing or travel allowance).

- Make a presentation to management on the different strategies.

- Check labor union agreement (if necessary).

- Introduce the strategy to the employees, while giving them the chance to voice concerns.

- Implement the strategy by making subsidies/travel allowance available or by adding appropriate signs for preferential parking. For preferential parking, one needs to identify conditions under which employees can participate. This includes: how many need to be in a carpool, how the spaces will be marked, and what happens in the case of abuse.

4.3.3.7 Guaranteed Ride Home

- Tie-in to MWCOG's free Commuter Connections GRH program if possible.

- Define program objectives and target market.

- Estimate the number of trips that may be taken. The Federal agency should survey the employees to develop some baseline estimates. Typically between 1% to 20% of people eligible use GRH resources in a year.

- Identify the transportation options that the Federal agency will offer in the GRH program.

- Present the program to management to gain their support.

- Establish criteria for eligibility. This includes who can use the program and how often.

- Develop a budget based on the number of anticipated trips, administrative and marketing costs.

- Select vendors for the options that the agency intends to offer.

- Determine fees; cost to employees should be nominal or free.

- Write the policies and procedures for the program.

- Determine marketing strategies (e.g., brochures, articles, flyers, etc).

4.3.3.8 Commuter Center

- Identify location and office space requirements for the Center.

- Identify staffing and contracting requirements and start-up costs.

- Identify services to the site; the Center could provide information and sell fare media for local transit agencies.

- Estimate demand for farecards, flash passes, tickets and tokens that would be purchased. Include estimate for number of senior and disabled users.

- Establish approved payment forms and related internal controls (cash, check or credit card on site, or by telephone or mail with check or credit card).

- Develop vendor consignment agreements with service providers.

- Assess need to collect a nominal transaction fee on some items to help cover costs.

- Link the Commuter Center to the Commuter Connections regional ridesharing program, Virginia Railway Express, and Metrorail/Metrobus.

- Utilize MWCOG Commuter Connections resources and displays if possible, including the Commuter Connections mobile kiosks.

4.3.3.9   Alternate Work Schedules

- Determine employee interest by surveying employees or talking to representatives of different departments.

- Select the appropriate program that can work within the Federal agency.

- Solicit management support for the program of choice.

- Appoint a project coordinator. This can be the ETC.

- Involve labor unions and legal counsel in the design of the program. Labor union response to these programs varies. Additionally legal counsel needs to review labor laws that affect the worksite.

- Develop formal policies for the program by preparing a proposal that describes the rules. Rules are needed on issues such as: banking of hours, work day start and end period, core hours, core days, coverage, supervision, etc. Involve Federal agency accountants in the policy definition. This will help the processing of payroll, holiday pay, vacation, overtime, etc.

- Review the operational needs of the agency's work units. This includes phone operations, inter-office mail, computer support, etc.

- Identify eligible employees. Some employees may be excluded because they perform vital functions that require their presence during regular business hours.

- Hold informational sessions for supervisors and employees to explain the policies and procedures.

- Address individual concerns and hardships for those who may not be able to participate.

- Start the program by posting employee schedules and by setting a kick-off date.

4.3.3.10 Telecommuting/Teleworking

- Gather support from key members of upper and middle management. Look for easy successes. Go after the managers who are most favorable towards alternative work arrangements.

- Select a telecommuting "champion." The ETC needs to identify someone within the Federal agency who will coordinate the components of the telecommuting program and who can be a spokesperson for telecommuting.

- Form a steering committee from the main departments who need to be involved in the pilot program. This may include human resources, accounting, representatives from participating departments, information systems, legal counsel, etc. The steering committee is usually chaired by the telecommuting champion or coordinator.

- Develop policies regarding the objectives of the program, frequency of telecommuting, workman's compensation, resources, technology, selection criteria, scheduling, etc., with help from the steering committee.

- Hold sessions to inform the potential participants and their supervisors of the basics of the program, the policies, the selection criteria, and explain why the Federal agency is experimenting with the concept of telecommuting.

- Select telecommuters either by surveying the potential telecommuters and telemanagers or by letting employees participate who have their supervisor's approval and who are willing to work at home.

- Develop a training program to provide telecommuters and telemanagers with guidelines for completing and supervising remote work.

- Evaluate the program at interim periods to document benefits and problems. Conduct focus groups with the telecommuters and the telemanagers to troubleshoot.

- Provide information regarding telework sites.

- If the program is successful, develop plans for expanding the program to other departments.

4.3.4 Marketing Strategy

Implementation of each TDM strategy requires a marketing strategy. A strategic marketing approach is required to maximize the effectiveness of the program by providing services, pricing levels, and promotional strategies at the right time and place to targeted segments of the workforce. An example marketing plan is included in Appendix A-4.

The American Marketing Association defines this process of strategic marketing as "the process of planning and executing conception, pricing, promotion and distribution of ideas, goods and services to create exchanges that satisfy individual and organizational objectives." To grow, or to adapt to changes in the marketplace, an organization can offer new services and/or enter new markets. Marketing strategies must reflect the Federal agency's overall strategic direction.

Depending on attitudes or current commuting conditions, or both, some employees are predisposed to try ridesharing and others are not. By knowing which employees are more likely to rideshare, the ETC can channel activities which will more likely generate the desired results.

The employee target market can be seen in two ways when preparing to form alternative commute modes. The first way concerns employee attitudes, such as the willingness to rideshare. The second way concerns characteristics, which shape the individual commute of each employee. These include parameters such as the travel distance between home and work, work schedules, and the proximity of other nearby employees which, taken together, may qualify prospective candidates for one form of ridesharing or another.

4.3.4.1   Commuter Decision-Making Process

Attitudes determine whether those who qualify to rideshare actually will choose to do so. It is important to consider the commute characteristics that qualify individual employees for particular alternate modes and the attitudes that determine whether they want to rideshare, and also how these two aspects interrelate. It is also important to understand the five-step dynamic nature of the employee's decision making process and how the TMP needs to address each of the steps:

> (1)   Awareness: The employee may be aware, or unaware of the agency's programs and services, and possesses little detailed knowledge of benefits and costs. These employees can be referred to as Inform Me. To move to the next step, the employee requires information pertinent to his or her needs.

> (2)   Interest: The employee is provided with more information about the TMP's services and discovers that it may meet a need. To move to the next step of inquiry requires a means for facilitating an action by the employee. These employees are asking to Encourage Me. They are

employees with a strong interest in ridesharing or other commute alternatives, but who need encouragement to actually change their commute behavior.

(3)   Inquiry: At this point, the employee is actively seeking additional information and or assistance. The ETC must be prepared to respond to questions about specific features and real and perceived impediments among the Convince Me employees.

(4)   Trial Use: The decision to try an alternative on a part-time or trial basis can allow the employee to adjust to the changes. These employees are placing the option On Trial. Positive experiences can lead to the final step - regular use.

(5)   Regular Use of Mode: The employee is convinced that the program or service meets his or her needs. He or she may require ongoing attention to be sure he or she does not revert to old habits. These individuals can serve as testimonials for convincing co-workers and are a valuable resource. These commuters are the program's Champions. They perceive it to be in their self-interest.

4.3.4.2   Components of Marketing Plan

To implement the TDM strategies selected, the ETC must determine how to market the strategy using one or more of the marketing components of Product, Price, Promotion, and Place. This is a brief overview of marketing. The ETC is encouraged to obtain additional information on the subject and seek specialized training in TMP marketing from MWCOG, GSA, and others. Several examples are provided simply to illustrate the various components of the marketing strategy.

Product

A Federal agency's TMP includes the features of the commute mode or transportation facility, as well as the service provided. The ETC has several options to affect changes to the product including making improvements, opening new markets, backing away from other markets, or eliminating the product altogether.

Changes to the product include the following:

Quality   Improvements in the quality of the information could include maintaining the accuracy of the ridematching database or keeping literature racks filled with the latest transit schedules.

Features   Locating providers of van conversions to add "captain chairs" in a vanpool could be an example of changing the product's feature.

Packaging   Matchlists could include "Helpful Hints for Forming Carpools" or "Sample Vanpool Driver/Rider Agreements"

Support Services Special arrangements for van repair and maintenance services could be made so that repairs could be done on site.

Price

Pricing decisions, such as to provide some services free, subsidize a program, cross-subsidize one program from another, or change market price, are an integral part of the TMP's strategy. Pricing is readily adaptable and generally clear to employees.

Pricing strategies could come in several forms:

Subsidies   Metrocheks could be offered to employees

Discounts   A Commuter Club could be formed using nearby merchants who provide extra discounts to ridesharers.

Payment Period Bi-weekly payments might be arranged to cover vanpool expenses.

Payroll Deduction Metrocheks could be purchased either using agency-appropriated funds or on a pre-tax basis or through payroll deduction and delivered on a set schedule.

Promotion

The promotion or communication strategy is aimed at providing the right message through the right channels to influence the employee to take one of the steps in the five-step decision process discussed above.

Promotional strategies include:

Advertising   Posters, cafeteria table top displays, and premiums provided in exchange for taking some action such as completing a survey or visiting the Commuter Center could be used. Extolling the benefits to employees in terms of cost savings, etc., are the most effective. Check to see if there are limitations on size and frequency of materials for display. Examine potential of jointly developing materials with another agency. Leave room for the ETC name and number for more information.

Personal Selling Carpool formation meetings are effective in addressing specific concerns and bridging the anxiety factor of people facing changes.

Promotions   Transportation fairs and vanpool demonstrations in conjunction with special events such as National Transportation Week, Earth Day, Blood Drives, etc. can increase visibility of the program and the ETC. Public agencies often will lend a hand in planning the event.

Publicity   Internal newsletters highlighting people who ride the bus or carpool can foster word-of-mouth advertising (one of the leading sources of referrals for TMPs).

Place

"Being at the right place at the right time" is the fourth component of the marketing strategy.

Place considerations include:

Location   A central, highly visible location for the ETC will foster increased foot traffic, questions, and ultimately sales. A successful operation would have a "store" appearance to foster face-to-face assistance. Acceptance of payment in the form of checks and credit cards will supplement cash and debit card machines on platforms.

Inventory   Maintaining adequate consignments of transit passes, tokens, and farecards, as well as schedules, will facilitate increased use.

Coverage   Peak demand for services generally falls in three areas: early morning (before work begins), midday, and late afternoon. Scheduling meetings and breaks around these periods can maintain adequate coverage.

4.3.4.3   Considerations for Marketing TMPs

Marketing TMP services differs from selling products, such as new cars, in the following ways:

- The end result is intangible - the commuter often cannot easily touch and feel the end result of his or her decision.

- Lost opportunities are not recoverable:
  - A typical business hears from 4% of its dissatisfied customers. The other 96 percent just quietly go away and 91 percent will never come back. That represents a serious potential loss for improving TMP effectiveness for agencies whose ETCs do not know how to treat employees, and a gain for those who do.

- A typical dissatisfied customer will tell eight to ten people about the problem. One in five will tell twenty. It takes <u>twelve</u> positive service contacts to make up for <u>one</u> negative incident.
- The average business spends six times more to attract new customers than it does to keep old ones. Yet customer loyalty is in most cases worth ten times the price of single purchase.

The challenge is to select the most appropriate TMP services and tailor the marketing strategy to the Federal agency's situation. Under each TMP strategy, there are numerous packaging, pricing, promotion and place decisions to be made. The information collected and analyzed to this point will help the ETC implement the most appropriate strategies selected for his or her agency.

4.3.5   Implementing the TDM Strategies – Conclusion

At the end of the implementation step, an excellent product to have is an Implementation Work Plan. This document should set forth specific tasks, timelines, budgets and personnel assignments for implementation.

4.4 monitoring & evaluation

Section 4 – A Guide to Preparing a TMP

4.4   MONITORING & EVALUATION

In order to maintain a successful TMP, implementation alone is not sufficient. The TMP must be monitored, evaluated, and restructured as necessary in order to be effective. This section of the handbook provides information on how to successfully monitor and evaluate a TMP.

4.4.1   What Is Evaluation?

A successful evaluation will determine one or more of the following:

- The extent to which the program has achieved its stated objectives (e.g., increases in AVO).

- The extent to which the accomplishment of the objectives can be attributed to the program (direct and indirect effects).

- Degree of consistency of program implementation to plan (relationship of planned activities to actual activities).

- The relationship of different strategies to the effectiveness of the program (productivity).

4.4.2   Why Evaluate?

There are many reasons for developing a system to monitor progress, as follows:

- Requires the Federal agency to examine the clarity of its objectives, the ease with which they can be measured, and the possibility of their being achieved.

- Helps determine the best way to redirect efforts when it is determined that elements of the program have or do not have desired results.

- Provides staff with data to reinforce their efforts or to recommend new directions in which to move.

- Provides management with a tool in directing the organization's TMP into productive channels.

- Shows evidence to other agencies and the public of the diligence and sincerity of the agency.

- Supplies factual information for public relations campaigns.

- Helps other Federal agencies anticipate problems in implementing similar programs and provides yardsticks against which others may measure their success.

4.4.3 Methods of Evaluation

There are several different methods for collecting the data for evaluation purposes. Some of the most commonly used methods involve:

- Employee surveys.

- Program participation documentation (e.g., registrations for preferential parking, applications for subsidies).

- Vehicle counts.

- Time sheets/Activity logs.

- The evaluation method and data collection requirements depend on the measures of effectiveness being used.

4.4.4 Measures of Performance

Measuring the extent to which the program has achieved its stated objectives (e.g., increases in APO) will include methods to determine:

- What was the change in Mode Split or Average Passenger Occupancy over the year?

- How many people were placed into a carpool per year or per 100 employees?

- How many new vanpools were formed?

- How many people were placed as riders into new and existing vanpools per year?

- How many customers were served?

- How many requests for assistance were filled?

- How many Metrocheks were provided to employees? What was their sales value

Measuring the extent to which the accomplishment of the objectives can be attributed to the program (direct and indirect effects) may require designing an evaluation along the lines of the effort used by the MWCOG, as follows:

- What is the estimated change in Vehicle Miles Traveled?

- What is the estimated change in Vehicle Trips?

- How has demand for parking been affected?

- What reduction in pollutants is estimated?

- How much money did our employees save as a result of the program?

- To what degree did employees try an alternate mode as a result of marketing efforts rather than through existing programs or services of the agency (e.g., employees who form a vanpool on their own)?

Some research indicates that the indirect effects of a program may equal or exceed the direct effects.

Evaluating the degree of consistency between program plan and implementation (relationship of planned to actual activities) may determine whether, for example, the number of matchlists produced were sufficient to form new carpools. Other evaluation techniques include:

- Which implementation tactics were the most effective?

- Were all planned activities carried out on time and within budget?

- Were the number of carpool formation meetings adequate?

- Was customer response time within the pre-established performance goal (e.g., requests received by 10:00 a.m. will be filled the same day for 95% of the employees)?

- What level of staffing did it take to form and maintain a carpool?

The Federal agency and taxpayers will want to see that the investment in the program is being used efficiently and effectively. Benefit/cost ratios or productivity matrices can be produced to provide this measure.

4.4.5 Evaluation Survey

There are three basic methods of conducting an evaluation survey: by mail, phone, or e-mail. The following provides some guidance in achieving high response rates.

The key goal of any commuter survey plan should be to obtain the cooperation of the management of each division and to make them feel involved with the data collection, while retaining control of the survey administration. Inefficiencies due to communication problems, improper methods of distribution, and bad decisions will inevitably occur. The Federal agency's ETC must find ways to develop constructive relationships with each division, while maintaining as much hands-on control as possible.

Survey methodologies generally seek to achieve the highest possible rate of response at a reasonable cost. Data derived from surveys with high response rates should be more accurate than data derived from low-response surveys for at least two reasons: 1) a higher response yields a larger data set, which reduces the sampling error for the data; and 2) more importantly, the chance for bias or non-coverage error to skew the survey results is less as the response rate gets higher.

Independent of the distribution method, the ETC should give close attention to to questionnaire design. A good questionnaire should be easily formatted to be distributed by mail, telephone or e-mail/internet. The "menu" below presents the basic elements of a survey. Each survey effort is unique; this list is just a guide.

(1)   Selecting the Sample

Respondents are usually selected from some kind of master list that either approximates or actually is the group under study. Typically a systematic random sampling design is used: the master list is sorted on any of several characteristics that are assumed to be important to how respondents will answer the survey questions, then every Nth case is selected for the survey. The sampling interval is determined by the ratio of total cases on the master list to the desired number of sample cases.

(2)   Sample Size

An estimate of the survey response rate can be used to determine what sample size is desired, given the number of completed responses the Federal agency wants to obtain. For example, if the Federal agency wants to obtain 300 completed surveys, and the Federal agency estimates a response rate of 60 percent, the Federal agency would need to start with a sample size of 500 cases.

After the records are selected, they are tagged with an identification number. This number allows for confidentiality (NOT anonymity) of response while also allowing the Federal agency to mark off responses as completed, so that the follow-up calls are only made to non-respondents.

(3)   Pre-notification of Potential Respondents

Whatever the distribution method chosen, the ETC should take every opportunity to notify employees of the survey in advance. Its goals should be explained, as well as the consequences of low response. The ETC should be designated as the contact for questions. This information should be circulated by newsletter or bulletin board.

(4)   Quality of Packet Materials

There are numerous books available on questionnaire design and formatting. The following points are suggested in questionnaire preparation:

- Generally, the questionnaire should have generous amounts of white space.
- There should be no typographical or grammar errors.
- Each question should be clear and have a single purpose.
- Answer categories (if provided) should be unambiguous, exhaustive, and mutually exclusive.
- Questions should be numbered consecutively for ease of data entry; do not divide the questionnaire into numbered sections where question numbers begin at one again, for example.
- Pages should be numbered if the survey is distributed or summarized in more than one page.
- There should always be a question soliciting input, comments, etc.
- Instructions and definitions should be provided in the body of the questionnaire.
- Questionnaires should be reviewed by "fresh eyes" after every significant draft. Where budget and time allow, questionnaires should be pre-tested with actual potential respondents. They will almost always find problems that the person preparing the draft did not see.
- The packet should always have a cover letter or some sort of introduction, even if it is generic, and even if it is made to be a part of the questionnaire itself. The introduction should reinforce the importance and benefits of participation, highlight any instructions for completing the questionnaire, and explain any methodological techniques such as identification numbers for mailing control.
- Official letterhead recognizable to the respondent should be used, with a suitably impressive signature. Sometimes the best signature is that of a mid-level person, but often the highest-level signature is the best.

(5)   Degree of Personalization

Recent research shows that, given controlled follow-up attempts, the degree of personalization is the single most important predictor of response rate differences. Generally, the highest effective level of personalization should be used. Personalization becomes ineffective or counter-productive when the information is inaccurate or the subject matter of the survey is extremely sensitive.

(6)   Degree of Follow-Up

This is very important to achieving high response rates. To allow for effective follow-up, survey participants must be assigned identification numbers. Survey materials must be marked with this identification number to allow for tracking of response, to avoid unnecessary follow-up mailings and duplication of response.

Other specific considerations are:

(1)   Mail Surveys

- Full contact information should be a part of the questionnaire, should the questionnaire be separated from the rest of the packet materials.
- Questionnaires should be reproduced to quality standards.
- Methods of distribution:
  Stamped, first-class U.S. mail to home address
  Metered, first-class U.S. mail to home address
  Bulk rate or other U.S. mail to home address
  Company or internal mail to work location
  Paycheck envelope insert
  Other self-delivered method

Methods that rely on the respondent to pick up the questionnaire will not be effective.

Personalization also comes into play with touches such as actual ink signatures on cover letters, instead of copied or machine-generated signatures; actual stamps on envelopes; hand-addressed envelopes; etc.

This identification number should be applied with a stamping device, if possible, because this is a piece of information where personalization is to be avoided. One initial mailing, one post card reminder/thank you, and one follow-up mailing to all non-responders are recommended.

About eight to ten weeks after the first mailing, the project usually winds down, the dataset is considered to be final, and data analysis and reporting can begin.

(2)   Telephone Surveys

Telephone survey guides are used. Due the difficulty of reaching some individuals, several (up to four) calls should be made to each person in the sample. The decision to call at work or at home may be a function of the agency or the employee's position.

In cases of low response to interview requests, the Federal agency may wish to conduct a brief mail follow-up survey of the non-respondents, in order to estimate whether the rate of non-response is a source of bias, and if so, to what degree.

The mail follow-up should confirm any basic demographic information, as well as collect answers to a few of the fundamental substantive questions on the phone survey. The answers of the non-respondents can be compared to those of the respondents; any large differences would allow the Federal agency to estimate the potential effects on the mail survey data of non-response bias.

(3)   E-mail Surveys

E-mail surveys are simple and cost effective. The formatting of an e-mail survey is critical to it's success. One of the benefits of e-mail surveys is that employees of a worksite are typically on the same system, resulting in consistency of responses. Turnaround time for response is also good.

One of the pitfalls of e-mail surveys is that employees might perceive them as simply more "junk" e-mail and be less likely to respond. E-mail is also a less formal means of communication and therefore may not carry the weight or authority of actual mailings.

4.4.6 Monitoring & Evaluation - Conclusion

Successful monitoring and evaluation of a TMP will result in a dynamic program that continues to meet the wants and needs of both the employee commuters and employers, while at the same time continually reducing commuter trips to a worksite.

A.1 glossary

Appendix

Glossary

Activity Center : A major concentration of employment and commercial activity, which may be found in suburban areas as well as in the downtown.

Alternate Work Schedules : The use of work policies such as flex-time and staggered work hours and compressed work weeks. Such schedules may allow employees to avoid commuting during peak traffic periods (also called variable work hour policies).

Buspooling : A user prearranged bus service, privately contracted by passengers or employers.

Carpooling : An arrangement in which commuters share auto use for commuting. A carpool is formed with a minimum of two people who commute on a regular basis. The members generally share common residential and employment locations as well as common work schedules.

Commuter Assistance Programs : Services, generally provided by employers, developers, or public agencies, to help facilitate commuting arrangements by carpool, vanpool, and transit. (See also Ridematch)

Commuter Information Center : A permanent, on-site physical display of information explaining all commute modes available to the site. The center must incorporate schedule holders for transit route information and brochure pockets for ridesharing and flex-time information. The center is located in an area with high employee and resident pedestrian traffic.

Commuter Mobility : The ability of a worker to travel from home to work easily.

Commuter Mobility Program : A comprehensive alternative transportation services program for employers to offer as effective, efficient and low cost demand reduction strategies for their employees' commute to and from work.

Compressed Work Week : This is a form of alternate work schedules that allows employees to work a 40-hour week in less than the standard five days, typically in four 10-hour days. The intent is to reduce the number of days worked in a given week or other time period and thereby reduce the daily vehicle demand at a site.

Congestion Pricing : Pricing of road use to reflect the cost of delays on travelers caused by congestion. Pricing is imposed through tolls, permits or electronic debit cards.

Diamond Lanes : See HOV Lanes.

Glossary (cont.)

Dynamic Ridematch : A system of ridesharing in which short-term (one trip) carpools are formed to meet the current needs of travelers (i.e., a type of formalized service in which a person in need of a ride is matched on short notice with one or more drivers headed to that person's destination).

Employee Transportation Coordinator (ETC) : An employee of the site or building owner(s) who implements and monitors TDM strategies. The ETC need not to be housed on-site but is accessible to all site employees and residents during normal work hours. An ETC is generally an individual appointed by a building or site tenant to provide employees with transit and ridesharing information. The ETC's responsibilities include promoting appropriate programs, providing services such as pass sales or parking management, and conducting employee surveys for program evaluation.

Fleetpools : A program allowing carpoolers/vanpoolers to use the employer automobiles for commuting to/from work or for work.

Flexible Work Hours (also called Flextime): This is a form of alternative work hours. It is a policy that allows employees to vary when they start and stop work each day. Most flextime policies specify a core period in the middle of the workday (e.g., 10:00 a.m. to 4:00 p.m.) when all employees are required to be present. The intent is to allow employees more flexibility to adjust work house to meet individual needs and commuting time schedules, e.g., to arrange a carpool or meet a bus.

Fringe Parking : Parking facilities often located well outside the CBD on the fringe of the heaviest urban congestion, at points where trip concentrations facilitate and encourage changes of mode to trunk line transit services or carpools/vanpools.

Guaranteed Ride Home (GRH) Program : A program providing carpool, vanpool, or bus patrons a trip for personal emergencies or work obligations. A private employer or public agency may provide the trip through company cars, taxis, or rental vehicles.

High Occupancy Vehicle (HOV) : Any passenger vehicle that carries at least a specific number of people, either two, three, four or more. Buses, carpools, and vanpools are high occupancy vehicles.

High Occupancy Vehicle (HOV) Lane : A lane(s) on a street or highway reserved primarily for the use of high occupancy vehicles (HOV's) either all day or during specified periods (e.g. during the rush hours).

Joint Development : A type of public/private partnership that encourages transit ridership (or some shared ride system) by incorporating transit facilities into private development return for access to publicly owned land or some other incentive to the developer.

Glossary (cont.)

Kiss and Ride : A portion of a park and ride lot where transit patrons can be dropped off from (or picked up on) an automobile.

Metropolitan Planning Organization (MPO)   : The organization responsible for regional transportation planning in an urbanized area. Members are designated by the governor and local elected officials.

Mode Split : A term that describes the proportion of travelers using various forms of transportation. It is the percentage of breakdown of trips made by driving alone, carpool, vanpool, transit, cycling, walking and other modes.

Park-and-Ride Lot : A transit, carpool, and/or vanpool parking area where people can park their autos, then ride transit or meet carpools or vanpools.

Parking Management : Parking measures including parking charges for solo drivers, preferential parking for pool vehicles, control of parking supply, the elimination of free or subsidized parking at employment areas, and fringe parking lots.

Parking Reduction or Flexible Parking Requirements   : Local government regulations allowing reduced zoning requirements for off-street parking in return for developer-sponsored TDM efforts or contributions to a TSM/TDM or in lieu parking trust fund.

Parking Supply : The total number of parking spaces within a given area or facility.

Peripheral Parking : A parking facility located immediately outside the central business district, where personal vehicles may be parked and travelers may continue their trips to downtown via transit, carpool, or vanpool.

Preferential Parking : Assigning desirable parking spaces, such as those closet to building entrances, to carpool and vanpool vehicles. Other preference may include reduced or eliminated parking prices for pool vehicles and exemptions from hourly parking limits.

Promotions : A marketing event designed to educate and inform employees of their commute options and available incentives. The promotion may be an on-site event (van displays, transit pass information, carpool match displays, etc.) or a distribution of information materials to all employees.

Ridematch : A carpool, vanpool and buspool matching service. Commuters are matched with others having similar commute trip origins, destinations, and schedules (see Commuter Assistance Program).

Glossary (cont.)

Ridesharing : Sharing of one vehicle by a tow or more commuters. While the concept of ridesharing applies primarily to carpools and vanpools, it is sometimes applied to transit as well.

Shuttle Bus/Subscription Bus : An often privately owned and operated vehicle which, for little or no fee to the passengers, provides a direct link locations inside and outside the downtown area and/or between specific locations within the metropolitan area.

Single Occupant Vehicle (SOV) : An automobile carrying only the driver, also known as drive-along vehicle.

Staggered Work Hours : An employee work hour schedule where daily start and stop time are staggered over a range of time (usually 15 minutes to two hours). Employees generally have no choice in their work hours. The intent is to spread out commuting peaks.

Subregional Center : A planned, mixed-use development usually consisting of residential, commercial, and industrial land uses, often located at a transportation node, possibly designed to encourage densities which will reduce vehicle trips and facilitate public transit.

Subsidy : The employer or owner of a work site building pays, partially of fully, the out-of-pocket cost of employee or a tenant's employees' work trip. Subsidy options can include transit passes, carpool parking fees, vanpool fares and guaranteed rides home.

Suburban Activity Center (SAC) : A complex of work sites located outside the downtown core of a metropolitan area.

Telecommuting : Any form of electronic transfer of information that can take the place of the physical transportation of people or goods. An employee thus works at home rather than in an out-of-home office.

TDM : See Travel Demand Management (sometimes referred to as Transportation Demand Management).

TDM Ordinances : See Trip Reduction Ordinances.

TMA : See Transportation Management Association.

Traffic Mitigation : The use of TDM techniques to reduce the traffic impact of new development.

Glossary (cont.)

Transit : Passenger transportation available to the public at a prescribed fare. Transit usually operates on established schedules along fixed routes and is designed to move relatively large groups of people at one time.

Transportation Allowance : A policy of paying an employee a set amount each month that represents some measure of transportation cost (e.g., cost of parking). The employee can then spend that amount for parking or on some other means of commute transportation.

Transportation Control Measure (TCM)   : A transportation or transportation-related action intended to reduce air pollution, often defined technically by federal clean air legislation.

Transportation Coordinator   : See Employee Transportation Coordinator.

Transportation Management Association (TMA)   : An organization of property developers, property managers, employers and public officials which cooperatively mitigates traffic congestion, assists commuters, and otherwise encourages improved travel in a given area. Such organizations can serve as forums in which the private and public sectors meet to address current and future transportation needs.

Transportation Management Organization (TMO)   : Same as TMA.

Transportation Stores   : A defined area at the work site that is accessible to commuters and functions as a clearinghouse for complete information on commuter transportation alternatives; buying a transit pass, securing a ridematch, obtaining roadway construction updates, etc. (See Commuter Information Center)

Transportation Systems Management (TSM)   : The use of low capital-intensive transportation improvements to increase the efficiency of transportation facilities and services. Examples include carpool and vanpool programs, parking management, traffic signalization coordination, park and ride lots, and other measures. The term also is applied to techniques used to reduce the demand for travel in a defined area (see travel demand management).

Travel Demand Management (TDM)   : Policies, programs, and actions implemented to increase the use of high occupancy vehicles (public transit, carpooling, and vanpooling), cycling and walking; to encourage commuting outside congested time periods; and to encourage telecommuting as an alterative to driving.

Trip Reduction Ordinances (TRO's) : Regulations passed by local government requiring developers, property owners, and/or employers to carry out or finance TDM and TSM efforts. TRO's often specify a trip generation target that must be met by a development.

Glossary (cont.)

TRO : See Trip Reduction Ordinance.

TSM : See Transportation Systems Management.

TSM Ordinances : See Trip Reduction Ordinance.

Vanpool : A passenger van used by seven to 15 commuters. The route and schedule are determined by the group. The van may be provided or subsidized by an employer, regional rideshare agency or through a private company that leases vehicles (known as a third-party contractor).

Variable Work Hours : See Alternate Work Schedules.

Vehicle Occupancy : The number of people in a vehicle at one time.

Vehicle Occupancy Rate : The average number of occupants in a vehicle traveling to or from a particular work site or study area.

A.2 examples

Appendix

Example 1: Employee Transportation Survey

This survey has been designed to access the commuting needs of <INSERT FEDERAL AGENCY NAME> employees. Responses are confidential and will be used to develop commuting programs. Please answer all questions completely, and use ink. If you have any questions, please call _____ at _____.

_____   _____
First Name   Last Name

_____

_____   ____/____/____
Address   Today's Date

1.   Do you regularly report to work between 6:00 a.m. and 10:00 a.m.
          (check one)

          YES [   ]   NO [   ]

2.   What time were you scheduled to report to work and leave from work each
          day last week? If you worked at home any day last week, please indicate start
          and stop times. Circle a.m. or p.m. Leave the line blank if you did not work
          on that day.

	MON		TUES		WED		THUR		FRI	
Reported to Work		am pm		am pm		am pm		am pm		am pm
Departed from Work		am pm		am pm		am pm		am pm		am pm

3.   Did you work a compressed work week schedule last week? (that is, work
          fewer days per week with more hours per day, excluding overtime.)

YES [   ] (Complete 3.1 and 3.2)   NO [   ] (Skip to question #4)

3.1   If YES, what compressed work week schedule did you work?
           Check only one.

a.   _____ 4/40 – work 40 hours in 4 days
b.   _____ 9/80 – work 80 hours in 9 days
c.   _____ 3/36 – work 36 hours in 3 days
d.   _____ Other (Please specify) _____

3.2   What day(s) do you normally have off? (Check all that apply.)

a.___ Monday   b.___ Tuesday   c.___ Wednesday   d.___ Thursday   e.___ Friday

4.   How did you travel to work each day last week? Please write the appropriate letter for each day in the spaces below. If you used a combination of travel methods, indicate the one used from the majority of your trip distance. Please use the following definitions:

Carpool: Two (2) to six (6) employees of one (1) or more employers traveling together from home to work for the majority of their commute trip.

Vanpool: A vehicle occupied by seven or more employees of one or more employers who travel together for the majority of their commuter trip.

A = Drove Alone   H = ride public bus (METRO/VRE/MARC)
B = Motorcycled   I = walked or jogged
C = 2 person carpool   J = bicycled
D = 3 person carpool   K = did not work
E = 4+ person carpool   L = disabled employee
F = Vanpooled   M = Other _____
G = rode private bus (buspool)

Place one letter in each space. Do not leave any blank.

_____   _____   _____   _____   _____
Monday   Tuesday   Wednesday   Thursday   Friday

4.1   If you traveled any day of the week in a vanpool, how many total persons, including yourself, were in the van? _____ persons

5.   Where did you <u>begin</u> each work day <u>last week</u>? Please write the appropriate letter from each day in the boxes below

A = regular work location   D = did not work due to illness
B = another company or branch   E = did not work due to vacation/holiday
C = worked at home the entire day F = regular day off day

_____   _____   _____   _____   _____
Monday   Tuesday   Wednesday   Thursday   Friday

6.   How many miles do you travel to work, <u>one way only</u>?
       _____ miles

7. How many minutes does it usually take you to get to work?
    _____ minutes

8. If you drive a vehicle to work, where do you usually park? Check one:

    _____ parking lots or decks under control of the agency
    _____ private lots or decks
    _____ on street (e.g. metered or curb side without meters)
    _____ Other (Please specify) _____

8.1 If you drive a vehicle to work, how much do you pay for parking? Please
    specify whether you pay by the:
    ___ /hour   ____ /day   ____ /month   _____ /year

9. Would you consider carpooling, vanpooling, taking public transit or using
    other share commute "modes" on:

    _____   _____   _____   _____   _____
    Monday   Tuesday   Wednesday   Thursday   Friday

10. What is your main reason for not sharing a ride for your commute? Check up
    to three (3) choices.

    ____ Need car at work for agency business
    ____ Need my car at work for personal errands
    ____ Need my car before or after work
    ____ Live close to work
    ____ Don't have anyone with whom to ride
    ____ Don't like to depend on others for a ride
    ____ Irregular work schedule
    ____ Takes too much time
    ____ Costs more than driving alone
    ____ Need a specially equipped vehicle
    ____ Other _____

11.   What would encourage you to share a ride to work in a carpool or vanpool? Check up to five (5) choices. Label your choices 1 through 5 by their level of importance (1-highest…5-lowest):

     ____ Help finding people with whom I can share the ride
     ____ Guaranteed ride home in case of emergencies and unscheduled overtime
     ____ More flexible hours (Flextime)
     ____ Easier access to services for personal errands during the day
     ____ Agency subsidy or payment for carpoolers and vanpoolers
     ____ Prizes, contests, and drawings for ridesharers
     ____ Use of agency vehicles for business purposes during the day
     ____ Parking fees for those driving alone
     ____ Child care facilities at or near my work site
     ____ A monetary savings over driving alone
         (cost of driving alone – fuel/tolls/parking fees)
         (fill out dollar amount) $_____ dollar(s)/trip $_____ dollar(s)/day
                                  $_____ dollar(s)/week $_____ dollar(s)/year
     ____ Other _____
     ____ I do not wish to carpool or vanpool to work at this time.

12.   What would encourage you to use public transit or METRO or Virginia Railway Express or MARC for your commute? Check up to five (5) choices. Label your choices 1 through 5 by their level of importance (1-highest…5-lowest):

     ____ Help finding bus or rail service to meet my schedule
     ____ Guaranteed ride home in case of emergencies and unscheduled overtime
     ____ More flexible hours (Flextime)
     ____ Easier access to services for personal errands during the day
     ____ Sale of transit passes on site
     ____ Agency subsidy or payment for transit or rail riders
     ____ Prizes, contests, and drawings for ridesharers
     ____ Use of agency vehicles for business purposes during the day
     ____ Parking fees for those driving alone
     ____ Child care facilities at or near my work site
     ____ Bicycle lockers at transit stations
     ____ More frequent service or more convenient stops
     ____ A monetary savings over driving alone
         (cost of driving alone – fuel/tolls/parking fees)
         (fill out dollar amount) $_____ dollar(s)/trip $_____ dollar(s)/day
                                  $_____ dollar(s)/week $_____ dollar(s)/year
     ____ Other _____
     ____ I do not wish to carpool or vanpool to work at this time.

13. What would encourage you to ride a bicycle to work? Check up to five (5) choices. Label your choices 1 through 5 by their level of importance (1-highest…5-lowest):

     ____ Guaranteed ride home in case of emergencies or unscheduled overtime
     ____ Secure, convenient bicycle parking racks
     ____ Seminars on riding safely in traffic
     ____ Showers and clothing lockers
     ____ Bicycle lockers
     ____ More flexible hours (Flextime)
     ____ Easier access to services for personal errands during the day
     ____ Agency subsidy for bicycle riders
     ____ Prizes, contests, and drawings for ridesharers
     ____ Use of agency vehicles for business purposes during the day
     ____ Parking fees for those driving alone
     ____ Other _____
     ____ I do not wish to ride a bicycle or walk to work at this time.

14. Would you be interested in telecommuting?

     YES [   ] (Complete 14.1 and 14.2)   NO [   ] (Skip to question #15)

14.1   If YES, when?

_____   _____   _____   _____   _____
Monday   Tuesday   Wednesday   Thursday   Friday

14.2   If YES, from where?

     _____ Home or Telework Center
     _____ Home only
     _____ Telework Center only

15. Would you be interested in participating on a compressed work week schedule program?

YES [   ] (Complete 15.1 and 15.2)   NO [   ] (Do not answer 15.1 and 15.2)

15.1   If YES, what compressed work week schedule would you prefer? Check only one.

     _____ 4/40 – work 40 hours in 4 days
     _____ 9/80 – work 80 hours in 9 days
     _____ 3/36 – work 36 hours in 3 days
     _____ Other (Please specify) _____

16. What day(s) would you normally have off? (Check all that apply.)

a.___ Monday   b.___ Tuesday   c.___ Wednesday   d.___ Thursday   e.___ Friday

THANK YOU FOR YOUR TIME!

Please return this survey to your supervisor by _____

Example 2: Example Weekly Summary Form for Employees

	Mode	Monday	Tuesday	Wednesday	Thursday	Friday	Total
A	Drive Alone						
B	Motorcycle						
C	2 person carpool						
D	3 person carpool						
E	4+ person carpool						
F	Vanpool						
G	Buspool						
H	Transit (bus/rail)						
I	Walk/Bicycle						
J	Telecommute						
K	Report to another site						
	Compressed work week credits:						
M	3/36 work week						
N	4/40 work week						
O	9/80 work week						
	Days off:						
P	Vacation						
Q	Sick						
R	Other (including non 6-10 AM trips)						
	Total						

Example 3: Example Weekly Employee per Vehicle Count

Enter the total number of trips for each mode from "Weekly Summary Form for Employees" in Column (1).

	Mode	(1) Total Employee Trips		(2)		(3) Total Vehicles
A	Drive Alone		A	divided by 1	=	
B	Motorcycle		B	divided by 1	=	
C	2 person carpool		C	divided by 2	=	
D	3 person carpool		D	divided by 3	=	
E	4+ person carpool		E	divided by 4	=	
F	Vanpool		F	total vans used	=	
G	Buspool		G	total buses used	=	
H	Transit (bus/rail)					0
I	Walk/Bicycle					0
J	Telecommute					0
K	Report to another site		K	divided by 1	=	
L	No Survey Response		L	divided by 1	=	
	Compressed work week credits:					
M	3/36 work week					
N	4/40 work week					
O	9/80 work week					
W	Total employee trips		T	Total vehicles		
	Days off:					
P	Vacation					
Q	Sick					
R	Other (including non 6-10 AM trips)					

Example 4: Average Vehicle Ridership Calculation and Planning Form

Lines 1 and 2 refer to Table from Example 3, Weekly Employee per Vehicle Count.

1.	Total employee trips generate Monday through Friday between 6:00 AM and 10:00 AM inclusive: Column (1), Row W.	
2.	Total vehicles arriving at the worksite Monday through Friday between 6:00 AM – 10:00 AM inclusive: Column (3), Row W.	
3.	Divide line #1 by line #2 for current Average Vehicle Ridership (AVR).	
4.	Enter AVR Objective (target) here.	
5.	Divide line #1 from line #4 to calculate the target number of vehicles	
6.	Divide line #5 from line #2. This is the number of vehicles that must be reduced to reach the target AVR.	
7.	Divide line #7 by the averaging period of five days to calculate the daily vehicle reduction to reach the target.	

Example 5: Example Marketing Plan Outline

A. Executive Summary

B. Program Summary
    1.   Program Goals
    2.   Program Definition
        a.   Scope
        b.   Market Segments (Primary/Secondary)
        c.   Differentiation from Competition (i.e. SOV alternative)
        d.   Strategy
    3.   Program Objectives
    4.   Product/Service Portfolio
        a.   Product/Service Descriptions
        b.   Product/Service Target Markets
        c.   Product/Service Marketing Objectives

C. Product/Service Strategy for Each Product or Service
    1.   Market Situation Assessment
        a.   Marketing Environment Analysis
        b.   Competing Products and Marketing Activity
        c.   Customer Attitudes and Preferences
        d.   Internal Capabilities and Constraints
        e.   Current Marketing Activity
    2.   Challenges and Opportunities

D. Marketing Strategy Design
    1.   Marketing Strategies
        a.   Product/Service Strategy (including packaging)
        b.   Pricing Strategy
        c.   Distribution Strategy
        d.   Promotion Strategy
             (Including advertising, publicity, and personal selling)

E. Implementation Plan
    1.   Tactics
        a.   Product
        b.   Pricing
        c.   Distribution
        d.   Promotion
    2.   Work Plan
        a.   Timetable
        b.   Priorities
        c.   Budget
        d.   Task Assignments
    3.   Monitoring and Evaluation

F. Evaluation Plan
    1.   Product evaluation
    2.   Process evaluation
    3.   Reporting

Example 6: Example ETC Job Description

Program Services Specialist - Ridesharing/Transportation Management
Planning
(Grade level varies)

Introduction

Employee serves as a [Program Services Specialist] under the general supervision of
the [Supervisory Specialist] in the [XXXX] Section. Employee independently plans
work, determines priorities, and is evaluated in terms of accurate and timely
accomplishment of duties, use of good judgement, soundness of recommendation,
success of the program operations, and adherence to management objectives and
agency policy.

Employee must possess complete working knowledge of [GSA] policy,
administrative procedures, regulations, and statutes. The employee must keep abreast
of statutory and regulatory changes published in the Federal Register as they affect
Ridesharing and Transportation Management Planning (TMP) Programs. Employee
must possess a high degree of analytical ability and a thorough familiarity with
statistical, accounting, and other techniques related to the planning and development
of programs. Employee must be able to present conclusions to a broad spectrum of
perple. The employee should have some background in the utilization of computer
data bases.

Major Duties

Employee assists the Regional Program Manager for the ridesharing program, which
was authorized by Executive Order 12191 on February 1, 1980, and implemented by
a Presidential Memorandum for Heads of Executive Departments and Agencies on
the same date. The objective of the program is to maximize Federal employee
participation in mass transit, carpools, and vanpools to effect energy conservation and
mitigate traffic congestion. In as much as this is a new program area and the [NCR]
is designated as the pilot program for the Federal Government, the employee must
assist in the development of the program from conception and assure that it is
operational. The employee must use creative ideas to initiate the program, and the
employee must be able to develop the program in terms of employee incentives and
benefits in order to maximize participation. The employee must market and sell the
program to Federal employees.

The employee plans, directs, and coordinates [GSA's] operational and program
developmental activities related to ridesharing, and develops short and long-range
objectives and regional government-wide policies for this program, determines the
resources needed to promote the program, and persuasively promotes ridesharing to
Federal agencies.

The employee determines the types of information needed to plan, program, and direct region-wide surveys of Federal employees' commuting and preferences. Employee analyzes results of surveys to determine progress of the TMP program and allocate future resources in order to maximize ridesharing efforts. Employee compares data obtained in the National Capital Area to nationwide ridesharing and TMP statistics to determine progress. He or she modifies approaches used in promotion of the program to best enhance program outcome (i.e., promoting mass transit in lieu of carpools; or buses instead of Metro). Employee closely monitors the Council of Governments (COG) Commuter Club matching service to determine if promotional efforts are proving successful. The employee recommends to COG innovative changes to its approach to the ridesharing program. Employee supplies COG with names for the Commuter Club by actively promoting the system through agency contacts.

The employee produces comprehensive planning studies to be used as the basis for the ridesharing budget and for annual promotional efforts. Employee reviews ridesharing recommendations on complex transportation problems related to the Federal ridesharing program, such as impact of additional licensing requirements on the number of vanpools in service; the effect of increased insurance requirements on vanpool costs; feasibility of opening the bus lanes to compact cars which hold less than four drivers; promoting low-interest van loans through local banks; promoting on-street reserved parking for vanpools; discouraging additional taxes on commuter vans, etc.

The employee performs various complex and in-depth studies such as those mentioned above, which impact current policy and involve the interrelationship of various organizations, such as encouraging flextime in order to allow better matching for carpools; encouraging management to use free van parking as a collective bargaining item; or scheduling agency visits to conform to the Commuter Club schedule in order to prevent backlogs.

The employee further coordinates programs, policy, and activities with state and city governments, the Council of Governments, Federal agency Personnel Offices, GSA's Public Buildings Service, etc. The employee maintains liaison with headquarters elements (Director of Administration level) of all executive agencies located in the NCR, and the regional appointed Employee Transportation Coordinators (ETC) for all agencies, state government, and the Metropolitan Washington Council of Governments.

The employee updates the GSA Public Affairs Office with information of [GSA] ridesharing progress. Attends meetings, conferences, and classes pertaining to Federal employee ridesharing. Meets with Regional ETC's appointed by agency heads to develop new programs and increase the effectiveness of current ridesharing programs. Identifies institutional barriers to ridesharing such as insurance and financial barriers, and negotiates with state and local regulatory agencies, insurance industry representative, and financial institution representatives to remove such barriers. Develops comments on legislative and regulatory proposals, such as fuel

allocation regulations, from the perspective of impact on vanpooling and ridesharing programs. Develops new responses to Executive Order 12191 (Federal Facility Ridesharing Program) and Presidential Memoranda for Heads of Executive Departments and agencies. Reports effects of proposed Federal legislation on the program.

The employee continually analyzes the organization and implementation of plans and policy related to ridesharing to determine the success of the program and/or the various strategies and plans used to implement the program at many locations, including many national headquarters offices. In coordination with officials from the Federal agency, establishes goals and objectives for program. Goals will normally be expressed in terms of employee participation program, the decrease in pollutants, and energy conserved in gallons of fuel. If employee feels that an agency or location is failing to meet goals, he of she must investigate and analyze this failure to determine if it is a true agency failure or lack of employee interest. This program is mandatory for all agencies; however, individual employees have the right to choose if they desire to participate. Therefore, if the employee feels that the agency has failed to carry out the mandates of Executive Order(s) and any other pertinent regulations, and have not fully striven to overcome the negative institutional barriers that exist within the agency or location, he or she must report these findings to the Regional Administrator, NCR through the Division Director and the Assistant Regional Administrator, for final disposition.

Employee maintains liaison with the Office of the Regional Counsel concerning all matters pertaining to proposed program changes and new programs to ensure that such programs will not conflict with pertinent statues, regulations, or policies.

Employee ensures that coordination of efforts with other specialists in the Branch and within other GSA organizations with respect to the projects involved. The employee provides assistance to lower grade specialists in accordance with Branch procedures, prepares official recurring reports and onetime reports, and performs such special projects or detail work as directed by the supervisor.

Example 7: Employer Services Participation Levels

(From MWCOG's Commuter Connections Program)

LEVEL 1 - BRONZE

- Expresses interest in telework, transit benefits, Metrochek, Ozone Action Days, or other TDM Strategy. No program implemented.

- Conducts Commuter Survey.

- Distributes alternative commute information to employees, including Ozone Action Days information.

- Posts alternative commute information, including Ozone Action Days information, on employee bulletin boards, newsletter or e-mail.

LEVEL 2 - SILVER

- Installs a permanent display case or brochure holders and stick with alternative commute information or Ozone Action Days information.

- Provides preferential parking to carpools or vanpools.

- Implements an informal Telework Program.

- Facilitates car/vanpool formation meetings.

- Hosts/Sponsors an alternative commute day or transportation fair.

- Implements alternative work schedule program (flex-time, staggered work schedule, compressed work week).

- Installs bike racks or lockers.

- Establishes an ETC who regularly provides alternative commute information to employees.

LEVEL 3 - GOLD

- Implements a formal telework program.

- Implements a transit/vanpool benefit or Metrochek program.

- Becomes a Commuter Connections member and provides on-site ridematching.

- Installs shower facilities for bicyclists and walkers.

- Implements a comprehensive Ozone Action Days program.

LEVEL 4 - PLATINUM

- Implements two or more of the Level 3 TDM Programs and actively promotes these programs and alternative commuting.

A.3 local jurisdictional ordinances

Appendix

Arlington County

The Arlington County Local Jurisdictional Ordinance is not available in the Web-based electronic version of the Handbook. In order to obtain a copy of this information, please contact the National Capital Planning Commission (www.ncpc.gov) or Arlington County.

City of Alexandria

The City of Alexandria Local Jurisdictional Ordinance is not available in the Web-based electronic version of the Handbook. In order to obtain a copy of this information, please contact the National Capital Planning Commission (www.ncpc.gov) or the City of Alexandria.

Prince George's County

The Prince George's County Local Jurisdictional Ordinance is not available in the Web-based electronic version of the Handbook. In order to obtain a copy of this information, please contact the National Capital Planning Commission (www.ncpc.gov) or Prince George's County.

Prince William County

The Prince William County Local Jurisdictional Ordinance is not available in the Web-based electronic version of the Handbook. In order to obtain a copy of this information, please contact the National Capital Planning Commission (www.ncpc.gov) or Prince William County.

Montgomery County

The Montgomery County Local Jurisdictional Ordinance is not available in the Web-based electronic version of the Handbook. In order to obtain a copy of this information, please contact the National Capital Planning Commission (www.ncpc.gov) or the Montogomery County.

Loudoun County

The Loudoun County Local Jurisdictional Ordinance is not available in the Web-based electronic version of the Handbook. In order to obtain a copy of this information, please contact the National Capital Planning Commission (www.ncpc.gov) or Loudoun County.

A.4 resources

Appendix

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Rodney Slater/Harvey Gantt Letter

The letter regarding the benefits of travel demand management and transportation management plans authored by Secretary of Transportation Rodney Slater and NCPC director Harvey Gantt is not available in the Web-based electronic version of the Handbook. In order to obtain a copy of this information, please contact the National Capital Planning Commission (www.ncpc.gov) or the National Capital Region Transportation Planning Board.

TDM Related Internet Addresses

Metropolitan Washington Council of Governments	http://www.mwcog.org
National Capital Planning Commission	http://www.ncpc.gov
General Services Administration, National Capital Region	http://ncr.gsa.gov
Commuter Connections Program	http://www.commuterconnections.org
Commuter Choice Program	http://www.fta.dot.gov/ntl/access.html
Arlington County Commuter Programs	http://www.co.arlington.va.us/commute/index.htm
Current Washington Air Quality Index and Forecast	http://www.mwcog.org/dep/airqual.html
Regional Air Quality Monitoring	http://www.mwcog.org/dep/air.html
Environmental Protection Agency Air Quality Information	http://www.epa.gov/airnow/
Ozone Action Days Information	http://www.endzone-partners.org/

Federal Telework Centers in Metropolitan Washington, D.C.

MARYLAND

Anne Arundel Co. (TBD)

Bowie (ITCPP - Spring 1998)
Thurgood Marshall Library
Bowie State University
14000 Jericho Park Road Bowie, MD 20715 POC: Charles Turner
(301) 352-4390; FAX 352-4513
Email: tunercw@aol.com

Eastern Shore - Wye Mills (TBD)

Frederick (ITCPP)
7340 Executive Way, Suite M
Frederick, MD 21704
POC: Jackie Graff
(301) 698-5904; FAX 696-2848
Email: graffj@ibasys.net
Internet: http://www.ibasys.net/telework.htm

Hagerstown (ITPP)
14 North Potomac Street, Suite 200
Hagerstown, MD 21740
POC: Mary Bray
(301) 745-5601; Fax 745-5700
Email: mjbray@aol.com
Internet: http://pilot.wash.lib.md.us/telework

Southern Maryland (ITCPP - 3 Sites)
POC: Danette Campbell
(301) 934-7628; Fax 934-7686
Email: danettec@charles.cc.md.us

Calvert InTeleWork Center
110 S. Solomon's Island Rd.
Prince Frederick, MD 20678

Waldorf InTeleWork Center
128 Smallwood Village Shopping Center
Waldorf, MD 20602

St. Mary's InTeleWork Center
120 MacArthur Blvd; San Souci Plaza
California, MD 20619

National Guard Learning/ TeleCenters (ITCPP - 3 sites)
(410) 429-4514; FAX 429-2986
POC: Ken McNeill
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Alt: Renee Thrower
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Laurel
8601 Odelle Road
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White Oak
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(301) 352-4390; FAX 352-4513
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(A joint project involving GSA, the MD Nat'l Guard and Bowie St. Univ.)

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Herndon (Mar 1998)
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Winchester, VA 22601
POC: Mark Watlock
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Email: mwatlock@shentel.net

WEST VIRGINIA

Jefferson County (ITCPP)
401 South Fairfax Blvd.
Ranson, WV 25438
POC: Pete Smith
(304) 728-3051; FAX 728-3068
Email: welcome@jctc.org
Website: http://www.jctc.org

Commuter Connections TDM Resources Directory

The Commuter Connections TDM Resources Directory is not available in the Web-based electronic version of the Handbook. In order to obtain a copy of this information, please contact MWCOG's Commuter Connections program at 1-800-745-RIDE or on the internet at www.commuterconnections.org.