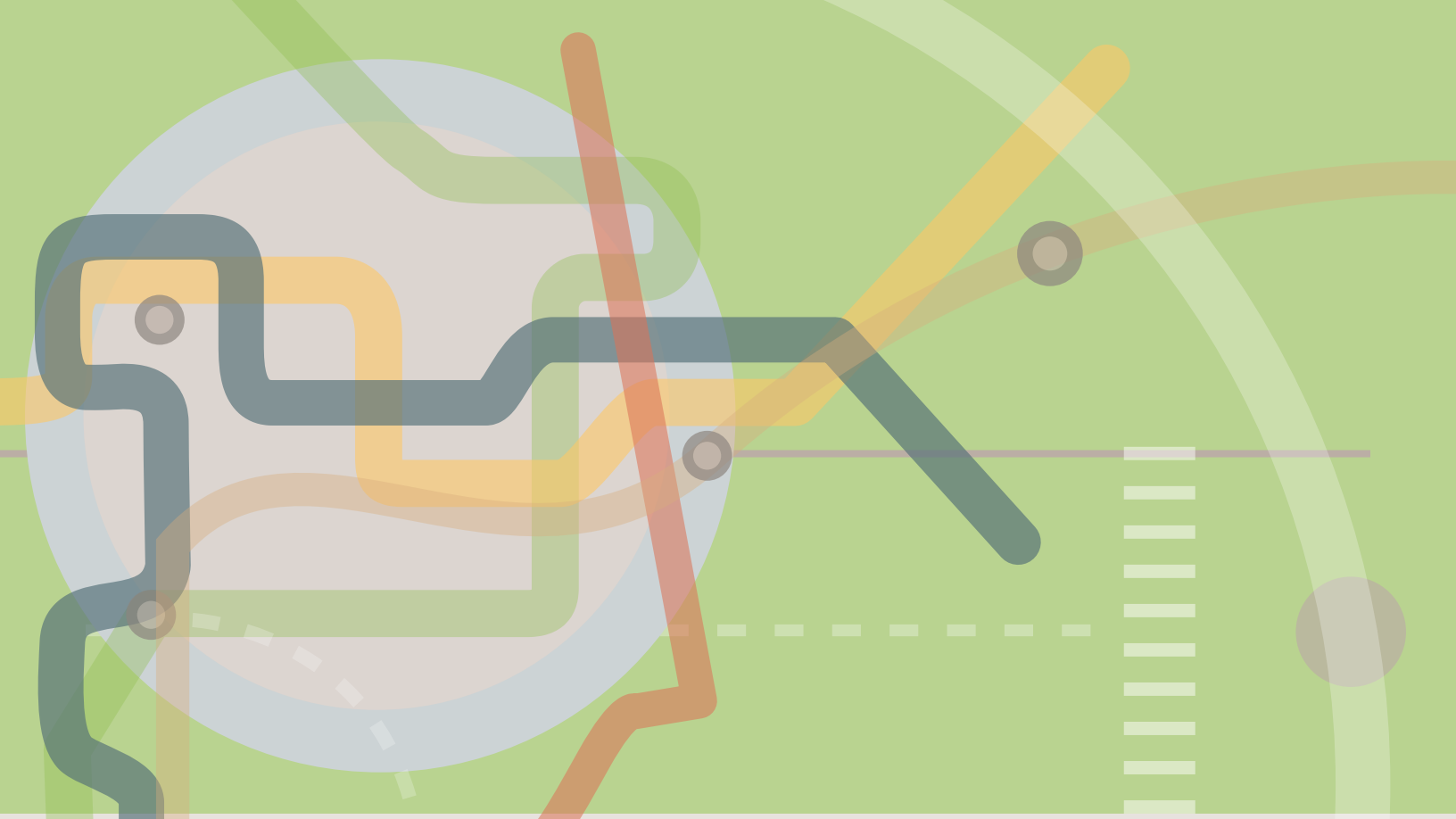

The Federal Employee Transportation Coordinator's

Transportation Management Plan Handbook

AUGUST 2021

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CONTENTS

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This TMP Handbook was first developed in 1998 by the General Services Administration (GSA), the Metropolitan Washington Council of Governments (MWCOG), and the National Capital Planning Commission (NCPC) and has been periodically updated to respond to changing interests and requirements at the federal, regional and local level, as well as new services and information.

The handbook is published electronically and is available online at NCPC.gov.

Section 1

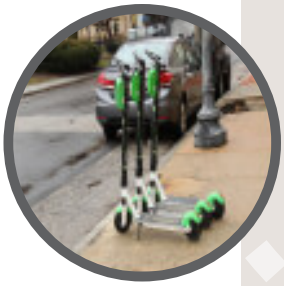
Introduction & Overview

This Handbook outlines the process for preparing a Transportation Management Program or Plan (TMP), intended for federal agency use in conjunction with the NCPC Transportation Element and Addendum. A TMP is a campus/installation-specific plan that identifies short- and long-term transportation goals for federal facilities and documents Transportation Demand Management (TDM) strategies to help meet those goals. TDM strategies are designed to change travel behavior, such as reducing the number of peak travelers, reducing the total number of travelers, encouraging more travelers to share vehicles, and shifting travelers to more sustainable transportation modes. By documenting strategies, TMPs help facilities operate in a more sustainable manner by reducing traffic congestion and impervious surfaces; and improving use of federal property. This Handbook is designed to service as a "bridging" document between NCPC's Transportation Element with more detail related to preparing, monitoring and evaluating a TMP.

Context

Federal agencies are required to develop plans to manage transportation as specified in transportation (41 U.S.C. § 102-117), air quality (23 U.S.C. § 149), and environmental regulations (42 U.S.C. 55), among others. National Capital Planning Commission policies recommend that federal agencies in the National Capital Region (NCR) prepare facility master plans with TMPs to manage employee/visitor travel and to minimize adverse transportation network impacts. Specifically Comprehensive Plan Policy T.D.1. states that federal agencies should "prepare Transportation Management Plans for federal facilities that encourage a multimodal transportation system that meets the needs of workers, residents, and visitors, while improving regional mobility, transportation access, and environmental quality. TMPs should be used as ongoing guidance documents over the term of the plan, particularly to help agencies meet NCPC parking ratio policies and reduce SOV travel."

An important part of the federal planning process is regular coordination with local, regional, and state agencies to improve consistency with local travel ordinances; regional priorities (e.g. equity); long-range planning initiatives (e.g. District of Columbia's MoveDC plan); capital investments (e.g. high-capacity transit service); new technology (e.g. scooter-sharing); and the public interest (e.g. teleworking due to COVID-19.)



The Handbook aligns with the NCPC Comprehensive Plan for the National Capital: Federal Elements – Transportation Element and Addendum (2020 update). The document discusses federal policies related to transportation goals in the National Capital Region. The Transportation Element establishes a high-level framework related to federal impacts on regional transportation while the Addendum supplements workplace policies by articulating NCPC's requirements for TMP and TDM development. Gaining a firm understanding of the content presented in both the Transportation Element and Addendum is a fundamental step to utilizing—and benefiting—from the prescriptive elements of TMP development and implementation conveyed in the Handbook.

Handbook Overview

The Handbook has been reorganized from its previous versions (1999, 2008, 2015) to highlight the key components of developing an effective federal TMP. Specifically, this Handbook:

- Identifies transportation management planning resources and contacts available
- Describes specific TDM strategies and programs available within local jurisdictions and federal agencies
- Provides a step-by-step process for designing and implementing a TMP
- Identifies measurement protocols for monitoring and evaluating TMP effectiveness

This handbook is designed for professionals engaged as:

- Employee Transportation Coordinators (ETCs)
- Facility Managers
- Human Resources Directors
- Labor Relations Directors
- Transportation Planners
- Union Representatives

The Handbook provides an abbreviated overview of TMP development, maintenance, and monitoring in Section 3. The following appendices delve into substantially greater detail and guidance for TMP implementation. Appendix A details several TDM strategies that can be directly applied to create customized agency TMPs. Appendix B lists notable TDM local policies and/or regulations that may be applicable to federal installations. To assist with the burden of collecting initial data for new TMPs, Appendix C describes techniques for acquiring the necessary TMP data for a particular installation. Recognizing the multiple elements involved in a successful TMP, Appendix D offers a checklist for TMP professionals to follow when creating or updating a TMP. Appendix E lists several notable federal TMPs that may be helpful when developing new or revised TMPs. Appendix F identifies successful TMPs from federal agencies that may be used as references.

Section 2:

Roles & Responsibilities

The choices made by employees and others traveling to a particular site have significant consequences on transportation spending and congestion. Fortunately, effective management and coordination can significantly influence travel choices. Multiple factors affect travel choices, including out-of-pocket costs, convenience, travel time, reliability, and safety. Federal agencies are encouraged to operate in a manner that minimizes their transportation impact in the NCR; a TMP represents one of the most effective tools.

NCPC requires the completion of a TMP for all master plans and any project that its staff determines has transportation implications. Examples of such projects include those that cause an increase in the number of employees or visitors traveling to a workplace or other destination, change established uses, or propose physical alterations or improvements that affect transportation and circulation. NCPC requires a TMP for any project that will increase employment at a workplace to 500 or more employees (existing and new), and strongly encourages TMPs for projects that will increase employment to 100 or more employees.

Federal agencies are required to follow NCPC's guidelines when creating or modifying a TMP, including:

- Meet at an early date with NCPC staff about applicable NCPC policies and guidelines at a consultation meeting during a project's early planning phase. Successful TMP development will likely involve multiple consultations due to their comprehensive scale and relative complexity.
- Consult with local jurisdiction planning and transportation officials, either separately or jointly with NCPC staff, to identify current plans and programs, congestion mitigation/ travel management techniques, data collection strategies, and requisite TMP-related implementation commitments.
- Develop a written policy statement that demonstrates the federal agency's commitment to reducing Single Occupant Vehicle (SOV) travel and to show consistency between the TMP and agency mission.
- Fully integrate the TMP with installation Master Plans and subsequent projects: directly influencing land use patterns, project orientation, and provision of on-site amenities (e.g., bike racks).
- Submit the TMP as part of the required Master Plan update or project submission for NCPC review and potential referral to appropriate local, regional, and state agencies. The applicant should be prepared to consider all comments made by the Commission and local/state agencies as part of the region's federal planning process, and to incorporate new strategies and programs as funding availability, federal requirements, and off-site infrastructure permits. The mandatory federal referral process is described in more detail in NCPC's submission guidelines, under Master Plans.

- Provide substantive decision-making authority and strong support to the ETC from agency management.
- Allocate adequate resources to the ETC, such as to conduct employee surveys; develop and distribute information; and coordinate programs with nearby federal installations and local planning initiatives.

All applicable NCPC policies and guidelines are available at www.ncpc.gov, both on the Submission Guidelines webpage and in the Comprehensive Plan's Transportation Element.

Roles of Partner Agencies

Federal agencies should consult with NCPC, local jurisdictions, and transportation planners early in the planning process to identify both existing and future challenges and opportunities; both locally and regionally. Master plans and projects, along with their associated TMPs, will likely require multiple consultations due to their comprehensive scale and relative complexity. Planned improvements (e.g. wider sidewalks/better lighting, bicycle routes, etc.) and regional development/transportation infrastructure projects—reflected in the Metropolitan Washington Council of Governments vision plan (Visualize 2045)—will influence future travel decisions and worksite parking demand. Federal planners may need to advocate for additional transit service and/or infrastructure improvements to help reduce traffic congestion.

Agency	Program Information	Website
GSA	ETC Coordinator	http://www.gsa.gov
NCPC	Comprehensive Plan	https://www.ncpc.gov/plans/compplan/ *Transportation Element contains policies, including parking ratios.*
MWCOG	Commuter Connections	http://www.commuterconnections.org/
WMATA	SmartBenefits	www.wmata.com
Clean Air Partners	Air Quality Alerts	http://www.cleanairpartners.net/
OMB	Telework Policies	https://www.telework.gov/guidance-legislation/telework-guidance/telework-guide/

National Capital Planning Commission

The NCPC is the central planning agency for federal activities in the National Capital Region. Its responsibilities include reviewing of all federal development projects in the NCR. It reviews and maintains a six-year capital improvements program for the federal government, which helps set the federal government's development priorities. NCPC's policies for federal development are provided in the *Comprehensive Plan for the National Capital: Federal Elements*. Its Transportation Element contains guidelines that require a TMP for some projects. The Transportation Element includes an Addendum, with specific information on TMPs and NCPC's review process. Early consultation with NCPC on master planning, including TMP development is strongly encouraged, if not mandated. More information on legislative authorities, submission guidelines, transportation policies and related resources is available at www.ncpc.gov.

U.S. General Services Administration

The General Services Administration (GSA) assists federal agencies in the development, implementation, and administration of TMPs. GSA will directly assist in developing a TMP if an agency's construction project is being managed, designed, and/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; distributing ridesharing promotional information for federal employees; providing links to online marketing materials; establishing links to MWCOG's Commuter Connections ride-matching system when required; and coordinating transportation fairs with MWCOG and local TMP personnel.
- GSA, in cooperation with MWCOG and NCPC, 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 parking space assignment policy is provided in the Federal Management Regulation (FMR). Agencies are directed to assign spaces in the following order of priority:

1. Official needs
2. Accessible parking
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, federal regulations address the issue of pricing. Currently, 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 Department as miscellaneous receipts, effectively prohibiting the use of parking revenues to offset other TMP programs such as transit subsidies.

Metropolitan Washington Council of Governments

The Metropolitan Washington Council of Governments (MWCOG) houses a federally-designated regional transportation planning board that is responsible for coordinating transportation planning and air quality planning within the National Capital Region. MWCOG accomplishes this by compiling the transportation planning actions of each of the incorporated cities, counties, and states within the NCR into one comprehensive and cohesive regional strategy.

MWCOG also operates a commute alternatives program called Commuter Connections, key components of which include:

- 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 and expansion of employer telecommuting programs.

- Enhanced transit, telework/co-working centers, park-and-ride information, bicycling and full-service travel information through the Commuter Connections ridematching software and website.
- Overall implementation of the regional Guaranteed Ride Home (GRH) program.
- Coordination and implementation on the regional Bike to Work Day and Car Free Day events.
- Implementation of the 'Pool Rewards, Flextime Rewards, CarpoolNow, and incenTrip ridesharing incentive programs.
- Assistance on voluntary commuting actions that can be taken by employers and the public to reduce mobile source emissions, particularly on Air Quality Action Days.

MWCOG should always be the first place an ETC checks to find information and resources for the development and implementation of a TMP. MWCOG currently maintains a clearinghouse website for ETCs.

NCPC and GSA are committed to working with MWCOG to minimize traffic congestion in the region and to meet all applicable transportation management goals. This handbook is a key step in assisting federal agencies in this regard and serves as a guide in keeping agency transportation managers informed of new requirements. MWCOG's resources are significant and extensive.

Washington Metropolitan Area Transit Authority

The Washington Metropolitan Area Transit Authority (WMATA) is the regional transit authority for the National Capital Region. It operates the MetroRail and MetroBus systems and administers the SmartBenefits program. SmartBenefits is an online program that allows employers to load the dollar value of an employee's transit benefit directly to a SmartTrip account. The employee can then purchase whatever transit passes are needed for their work-based commutes. Most local transit agencies in the region participate in the SmartBenefits program.

Clean Air Partners

Clean Air Partners is a public-private program that encourages employers and other organizations, including governments, to implement more aggressive travel demand measures on days when unhealthy ozone levels (referred to as Code Orange and Red) are predicted. The program's goal is to minimize the anticipated high level of ozone on these days. Meteorologists can predict when ozone spikes will likely occur since ground-level ozone forms under known weather conditions such as hot sunny days with little or no wind. On these Code Orange and Red Days individuals and organizations should take additional measures to modify their travel-related activities. The current regional air quality forecast and alerts may be accessed through the Clean Air Partners website.

U.S. Office of Personnel Management

The U.S. Office of Personnel Management (OPM) recognizes work-life programs are critical management tools for the Federal community to maintain an excellent, engaged workforce. Programs address installation health and wellness, installation flexibilities and telework. Its online telework portal provides easy access to information about the federal government, including executive orders and other federal guidance.

SECTION 3:

TMP Preparation Guide

This section provides guidance for Employee Transportation Coordinators (ETC) and others involved in creating and administering a Transportation Management Program or Plan (TMP). The guidance builds upon topics outlined briefly in the Addendum to NCPC's Transportation Element. In particular, it expounds upon each policy topic with more detailed descriptions and examples of NCPC-approved TMPs. Please consult the Transportation Element Addendum for additional background information related to TMPs and NCPC's review process.

When preparing a TMP, designating an ETC can be an effective way of implementing, administering, and managing a TMP. Although the roles and responsibilities of an ETC will vary between agencies, ETCs generally develop, implement, and update commuter programs and policies, including oversight of an installation's TMP.

The Metropolitan Washington Council of Governments serves as the primary resource agency for federal ETCs in the region. NCPC staff is also available to provide guidance on implementing approved transportation management plans.

Agency management should provide substantive decision-making authority and strong support to the ETC. Agencies should allocate adequate funding to enable the ETC to conduct regular employee commuter surveys; hold informational events for employees; design and distribute marketing materials; coordinate programs with other nearby federal campus installations; and actively participate in local, regional and national continuing education and training efforts to foster professional development in TDM efforts.

TMPs should be developed as practical, usable documents and revised to reflect changing agency needs, employee demographics, and on/off-site travel conditions. Plans and associated goals should be based on thorough analysis of travel conditions (i.e., local transportation network, on-site infrastructure, employee commuting characteristics) and empirically-grounded assumptions.

There are many factors that influence an agency's decision on the location of federal facilities. Agencies should evaluate and address land use, parking, and transportation issues early in the decision-making process, as the location of federal facilities plays a large role in how federal employees get to work. The farther away from public transportation options, the more likely employees will drive alone, which impacts the local and regional transportation network.

NCPC has several TMP-specific transportation policies related to promoting multi-modal travel, using TMPs as living documents, and undertaking routine TDM monitoring. Generally, agencies should review their master plans and TMPs at least every five years to ensure that they accurately reflect fore-casted changes to the installation. NCPC updated policies advance regular biennial installation TMP reporting to help its Commission understand evolving transportation conditions and travel demand management program effectiveness. This new reporting requirement is described on more detail in the Addendum's Monitoring and Evaluation section.

A TMP should include:

1. Introduction - Define Goals and Objectives
2. Description of Existing and Planned Transportation System
3. Travel Patterns and Commuter Behavior
4. Projected Travel and Impacts
5. Transportation Demand Management (TDM)
6. Implementation
7. Monitoring and Evaluation

The remainder of this section unpacks various factors associated with these components.

SECTION 3.1:

INTRODUCTION
Define Goal & Objectives

The introduction should summarize how the TMP supports the master plan with transportation goals and objectives, and thereby enables the federal installation's projected growth and development. The Plan introduction should articulate the federal agency's commitment to improving access; infrastructure efficiency; and relationship to other applicable NCPC policies (e.g. transportation; workplace, and sustainability policies).

Establish Purpose Statement

Purpose Statement Example:

To be a good neighbor, To operate and grow into a more sustainable development.

The purpose statement serves as the foundation for the entire document: a precise, clear, declarative statement that articulates the desires of the federal installation (e.g. to be a "good neighbor," to operate, grow into a more sustainable development, etc.) through TDM. The purpose should be goal-oriented to describe how the federal agency defines program success and intended outcomes of its TDM program. An effective TDM program must work in concert with the plans and policies of the local host jurisdiction, with a strong relationship between staff from the installation, local planning department and local transit agency. "Appendix B:" on page 48 identifies fundamental documents, plans, zoning codes, and legislation that may be applicable based on the jurisdiction in which the installation is located.

Establish Goals

Goals should define how a TMP will attain the Purpose Statement (the latter of which is related to the Agency's mission): providing the framework for defining the success of a TDM program. Goals should be designed for short-, medium-, and long-term horizons that are clearly outlined in the TMP. Each goal should be elucidated with more specific objectives and performance measures, specifying thresholds for success within each goal.

Common types of goals include:

- Reduce traffic congestion, conserve energy, and improve air quality by seeking to reduce the number of single-occupant-vehicle trips during peak commute periods.
- Make the best use of existing transportation facilities and available travel modes.
- Reduce the impact of trips generated by the agency on the local and regional road network.
- Comply with NCPC and other government guidelines.
- Support regional assets, such as public and high-capacity transit that provide access to the installation.

In articulating goals, a TMP needs to demonstrate how the federal property would attain its applicable long-term employee parking ratio goal (refer to NCPC's Transportation Element Section D: Promote Efficient and Sustainable Travel to Federal Destinations). The ratios serve as travel sustainability-related targets for installations, based on anticipated future land use patterns, travel behavior, and future transit accessibility. All TMPs should include strategies and mode split goals that support the installation's ratio. Deviations from the ratio are only permitted for individual projects-not master plans. Specific parking ratio deviation criteria are included in NCPC's Submission Guidelines.

Fig. 1: Goal Examples

Goal 1: Initiate and implement enabling policies and procedures

STRATEGIES

- Enable Installations
  Delegate oversight responsibilities for directives set forth by the installation and/or regional planning goals concerning use and management of circulation networks.
- Enable End-Users
  Encourage safe behavior and usage of paths by communicating the health benefits of walking/bicycling and providing awareness of alternatives of travel other than by car.

Goal 2: Expand the Bicycle and Pedestrian Circulation Network

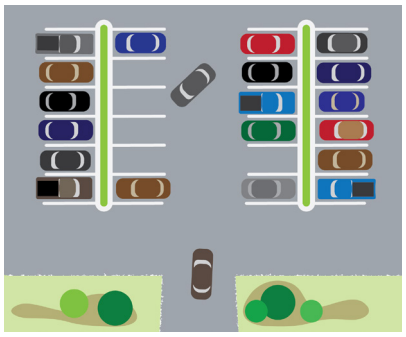
STRATEGIES

- Expand Internal Circulation Network
  Create new pathways that improve connections and ease of access among residential, employment, and commercial notes within MCB Quantico.
- Expand Recreation Network
  Create new pathways that traverse wooded/natural areas for users focused on recreational/fitness opportunities within MCB Quantico.
- Connect to Regional Circulation Network
  Interface the paths on the installation with regional paths off-base to expand opportunities for commuting and increase access to cultural/natural resources.

Goal 3: Improve and Maintain Existing Network

STRATEGIES

- Eliminate Known Safety Hazards
  Resolve conflicts with traffic and correct unsafe conditions
- Repair and Upgrade Existing Pathways
  Improve existing infrastructure in need of minor repair and construction
- Leverage Resources
  Coordinate project planning and execution to incorporate circulation infrastructure improvements with construction projects, such as road widening.
- Provide Amenities
  Incorporate comfort and conveniences such as furniture, shelter, bicycle storage, and lighting.



The National Capital Region Federal Parking Study - a modeling analysis of 20 sample federal installations from around the National Capital Region - showed a wide variation in accessibility levels. In addition to geographic context, federal installations have unique missions, workplace cultures, and policies that may influence TDM goals and strategies. Calibrating TMP to address the context and other unique characteristics of each federal property will maximize their effectiveness. Agencies are encouraged to consult with NCPC, MWCOG, and other applicable federal, regional and local agencies to develop each unique TMP.

Climate Change, Equity, and Inclusion

There are a range of federal policies that call for comprehensive approaches to addressing climate change and advancing equity and inclusion for underserved communities.

Executive Order 14008 charges the federal government to address the negative impacts of climate change at home and abroad and ensure that climate considerations are central to U.S. foreign policy and national security. The order also calls for agencies to secure environmental justice by developing programs, policies, and activities that address the disproportionate impacts on disadvantaged communities.

Recent federal guidance affirms the pursuit of equity as the responsibility of the entire federal government. Executive Order 13985 requests all federal agencies to advance equity for people of color and other underserved groups by identifying barriers to benefits and services and redressing them. To further this goal, Executive Order 14035 requires agencies to strengthen diversity, equity, inclusion, and accessibility in its workforce functions.

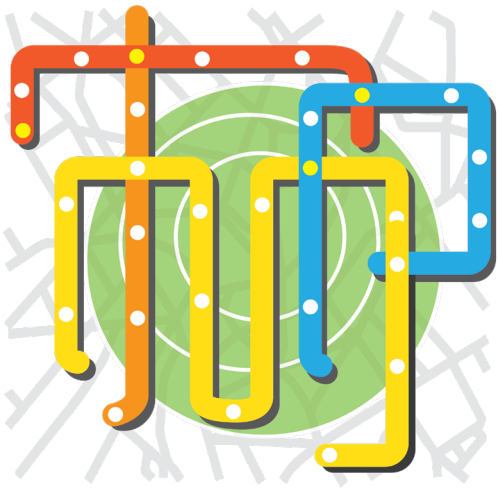
Regional and local governments are prioritizing these principles in new resolutions, plans, and initiatives. Area officials on the Metropolitan Washington Council of Governments (COG) Board of Directors have approved a new greenhouse gas (GHG) emissions reduction goal for the region to mitigate the effects of climate change. The new goal calls for a 50 percent reduction in GHG emissions below baseline levels—or 2005 emission levels—by 2030. Additionally, the MWCOG's National Capital Region Transportation Planning Board (TPB) adopted a Resolution (R1-2021) on July 22, 2020 to establish equity as a fundamental value and integral part of all of the board's work activities, which will include the TPB member agencies commitment to intentionally consider equity when making policies or delivering programs and services.

More information about these developments is available at **MWCOG**.

Questions for your TMP:

(1) How could the plan disproportionately impact different communities?

(2) How can the agency address and prevent such impacts?



Establish Objectives

Objectives should build upon the TMP goals as problem solving-related outcomes of the TMP (in contrast to goals, which identify the tasks). Defining measurable objectives is strongly recommended because they can be more effectively monitored and by extension, achieved. Each objective should assign responsibilities and specify targeted completion dates. Define criteria that may be used as a "roadmap" to successfully accomplish each objective and detail measurable outcomes.

Objectives should encompass standard TDM measurements:

- Average Vehicle Occupancy
- Vehicle Trip Reduction
- Mode Split
- Vehicle Miles of Travel
- Level of Service

For example, an agency may determine an objective is to increase the Average Vehicle Occupancy (AVO) employee ratio from 1.22 to 1.52 persons per vehicle within a certain period. 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 twenty-eight percent by the end of the first year as measured by a pre- and post -program employee commuter survey.
- Increase the percentage of employees in carpools from twelve percent of the workforce to forty-four percent by end of the first year.

The ETC is empowered to realize the stated objectives by whichever method best suits the agency. Likely, the objectives will include a mix of TDM strategies that would need to be developed and implemented to achieve the desired result. TDM measures are introduced in Section 3.5: Transportation Demand Management and further detailed in Appendix A: Transportation Demand Management Strategies.

Compelling objectives may be identified by ETCs, consultants, work groups, federal agencies, or other stakeholders. These various stakeholders may be better positioned to identify objectives relating to scheduling, nearby resources, and environmental impacts.

Fig. 2: Federal Transportation Management Plan Example

Defining Planned parking reductions and non-Single Occupant Vehicle (SOV) mode share increases based on Travel Demand Management strategies.

Goals and Objectives

Key Transportation-related management goals for DHS at the St. Elizabeths include:

- Recommend TDM strategies that will allow the St. Elizabths West Campus parking space/employee ratio to achieve a 1:4 ratio (1 parking space per 4 employees) for 9,763 employee and 1:3 for 1,137 24/7 shift employees for a total West Campus parking ratio of 1:3.87 for 10,900 employees. The total East Campus parking ration would be 1:4 for 3,100 employees. The overall parking ratio (including West and East Campuses) would be a 1:3.90.
- Reduce the impact of trips generated by the St. Elizabeths West Campus on the local and regional road network.
- Maximize the use of the nearby Anacostia Metrorail Station.

More specifically, measurable objectives by which the program's effectiveness can be judged are to include the following:

- Reduce the number of Single Occupant Vehicles (SOV) to 17%
- Increase the percentage of employees using Metrorail to 35%
- Increase the percentage of participating carpoolers to 16%
- Increase the average number of daily telecommuting participants to 4%.

Fig. 3: Federal Transportation Management Plan Example

Using multiple TMP objectives would support a single related Travel Demand Management (TDM) goal. The text conveys this through the placement of the larger goal in front of the bulleted more specific objectives.

Goal

The overall goal of the Fort Belvoir TMP is to improve commuting options and mobility choices for all personnel while meeting the needs and limits of the transportation system, Garrison and agency missions, and federal and regional guiding documents.

Objectives

The objectives of the TMP are qualitative measures and benefits.
Fort Belvoir is developing a TMP to:

- Meet both Army and regional requirements for parking and transportation at the Installation.
- Meet NCPC's parking ratio across the Installation, consistent with Army policies.
- Proactively address transportation needs and limits.
- Align with regional initiatives to reduce dependency on single-occupancy vehicles and automobile travel.
- Reduce its share of traffic congestion, fuel consumption, and air pollution.
- Improve its employee's commutes, productivity, and quality of life.
- Transform Fort Belvoir into a multimodal destination.

Description of Existing & Planned Transportation Systems

The TMP should include a description and analysis of the existing transportation system within and nearby the installation, as well as planned infrastructure and service improvements. Thoroughly understanding the environment enables effective analysis of potential modifications to enable more efficient, sustainable, cost-effective travel. The TMP should analyze all elements of the existing system; programs and incentives; and planned transportation improvements and construction developments. Here are some key questions to consider when developing a TMP:

1. How do commuters currently travel to and from the facility? How have commuters traveled to and from the facility? Are there any trends?

2. What are the range of travel options available near the facility, including transit, commuter rail, bikeshare, bicycle/pedestrian routes, high-occupancy vehicle lanes?

3. What types of transportation programs or incentives are available to employees, such as carpool/vanpool, telework, alternative work schedules, and etc.?

4. What is the extent of parking provided for employees and visitors at the facility? Is the facility in compliance with the relevant NCPC parking ratio?

5. What regional and local transportation projects are planned near to the facility, and how would these projects influence travel to the facility?

6. Is development planned that would increase the range of housing options and thereby enable in future pedestrian, bicycle, and transit mode share gains?

Existing Transportation System

An analysis of the following transportation related infrastructure should be performed:

- **Parking Availability.** Determine personal employee vehicle parking demand and supply at the installation. When tallying parking supply, include parking owned and leased by the agency for employee use as well as additional public parking supply within a quarter-mile radius of the installation. Graphically analyze. Consider off-site parking capacity when determining the need for additional installation parking supply. Explore other strategies such as cost structures (e.g., per hour, travel costs from off-site parking, security costs for additional vehicle screening, etc.) and type (spaces designated for carpools, vanpools, electric vehicle charging stations).

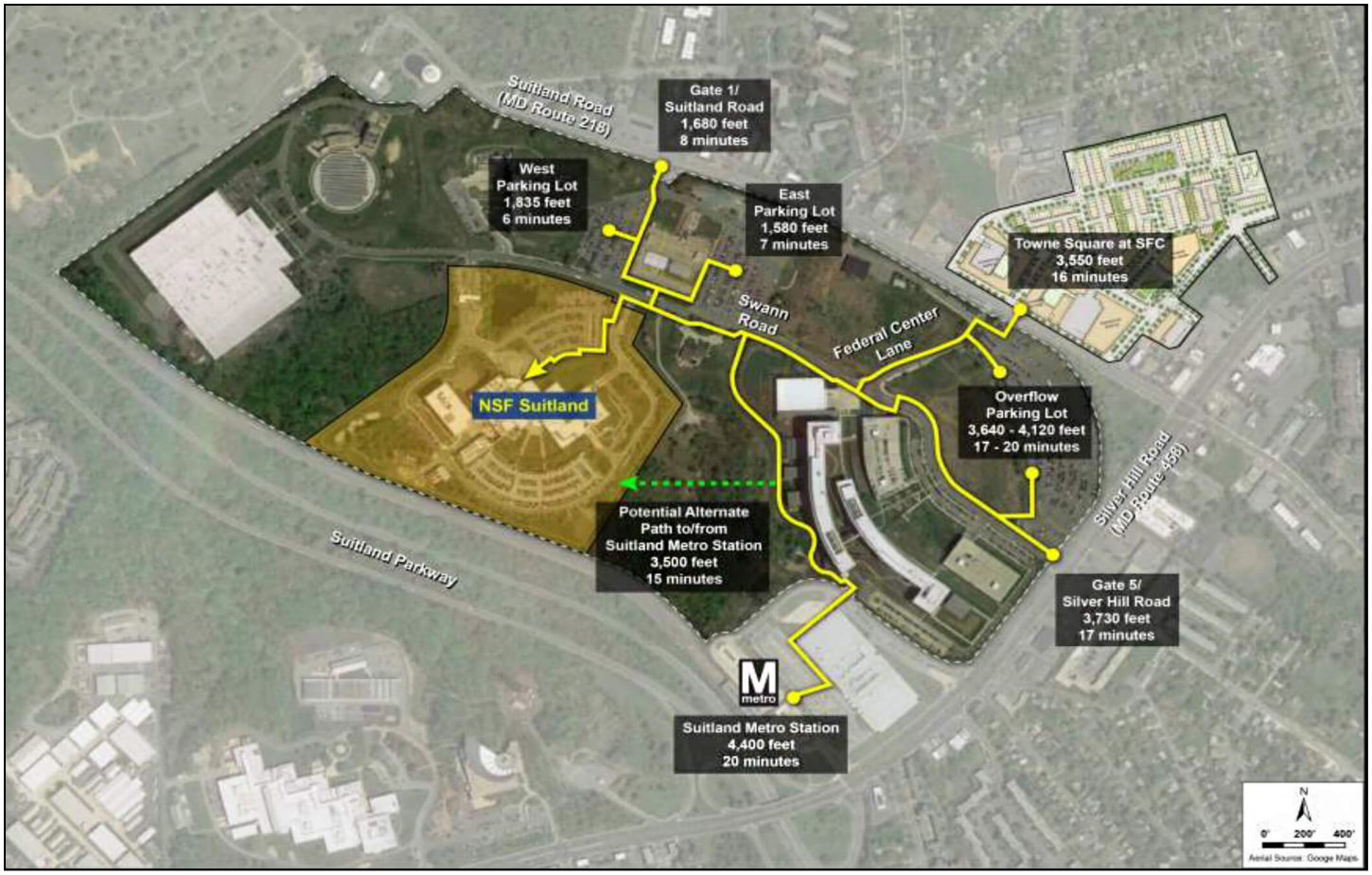
- **Public Transportation and Microtransit.** Identify public transportation options. Begin by creating a list of all bus and rail stops within a mile radius of the installation. Consider using the Washington Metropolitan Area Transit Authority (WMATA) website. The Maryland Transit Agency lists local and commuter bus and rail service such MARC commuter rail in Maryland. In Virginia: the Virginia Railway Express offers commuter rail service in Virginia. Most counties within the region also provide local and commuter transit services.

Once access is identified, examine the services' reliability and effectiveness. Service that runs at 15-minute intervals or less is generally considered "high" frequency and may be a good option for installation access. Service that runs in scheduled intervals greater than thirty minutes may not be as helpful to commuters. Explore the extent that transit schedules correspond to installation demand. In general, transit agencies tend to cluster high-frequency service around peak commute times (i.e. 6 AM – 10 AM and 3 PM – 7 PM).

Microtransit availability within ½-mile should be documented (e.g. shuttle routes, scooter availability, Capital Bikeshare stations and other provisions for compact vehicle travel) . Microtransit expands transit access to an installation, particularly when combined with high-capacity public transit.

- **Bike and Pedestrian Facilities.** Conduct a study using aerial imagery (e.g. Google Maps) and/or a field audit to determine what bike and pedestrian facilitates are present within the installation and up to a half-mile radius beyond. Bike facilities include on-street markings such as shared or bike-only lanes, multi-use paths, and more intensive provisions such as bike racks and lockers. Pedestrian Facilities may include sidewalks, marked crosswalks, wayfinding and other amenities. ETCs should recognize that biking and walking trips are often a component of a multi-modal trip, of which an employee may take public transit to the nearest station stop to the installation and walk or bike the remaining distance.

Fig. 4: Existing Conditions Inventory



This figure illustrates pedestrian travel times from various on- and off-site locations, as part of an existing conditions inventory. The graphic highlights a potential opportunity to construct a more direct pedestrian connection between the adjacent Metrorail station and installation to help increase employee transit use.

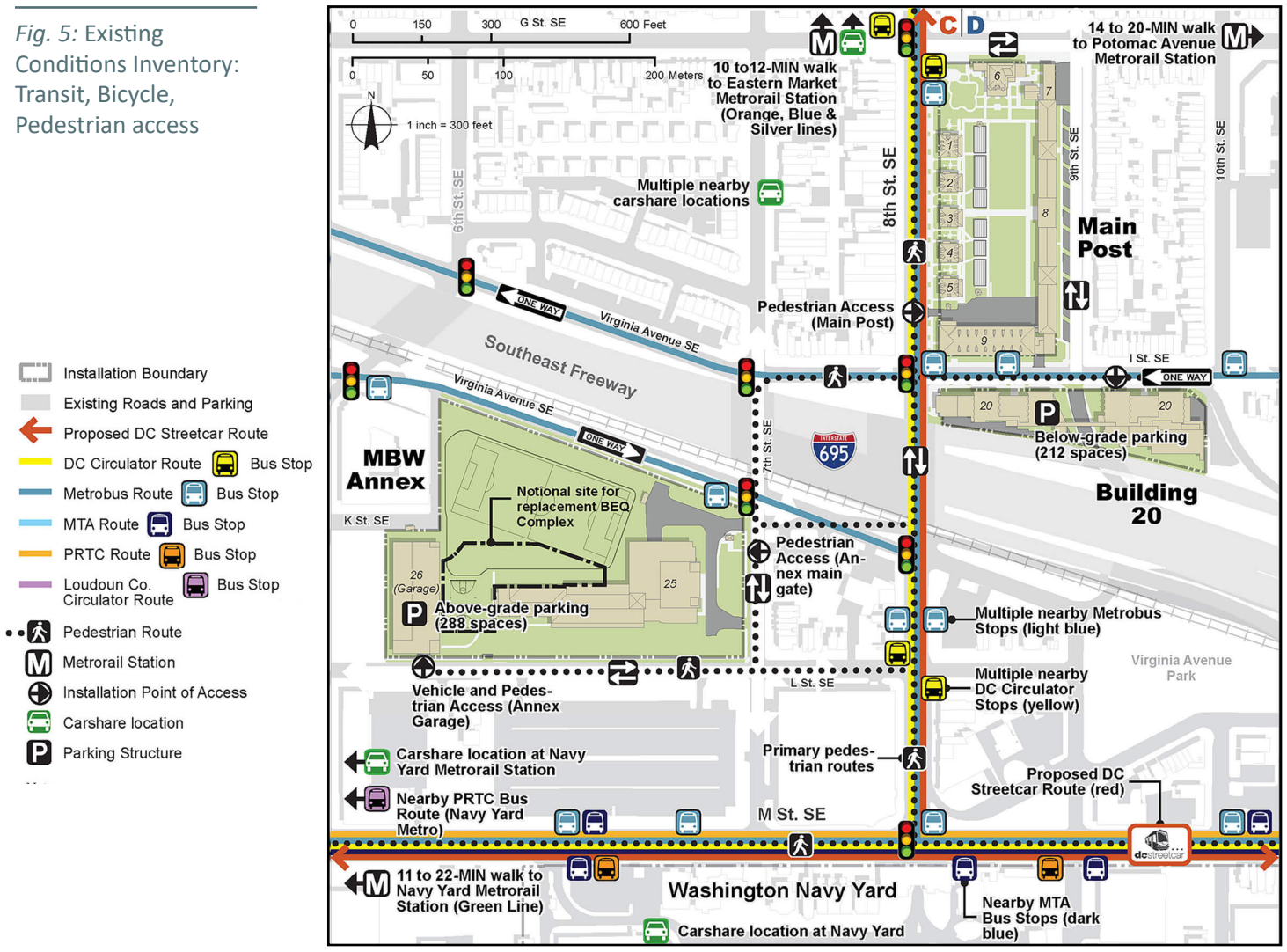
- **Arterial Access.** TMPs should note all major U.S. Routes and Interstate Highways that contain nearby (e.g., within a three-mile radius) access points to the installation. Identify High-Occupancy-Vehicle (HOV), High-Occupancy-Toll (HOT), and Express Lanes. These facilities may be used to promote ridesharing TDM strategies as part of the TMP.

- **Safety and Congestion.** These measures are important barometers affecting installation access. MWCOG documents traffic congestion as part of its Congestion Management Process Technical Report and can provide congestion data on regionally significant roadways. Local transportation or public works departments generally compile data for local streets. Consider conducting vehicle counts at strategic locations near the installation. *"Toolkit for Information Gathering" on page 58* provides more information. To determine if any automobile crashes and pedestrian fatalities have been reported near the installation, contact MWCOG's Safety Subcommittee.

- **Nearby Services.** Understanding what recreational and essential services near the installation will help identify "trip training" opportunities for employees, which helps improve travel efficiency. Identify and list on-site or nearby services, including restaurants, childcare facilities, banks, supermarkets, laundry services, etc.

This detailed graphic effectively shows existing transit service and pedestrian/bicycle access to a federal installation in downtown Washington, DC

Fig. 5: Existing Conditions Inventory: Transit, Bicycle, Pedestrian access



The following figure shows a prioritized list of potential future pedestrian improvements on an installation. The list is based on an inventory and assessment of gaps in the existing sidewalk/ trail network table including the assessment factors include safety, visual, network connectivity, and non-conforming uses. This analysis indicates a commitment to improving on-site walking conditions, in support of employee health, safety, and sustainability-related policies.

Fig. 6: Pedestrian Improvement Project Priorities

Pedestrian Issues

The pedestrian facility issues incorporates a liability ranking that assigns each project a level of severity. The purpose of this ranking is to determine a priority among all the projects listed, and to establish a methodology for project importance and priority.

Pedestrian Liability Categories

Code	Liability	Definition
A	Life/Safety/ Security/Mission	Poses a hazard and/or is unable to perform its intended use.
B	Urgent Maintenance	Requires immediate action to prevent further damage and/or damage to other property assets.
C	Non-conforming/ Unsustainable	Potentially hazardous to users or detrimental to the environment
D	Visual	Diminishes the appearance of the community
E	Maintenance	Requires normal repair or replacement to avoid future deterioration
F	Network Connectivity	Improperly located and/or incompatible with context and surrounding land uses.
G	Functionally Obsolete	Unable to accommodate current uses, or no longer serves a useful purpose.

Pedestrian Facility Issues

Codes	Liability/Location
A F	Russel Road corridor has missing or inadequate sidewalks No pedestrian connection from HQ area to MCX/Commissary area
A	No dedicated PFT Path on West Side
A F	Purvis Road has missing or inadequate sidewalks The MCX/Commissary, Housing, and DoD School are disconnected due to the fragmented pedestrian facilities along Purvis Road
A	No dedicated PFT Path on Main Side
F	Hospital Point is disconnected from the rest of the installation Travel through the Town of Quantico is the only way to access Hospital Point
A F	CSX Railroad crossings can be dangerous for pedestrians There are a lack of safe pedestrian routes to access the VRE Train platform No sidewalks along Potomac Avenue to facilitate safe travel for pedestrians
A F	Main Side trail system needs improvement Main Sides trails should be improved and leveraged to allow North-South, East-West pedestrian movement Currently no direct connection from Barnett Area to DoD Schools along Purvis Road
A F	Barnett Avenue does not have adequate pedestrian crossings Sidewalks are missing in front of the building (2013)
A F	Catlin Avenue does not have adequate sidewalks
A F	Dunlop Circle does not have adequate pedestrian facilities and sidewalks Dunlop Circle is dangerous for pedestrians
A F	The sidewalk along Barnett Avenue ends at Catlin Avenue/Range Road A worn path in the grass is present along the northern side of Russell Road until Catlin Avenue where the roadway shoulder accommodates cyclists and pedestrians
D F	Leverage existing trails behind Russell Knox building. Improve pedestrian facilities
D F	Improve pedestrian access to Montford Trail. Leverage connections to other trail systems
A F	The sidewalks from OCS ends at the MCAF bridge Pedestrian connectivity is provided via temporary concrete barriers on the shoulder of Bauer Road to the MCAF Bridge
A F	No pedestrian access gate at Fuller Heights Road Gate
A F	Missing sidewalks and fragmented pedestrian connectivity at TBS
A F	Missing sidewalks and fragmented pedestrian connectivity at TBS
A F	Missing sidewalks along west side of Cannon Street & incomplete sidewalks along Anderson Avenue
A F	Routes to Russell Knox Building can get congested with traffic and can be encumbered by gates
A F	Limited shoulder and no wide outside lane (WOL) makes runners and bicycles use travel lanes along MCB Roads

Transportation Programs and Incentives

When implemented effectively, transportation programs and incentives may provide the necessary incentive that could motivate a commuter to choose a more sustainable, non-SOV travel mode. Explore programs offered by other agencies and organizations. Commuter Connections assists with regional initiatives, including:

- Free ridematching services
- Regional Guaranteed Ride Home Program
- 'Pool Rewards vanpool and carpool subsidies
- CarpoolNow dynamic ridematching mobile app
- Flextime Rewards
- incenTrip mobile app

Often more localized programs exist. Consider reaching out to nearby organizations to learn about programs that could be extended to or adapted for the installation.

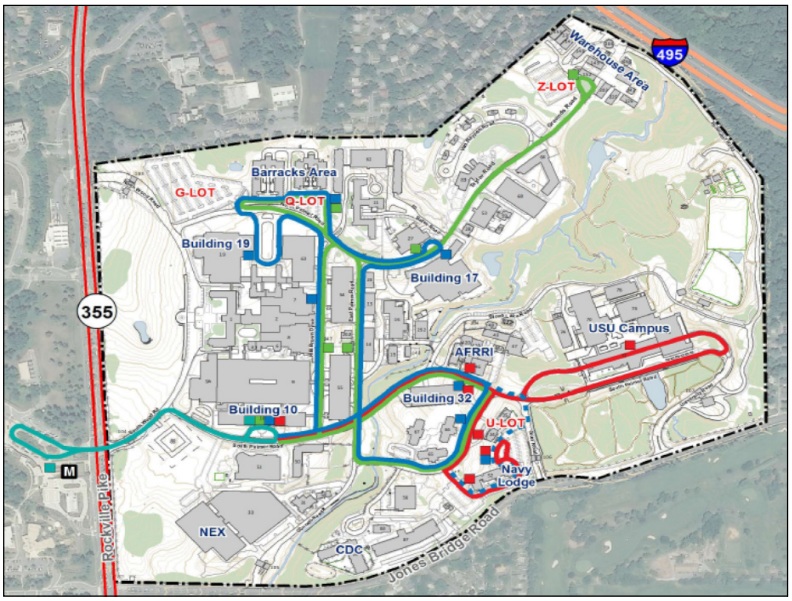
Determine installation and agency policies that currently or could incentivize commute choice. Document any potential TDM tools that may currently exist at the installation:

- Parking cash-out
- Federal Transit Subsidy
- Carpool/Vanpool parking
- Telework policy
- Alternative Work Schedule policy
- Employee parking costs
- Bicycle subsidies & programs

For further information refer to Appendix A: TDM Strategies. These tools may be leveraged to help reduce the number of vehicle trips taken to the installation. Evaluate their current effectiveness and document results in the TMP. Consider improving and expanding upon the existing strategies.

The following figure shows on-site transit routes around a federal installation in an attractive and understandable manner. The routes enhance pedestrian accessibility both around the installation and between on-site development and nearby Metrorail station.

Fig. 7: Transit Routes



Planned Transportation Projects

The TMP should describe planned regional and local transportation infrastructure or service improvements within the adjacent area (within five miles) of a facility. Future transportation projects should be considered as agencies prepare TMPs to determine how a facility could leverage these improvements to help manage transportation demand, and where specific conversations with transportation providers may help maximize access for federal commuters.

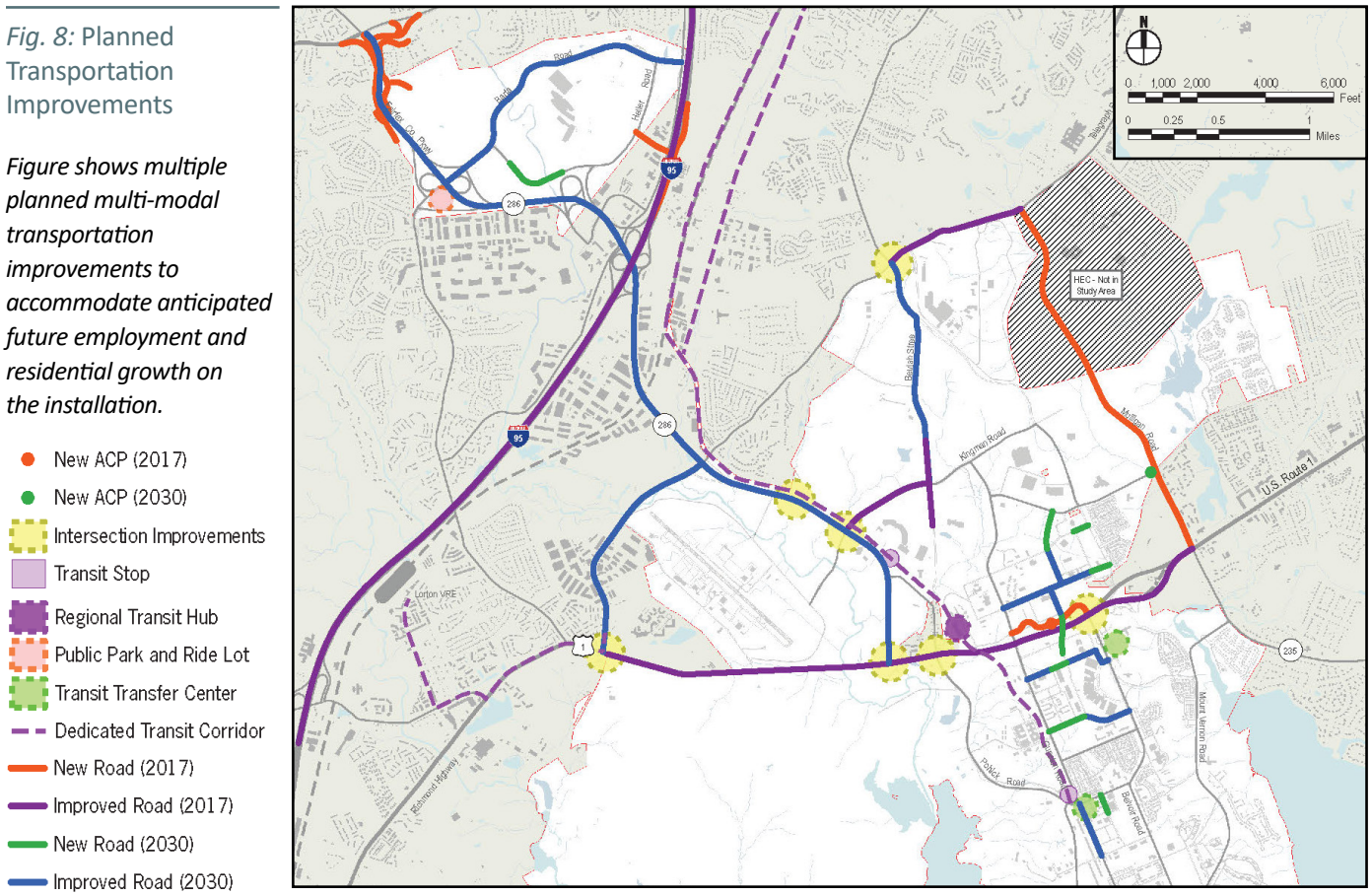
The Transportation Improvement Program, maintained by MWCOG, identifies regionally significant planned transportation projects. Local jurisdictions' planning, transportation, and/or public works departments will likely have information on planned transportation projects. Review WMATA's Capital and Service Plans webpage for any regional transit service adjustments that may impact employees; transit agencies for local jurisdictions should also have similar information. TMPs should identify any planned transportation improvement projects scheduled to occur within the next five years and are located within five miles of the installation. Depending upon the findings, a TMP may contemplate modifying or adding TDM strategies that leverage planned transportation improvements.

Planned Construction

New development occurring around the installation will undoubtedly adversely affect traffic and congestion near the installation. Identifying notable future development and understanding its potential impact to the street network and transit services will prove to be beneficial in developing and implementing effective TDM strategies. Contact the local jurisdiction's planning office to determine if there are any open permits for development within a three-mile radius of the installation. Depending upon the development, a traffic study might have been completed. Note any significant impacts from the traffic studies within the TMP.

Fig. 8: Planned Transportation Improvements

Figure shows multiple planned multi-modal transportation improvements to accommodate anticipated future employment and residential growth on the installation.



Section 3.3:

Travel Patterns & Commuter Behavior

TMPs should establish travel goals based on planning and survey data, as well as future master plan development. Include a detailed assessment of commuter behavior, employee housing information, and non-SOV travel challenges/opportunities.

The Transportation Element Addendum lists the following key questions to consider when developing a TMP:

- Where do employees or visitors traveling to a facility live? Have employee residential locations changed over the past 5 to 10 years?
- How, or by what mode, do employees/visitors currently travel to the facility?
- How long does it take to commute/travel to a facility from a place of residence?
- What times of day do employees/visitors work/travel to the facility?
- What are the challenges/opportunities to commuting by non-SOV modes? Are there barriers that could be addressed to shift travel behavior?
- Are telework or alternative work schedules allowed for agency employees, and, if so, how do these schedules affect employee travel patterns?
- What kind of commuter benefits/subsidies are available, such as transit subsidies or bicycle commuter programs?
- How might the expansion of alternative transportation services or traveler incentives influence employee/visitor travel, including shuttle services or subsidies for alternative transportation?

Researching and developing responses to these questions may reveal decreased employee demand for employee parking based on changing demographics; increased telework opportunities; and increasing development densities across the Region.

Commuter Travel Behavior, Preferences, and Trends

Commuter travel behavior is most easily discerned via commuter surveys.[1] Properly structured surveys will collect data that can be analyzed to determine overall trends and preferences of installation commuters. Critical information includes trip distance, travel mode choice(s), departure and arrival times, and trip duration. It is also important to capture employees' attitudes towards installation policies and programs (e.g., telework, alternative work schedules, and parking cash-out programs) that may impact commute decisions. Survey findings provide insights into commuter attitudes towards various commuting options and their general willingness to change behaviors.

Focus groups can serve as an excellent complement to commuter surveys, providing qualitative data regarding commuter attitudes.

Understanding an installation's commuting patterns, trends and likelihood of behavioral change informs which investments and TDM strategies may be most effective.

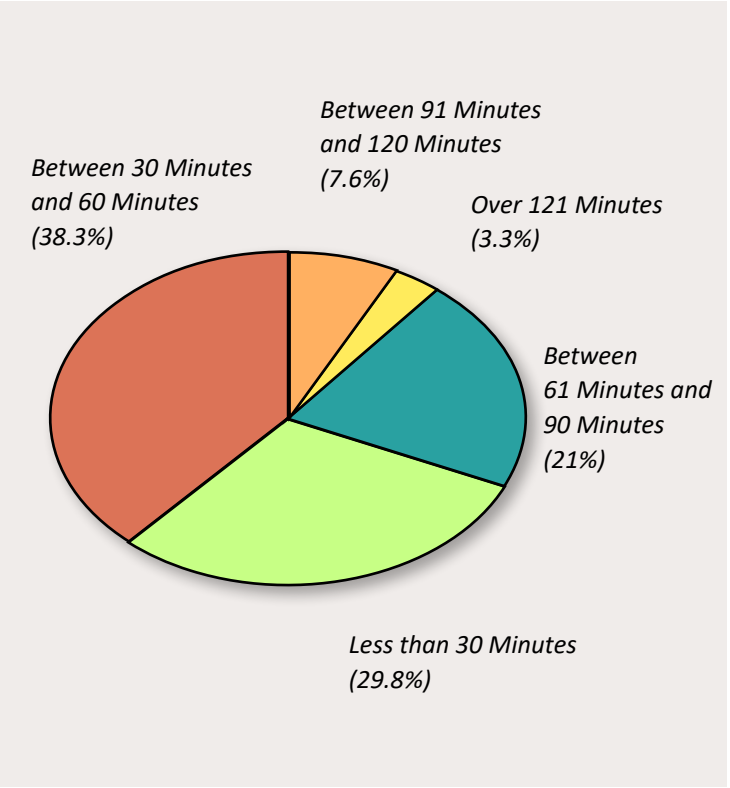
1 See Appendix C: Toolkit for Information Gathering for a more detailed explanation/walkthrough of Employer Commuter Surveys and Focus Groups

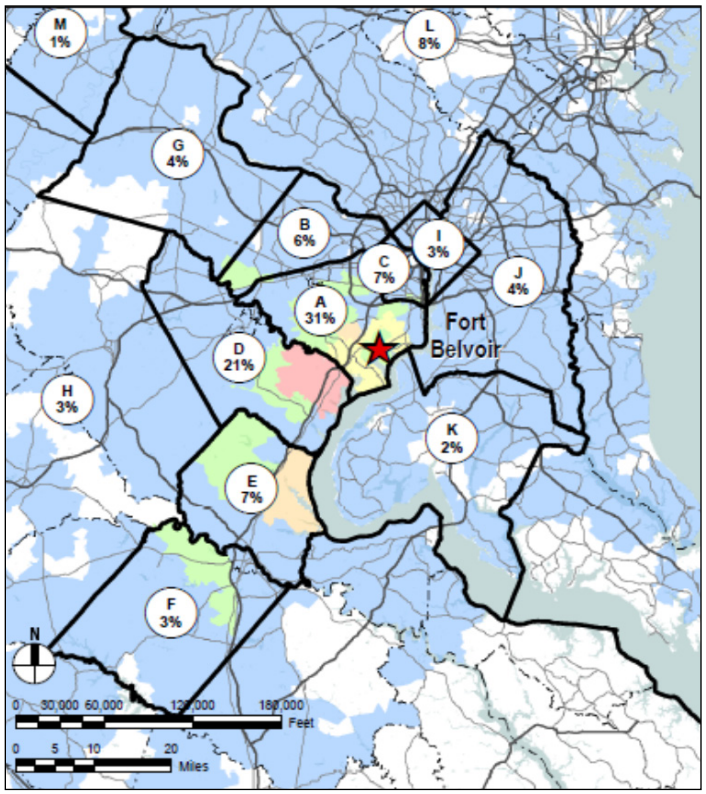
Employee Housing Information

An understanding of shifts in workforce housing patterns can help inform how SOV traffic could be reduced. Explore the extent that employees are moving closer to installations and more transit-accessible locations. Consider a series of thematic maps with zip code or census tract data to illustrate multi-year changes.

Fig. 9: Commuter Survey Travel Time Distribution Data and Employee Residential Distribution Map

The following figure shows the breakdown between existing employee commute times from home-to-work based on survey data. This data is important for understanding the current commute landscape of employees. Evaluating this metric over time, in conjunction with mode shift, may provide insight as to how TDM strategies are affecting employees' commutes.





Potential Barriers to Non-SOV Travel

It is important to include barriers to non-SOV travel within the TMP. Surveying commuters will reveal real and perceived barriers. For example, if there are not public transportation options within a half mile of the installation, commuters may not be able to realistically include transit as part of their daily commutes. Or if work schedules do not align with traditional rush-hour service levels, carpool or vanpool options may be unattractive to employees. Once the barriers are identified, the ETC may conclude some barriers are inflexible; however, some barriers may be easily addressed with TDM tools

Subsequent sections of this handbook explore how data gathered on travel patterns and commute behavior enables data-driven decisions regarding which alternative transportation services or traveler incentives might influence travel choice.

SECTION 3.4:

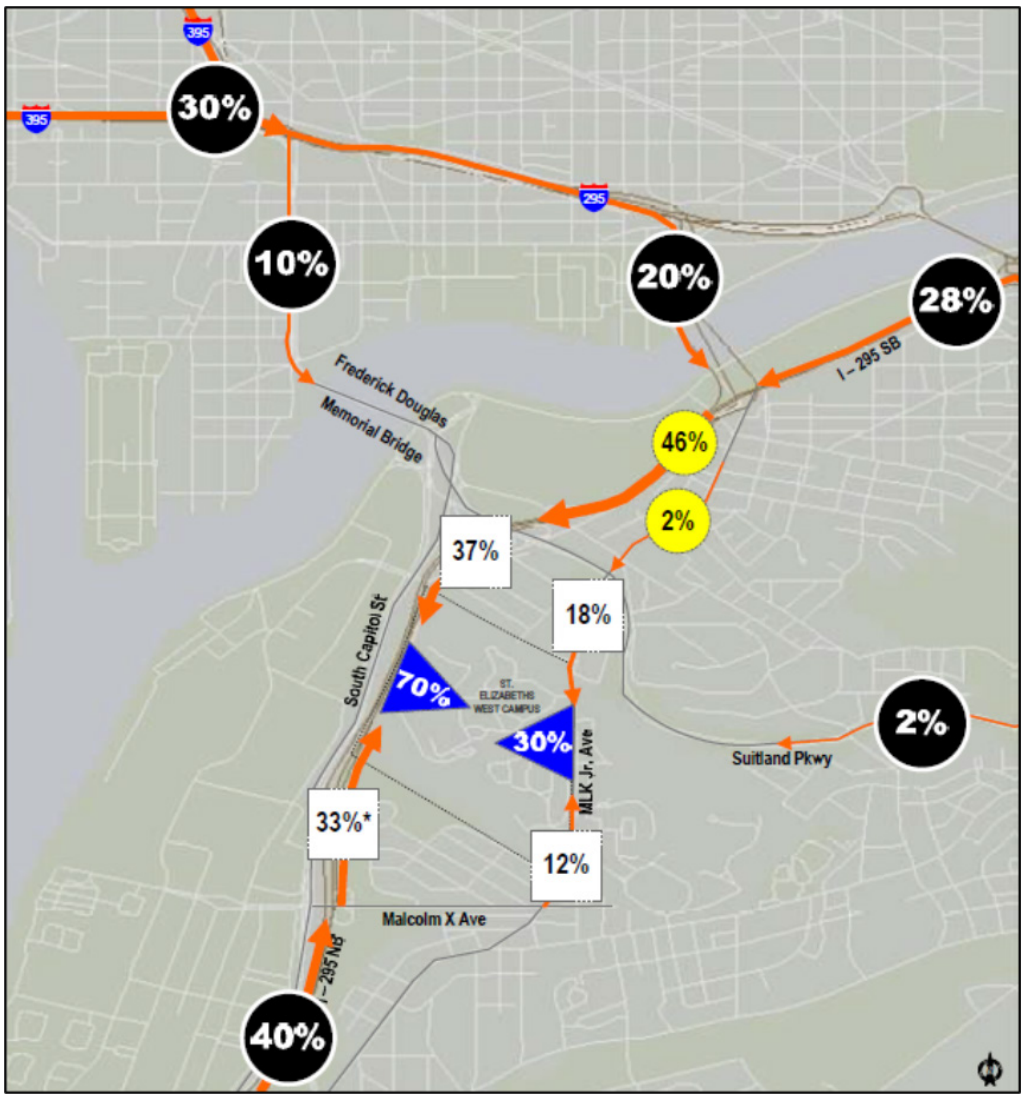
Projected Travel & Impacts

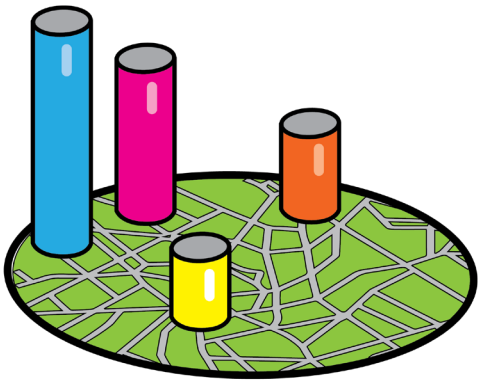
TMPs should analyze how dynamics such as anticipated employee population shifts and master plan development projects will affect the access to and within the installation. Analyses should forecast impacts on the surrounding roadway network, transit service, and bicycle and pedestrian access. This section should describe projected peak hour traffic by mode and include a summary of existing and proposed parking by type of assignment (e.g., official vehicles, carpools/vanpools, commuter vehicles, visitors, etc.). If future development is projected to cause adverse transportation impacts, mitigation measures should be identified and accounted for in TMP goals, consistent with any required environmental compliance documentation.

If new parking facilities are contemplated, the TMP needs to address how the addition of new parking spaces will affect compliance with NCPC's parking ratios and related policies. Thorough justification and coordination with NCPC will be necessary if net parking capacity would expand.

Fig. 10: Morning Commuter Arrival Trip Distribution

The following figure shows employee travel approaches during their morning commute trips, which is helpful to understanding where current access issues may exist and how to accommodate future travel needs. This data is typically gained through a traffic impact study to assess potential future travel impacts.





SECTION 3.5:

Transportation Demand Management

The TMP should identify and describe how to effectively apply TDM strategies and policies to manage transportation demand. In general:

- Include a range of TDM strategies, both short- and long-term.
- Design strategies to minimize vehicle trips and discourage single-occupant automobile travel consistent with transportation goals outlined in the introduction. This should include an assessment of how these strategies would help meet desired mode split for the facility.
- Design strategies to mitigate any impacts associated with master plan development.
- Thoroughly describe strategies, including anticipated benefits, measures of success, and their inter-relationships.
- Design strategies responding to the scale and context of the transportation impacts. In some cases, only minor improvements may be sufficient, while in others, more extensive strategies may be needed. For example, when transportation impacts are expected to be minor, strategies such as improved wayfinding signage, bikeshare stations, bike racks, and reserved van/carpool spaces may suffice to influence travel decisions. Where significant impacts are expected, more extensive strategies may be required, including shuttle systems, new or expanded sidewalks, or multiuse trails. Ultimately, federal planners should work to establish comfortable and safe pedestrian/bicycle conditions, both at the installation and along routes between federal properties, nearby transit stations/stops, and off-site development.
- Consider telework and alternative work arrangements as two frequently utilized TDM strategies.
- Include action steps, schedules, roles/responsibilities, cost/funding, and performance metrics.

Further information on TDM is provided in Appendix A: Transportation Demand Management Strategies.

SECTION 3.6:

Implementation

TMPs must include an implementation strategy that details specific commitments to success, including a timetable with milestones.[2] Implementation is predicated on:

- Establishing goals, objectives, and associated performance metrics (Section 3.1)
- Determining the applicable transportation policies/plans and systems (Section 3.2)
- Collecting data on travel patterns and commute behavior (Section 3.3)
- Identifying projected travel impacts (Section 3.4)
- Documenting initial TDM measurements (Section 3.5)
- Appointing an ETC (Appendix D, Step 1)

With this groundwork, the following steps are generally recommended to implement a TMP:

(1) Identify and consider prioritizing TDM strategies that may yield relatively high impacts
(2) Establish a budget and implementation schedule for each TDM strategy
(3) Communicate the TDM strategies to installation commuters
(4) Collect data on identified TDM strategies
(5) Evaluate the effectiveness of TDM strategies
(6) Adapt and modify the TDM strategies, as needed
(7) Report impacts to NCPC

For a more robust breakdown of TMP creation and implementation, refer to Appendix D: Creating A TMP: A Checklist. Appendix D explains the steps needed to plan, launch, implement, and evaluate a TMP.

2 Case studies that meet these requirements are summarized in the NCPC Transportation Element Addendum, pg. 9

The following figure shows different travel mode-based strategies and corresponding future mode share goals, broken down into different time periods. It is important to note that the time periods are based on anticipated build-out of the campus to avoid less flexible, fixed periods that may slip based on potential development delays. Many implementation tables do use near-term (2 or 5-years), intermediate-term (6-10 years), and long-term (10+ years) periods, which is also acceptable. Their purpose is to demonstrate real-world applications in addition to background from the NCPC Transportation Element and Addendum based on a recent master plan submission to the NCPC.

Fig. 11: Travel Demand Management Strategy Implementation Table

TDM Strategy	Planning Phase (Within 5 Years)	Preliminary Implementation Phase (Within 5 Years of Full Build-Out)	Full Implementation Phase (Within 5 Years of Full Build-Out)	Maintenance Phase (Beyond 5 Years after Full Build-Out)
Employee Transportation Coordinator (ETC)	• Secure funding and authorization for additional ETC staff • Ensure that ETC office space is incorporated into design of transit center and building lobbies	• Expand ETC services to support staff and contractors • Hire additional ETC staff as campus population grows	• At least eight ETC's are required • Begin TMP monitoring, adjust, strategies as needed	• Evaluate need for additional staff as needed
Carpool/Vanpool (1%-2%)	• Increase marketing to employees that live in the densest zip codes	• Pre-market/pre-match employees that will be relocated to the White Oak Campus	• Continue to incentivize and aggressively market the program	• Continue to incentivize and aggressively market the program
Transit and Shuttles (2%-4%)	• Clarify US Code guidelines for shuttle services and obtain definition of mass transit facility • Provide connections to US 29 BRT at the White Oak Transit Center and the Takoma/Langley Purple Line Station • Evaluate potential new shuttle/rideshare routes, develop service plan and secure funding for vehicles or rideshare services • Work with agencies to install sheltered, secure, and attractive waiting areas where transfers are needed. • Encourage transit agencies to offer free transfers between services and/or utilize a common fare payment system. • Coordinate with transit agencies to ensure that onsite transit centers can accommodate future BRT vehicles, standard buses, and rideshare queuing	•Establish transit user group and ambassador programs • Evaluate potential vehicular and pedestrian connection to Lockwood Drive • Champion the implementation of the New Hampshire and Randolph Road BRT routes • Begin pilot shuttle/rideshare routes to areas with higher concentrations of employee residences that are undeserved by transit	•Complete transit center • Modify shuttle/rideshare routes as needed • Begin commute challenges/competitions	•Continue coordination with agencies to maximize impact of new services, technologies, and commuting trends.
Telecommuting (1%-2%) **Flexible/ Alternative Work Schedules (0.5%-1%)**	• Develop incentive programs for telecommuting or utilizing a flexible day off on a Tuesday, Wednesday, or Thursday, as well as for late commuters • Outline preferential parking areas and ensure they are incorporated into existing and planned parking facilities	• Develop spreadsheet or other software to manage preferential parking	• Begin inventive program to balance parking demand across the entire week	• Evaluate additional incentives for demand balancing of teleworking, flexible work schedule, and alternative work schedule employees as needed
Bike/Walk to Work (1%-2%)	• Coordinate with agencies to provide pedestrian and bicycle facilities on the local roadway network that connect to local destination as well as regional trails • Ensure that pedestrian and bicycle facilities are incorporated in to the site design	• Expand bicycle user group to include pedestrians • Coordinate with Montgomery County to plan for bikeshare station on campus. Ensure that bikeshare stations are also provided at nearby residential and retail areas	• Install bikeshare stations • Complete on-site pedestrian and bicycle infrastructure	• Continue to monitor pedestrian and bicycle needs
Live Near Your Work (1%-2%)	• Establish guidance to developers as to what is needed to be served by an FDA shuttle and/or for the developer to provide a private shuttle connection to campus • Encourage Counties to require developers to provide pedestrian and bicycle facilities that could be used to connect to the White Oak Campus	• Develop circulator shuttle plans to incorporate stops at transit facilities/bus stops near major residential and commercial developments within one mile of the campus	• Begin expanded shuttle service. Allow private shuttles to drop off/pick-up at the transit center	• Monitor program and make adjustment as necessary • Maintain statistics on shifts in the location of employee residences
Smart Transportation Technology	• Provide a queuing area with available WiFi for ridesharing vehicles • Coordinate with ridesharing company to offer transportation during the day for employees • Consider parking garage designs that would permit future re-use if autonomous vehicle technology results in lower parking demand	• Secure funding for smart-parking technology • Provide rideshare kiosks for employees to schedule rides utilizing FDA accounts •Continue to evaluate accommodation for autonomous vehicles	• Implement smart-parking technology that informs drivers of the location of available parking onsite as well as via an app. • Continue to evaluate accommodation for autonomous vehicles	• Continue to evaluate accommodation for autonomous vehicles

Establish Effective Implementation Timelines

TMP implementation needs to be conducted in a strategic manner. It may be best to implement and promote certain TDM strategies prior to others. For instance, it likely wouldn't resonate well with employees if a worksite begins charging for parking prior to providing subsidies for carpools, vanpools, or transit; employees should be given an opportunity to change their commute behaviors with a carrot approach (i.e. incentive) prior to implementing sticks (i.e. disincentives). Many other such scenarios exist, which lends weight to the importance of developing effective implementation timelines as part of the TMP.

After TDM strategies are identified, consider which strategies may be better to precede others, or if certain strategies may be better suited to build off the successes of others. Also consider constraints that may impact a successful administration of the strategy, such as funding availability and staffing resources. Once these (and any additional) factors are considered, plot the strategies on a Gantt chart indicating which quarters throughout the fiscal year a strategy may be active. The Gantt chart should begin at the point of projected TMP approval by NCPC and contain a horizon of 5-years. See below for a simple example:

Fig. 12: 5-year Strategy Chart

TDM Strategy	2021				2022				2023				2024				2025			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Ridematching services																				
Transit subsidy																				
Establish daily parking fee																				

Staggering implementation allows TDM strategies to be measured more effectively. In the above example, a notable growth of employees shifting to transit as their primary commute mode in 2023 can likely be attributed to the transit benefit.

Timelines can be adapted as needed. As data is gathered, an ETC may determines that a TDM strategy needs adapted, removed, or added. Or, new policies may require new action; a change in leadership may produce new TMP goals. TMP updates are encouraged and should be sent to NCPC for review. At least one update is expected every five years.

Section 3.7:

Monitoring & Evaluation

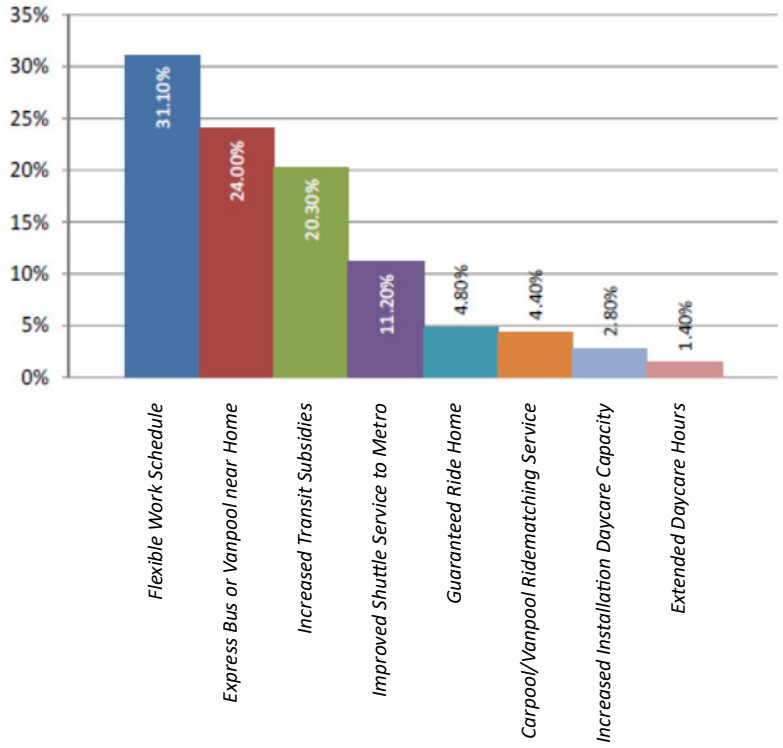
After implementation, agencies should monitor performance, and adjust strategies as needed to meet goals. Monitoring should include regular commuter surveys and other activities such as on-site traffic monitoring, traffic studies, and human resources department coordination. Travel data should be measured against pre-determined goals/metrics to reveal TMP effectiveness. Several methods for evaluation are explained in detail in Appendix C.

Report biennial progress to NCPC as required per NCPC's Submission Guidelines. Regular reporting is critical to understanding how transportation conditions at facilities are changing over time, and whether TDM programs are effectively managing travel demand. Facilities will be required to provide updates on mode split and high-impact TDM strategies.

Effective evaluation is predicated on establishing metrics that describe the intended impact of strategies (as described in Section 3.1). If monitoring data indicates goals are not being achieved, facilities are expected to refine implementation and/or TDM strategies.

Fig. 13: Process Graphic

Fig. 14: Commuter Survey Data Chart



Appendix A:

Transportation Demand Management Strategies

Transportation Demand Management: A Primer

TDM refers to a myriad of programs and strategies that encourage more efficient use of existing transportation infrastructure by reducing the amount of vehicle miles traveled (VMT) on the system. As the name implies, TDM aims to reduce the demand side of congestion (i.e., reducing the number of people commuting alone in private vehicles) rather than expanding the supply side (i.e., costly infrastructure).

By reducing the number of people commuting alone in private vehicles to the installation, an agency will be able to reduce the demand for parking at the installation. This will help the agency become compliant or maintain compliance with the NCPC Parking Ratios outlined in the Transportation Element. Additional TDM benefits include:

- Reduced roadway congestion
- Reduced commuting and travel costs
- Reduced energy use and greenhouse gas emissions
- Improved air quality
- Improved public health

To reduce the amount of single occupant vehicles (SOV) (i.e., driving alone) commuting to and from a installation, viable alternatives must be identified for employees. Understanding the nuances of each alternative transportation mode will enable a TMP to strategically select and customize actionable TDM strategies that may best serve the unique installation circumstances.

Alternative Modes of Travel

The crux of TDM is the ability for commuters to avoid driving alone to work. Driving alone, also known as a single occupant vehicle (SOV), contributes to higher VMT levels and requires more parking capacity than any other commute alternative. These alternatives, or non-SOV travel modes, include:

Carpooling is when two or more commuters ride together in a private automobile on a continuing basis, regardless of their relationship to each other or cost sharing agreements. Carpooling is the simplest and most common “ridesharing” arrangement.

Vanpooling is an important and economical option for individuals commuting long distances. This option is popular in the Metropolitan Washington DC area because of long commuting distances to work sites. An agency can give vanpoolers up to $270 in tax-free transportation benefits each month. There are three kinds of vanpool arrangements:

- **Owner-operated vans** — An individual leases or purchases a van and operates the van independently. Riders generally meet at a central location and pay the owner a set monthly fee.
- **Third-party vans** — A vanpool "vendor" leases the vanpool vehicle for a monthly fee that includes the vehicle operating cost, insurance, and maintenance. The vendor can contract directly with one or more employees. The monthly lease fee is paid by the group of riders.
- **Employer-provided vans** — The employer (or a group of employers) buys or leases vans for employees' commute use. The employer organizes the vanpool riders and insures and maintains the vehicles. The employer may charge a fee to ride in the van or subsidize the service.

Public Transit commuting options consist of fixed-route and on-demand service. In the Washington, DC region, the Washington Metropolitan Area Transit Authority (WMATA) operates regional bus and rail service throughout the region. Two commuter rail options also operate: MARC Commuter Rail in Maryland, and the Virginia Railway Express; both rail systems' lines terminate in Washington, DC. Most local jurisdictions also provide local transit service that supplements the regional service.

Micromobility options exist to compliment public transit and fill gaps where public transit may not exist. These options may include scooter and bike sharing programs, such as Capital Bikeshare. Commuter Connections keeps a listing of all active transit services within the region on their website. Where public transit and micromobility options are sparse, an agency may consider implementing a shuttle service that connects the installation with transit service.

Biking and walking commutes are common for trips under a mile. Many commuters who utilize public transit may also need to bike or walk for part of their trip, for instance, from their home to their bus stop, or from a rail station to their installation's entrance. Biking and walking trips have a high propensity toward the safety of the street network on which these trips take place; pedestrian and bike facilities are typically needed to promote these trips. Learn more about biking in the National Capital Region by downloading the Commuter Connections Bicycling to Work Guide[3].

Teleworking is when wage and salary employees at least occasionally work at home or at a telework or satellite center during an entire workday, instead of traveling to their regular installation. Clear expectations from management and a strong telework policy that includes a telework agreement required from employees is recommended to boost the success of telework.[4]

Transportation Demand Management: Strategies

The remainder of this appendix outlines potential TDM policies, programs, and public resources that ETCs can consider when developing a TMP. Selecting a suite of balanced strategies will help optimize the positive impacts produced from a TMP. These strategies help to reduce the barriers to non-SOV commuting while also boasting activities that boost the desire to use sustainable modes of transportation. Review the activities below and adapt them to the needs of your ETC.

3 https://www.commuterconnections.org/wp-content/uploads/Bike-Guide-Employee-May-2017-2.pdf

4 Learn more about telework by viewing the Keep The Job, Lose The Commute slideshow: https://www.commuterconnections.org/wp-content/uploads/Lose-the-Commute-SOC-2016-1.pptx. Other telework and Alternative Work Schedule information can be found at: https://www.commuterconnections.org/employers/

TDM Strategies: Installation Programs

Programs are actively managed by the ETC and encourage direct participation from employees.

Carpool Programs. Carpool programs ease barriers to carpooling by facilitating ridematches and providing other incentives for employees to carpool. For starters, a critical mass of employees interested in ridematching must be identified to optimize carpooling candidates. Asking employers to opt-in to a carpool program can be done via Commuter Survey or an installation-wide email request. Once a database of employees is generated, an ETC may be able to generate ridematching matchlists that identify and rank feasible carpool partners.[5]

Most employees are hesitant to rely solely on a matchlist and need help when approaching their potential rideshare matches. Through personalized assistance to employees, the employer can develop a high-profile carpool program, which will increase ridesharing at an installation and serve as an excellent marketing tool for the program. Employees will feel more comfortable when approaching rideshare partners if someone has taken the first step to introduce them to one another. Personalized assistance takes the social reluctance out of ridesharing, and in the case of ridematching, the ETC can bring the appropriate people together.

To increase ridesharing participation in a carpool program, the ETC can:

- Personalize the employee's introduction to ridematching by marketing the program and meeting the potential ridesharers in person.
    - Offer "Meet Your Match Parties;" small gatherings are usually arranged by the ETC to bring together and introduce 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. New employees are usually more receptive to changing their mode of transportation.
    - Introduce potential carpoolers to each other. Provide incentive program information such as 'Pool Rewards.
- Personalize the matching formation process, and reduce the anxiety involved in meeting and finding people who are potential carpoolers.
- Assist in the maintenance of existing and new arrangements through on-going follow-up on the status of carpools and vanpools.
- Schedule presentations for different departments. Let the employees know who the ETC is and how the ETC can help them.
- Refer potential 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 they have an "open door" policy.

Personalized assistance is essential to a ridesharing program in medium to large size federal agencies where employees may not know colleagues who appear on the match list. 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.

5 If the thought of organizing a ridematching database seems overwhelming, Commuter Connections has a ready-built ridematching program that federal agencies may utilize. See Commuter Connections Ridematching Program on page 47.

Complementary measures include the Commuter Connections rideshare matching program, preferential parking for carpools and vanpools, guaranteed ride home program, and marketing efforts. goDCgo.com, a clearing house for alternative travel modes including ridesharing in Washington, DC, is an invaluable resource when planning alternative commute options.

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

- Commuters with less than ten mile and/or 20-minute commutes are less likely to carpool.
- Carpools require riders to commit to a regular, agreed upon schedule. This can cause difficulties for workers whose hours are not consistent from one day to the next. A staggered work hour program can make it more difficult to form carpools because employee work hours are not compatible throughout an installation. However, the effect that flex-time has on ridesharing is less clear. Flextime may create a similar effect as a staggered work hour program in some cases or may allow employees to shift their arrival times to accommodate carpool schedules.
- Conditions which foster ridesharing include not having an available car, a long commute, tight parking supply, availability of nearby (or in-route) HOV/Express lanes, limited transit service, high concentrations of employees in a general work area and/or residential concentrations of employees.
- Cooperation with nearby employers, such as through a Transportation Management Association (TMA), will significantly increase the likelihood for successful placement of employees into carpools.
- Even though the ETC can play an active role in bringing potential carpoolers together, the ETC should communicate to the employees that they are responsible for making the final selection. Employees need to be prepared to screen potential matches for many issues such as a preference for smoking, type of music, flexibility of schedule, etc.
- ETCs can communicate carpool and vanpool incentive programs such as the 'Pool Rewards program[6] operated through Commuter Connections.
- Provision of follow-up assistance to start and maintain a carpool is strongly recommended.

Vanpool Programs. Vanpooling is an arrangement where several people (7-15) share a ride between home and work in a van. For employer subsidies, a vanpool should have a seating capacity of at least six adults (not including the driver). At least 80 percent of the van mileage should be for transporting employees between their residences and place of employment. It is also required that vans use at least half of its passenger capacity (the van driver does not count towards this requirement).

Vanpools can be formed only if an adequate number of employees with similar work schedules live near each other and is most cost-effective for long distance commuters who live at least fifteen miles, but ideally twenty miles, away from the office. An employee spatial distribution study that shows the location of where employees live in relation to the installation is one way to determine the vanpooling potential at an installation.

Complementary measures to vanpools include preferential parking for carpools, the Guaranteed Ride Home Program (administered by the MWCOG), the regional Commuter Connections Ridematching Program (administered by the MWCOG and its network members), driver training programs, and flextime.

6 See Commuter Connections 'Pool Rewards Carpool and Vanpool Incentive on page 47.

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

- The highest potential for successful implementation of a vanpool is among employees who live twenty or more miles from work and who have travel times of thirty minutes or greater.
- It is best to cluster fifteen to thirty people for a twelve or fifteen passenger vanpool. The cluster area should generally be no greater than two to three miles in size, but with commuting distances of greater than thirty 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.
- Develop employee interest by announcing potential routes. Provide subsidy and/or incentive program information for vanpools.
- Determine potential demand by meeting with identified potential candidates. Combine with "Meet Your Match" parties/gatherings.
- Identify/select possible drivers and back-up drivers among potential vanpoolers. Conduct a driving record check on the drivers and the back-ups. Obtain a medical certificate from them. Caution should be utilized in driver selection due to the multiple responsibilities a driver would have in operating and managing a vanpool. The driver is usually permitted to take the van home on weekends and overnight.
- Most vanpools start with less than a full complement of riders. Subsidies and incentives (e.g., personal property tax relief, seat subsidies, and monthly rate buy- down incentives), including local government support, should be sought to help increase ridership and continue the vanpool's operation. Ensure all vanpoolers are familiar with the program components such as cost, insurance, maintenance, etc.
- Erosion of interest in vanpools should be expected - some potential riders will change their minds. Make sure the ETC keeps the vanpoolers interested if there is a delay period.
- Order vans and set up a van delivery date in accordance with agency vehicle pool policies. Plan for the van by working with any of the following: a commuter company, an independent operator, or a charter company.
- Provide on-going assistance once the program is operational and track the ridership.
- If operating an employer-owned van: Note that adequate insurance for the vanpool is necessary. Adding to a driver's own automobile coverage is generally insufficient.
- If operating an employer-owned van: Note that maintenance and upkeep of vehicles is an issue. Access to an alternate van in the case of a breakdown is necessary.
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When promoting a vanpool program at an installation, consider highlighting some or all the following benefits:

- Employee productivity is enhanced because of reduced commuting stress.
- Tardiness is minimized because the driver and riders must maintain a reliable schedule to maintain a successful vanpool, which will in turn allow them to consistently meet an agency's start schedule.
- Morale and general work satisfaction increases.
- Employer/federal agency savings are achieved because of reduced parking expenditures.
- Savings in commute time result when used with High Occupancy Vehicle (HOV) or High Occupancy Toll (HOT) lanes, commonly referred to as Express Lanes in the region.
- Employees benefit from savings in commuting costs.
- Employees gain increased "down" time on the van/bus to read, sleep, or work.
- Congestion is reduced since each van can remove as many as fourteen other vehicles from the road.
- Air quality is improved, since one vanpool reduces up to two hundred seventy-five pounds of pollution every day.

Guaranteed Ride Home (GRH). A GRH program is a very useful element in a successful TMP. Some commuters are reluctant to rideshare because of a fear that they will not be able to get home in case of an emergency or if they must work overtime. A GRH program guarantees these commuters a ride home in an emergency (e.g., sick child at school). While this is not generally the primary motivating factor for traveling to work other than driving alone, the program does remove this one potential barrier to using alternative forms of commute travel.

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

- Taxi or Transportation Network Company (TNC) service: This is a subsidized service; most taxi or TNCs (e.g., Uber, Lyft) bill the employer directly.
- Short term auto rental: This is most appropriate for employees who need to travel more than 40 miles from the work site.
- Back up vans: If there is an agency-owned backup van, the ETC may choose to make it available for the GRH program.
- Public transit: An accessible bus or rail service may also present a viable option.

MWCOG offers a comprehensive GRH service under the Commuter Connections Program. This GRH service is used by many employers across the National Capital Region, including federal installations.

For employers, a GRH program can improve the ridesharing program and reduce the need for parking spaces. Additionally, this type of program encourages employees to rideshare without worrying about working overtime or attending to personal emergencies. Employees are generally receptive to GRH programs.

The existence of the program can increase interest in the other elements of the TMP by encouraging commuters with an initial interest in GRH program to explore various alternative commute options.

A GRH program is applicable at any agency. The 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:

- Define program objectives and target market.
- Estimate the number of trips to and from the installation over a period. The federal agency should survey the employees to develop some baseline estimates. Typically, one percent to twenty percent of eligible employees use GRH resources each year.
- Identify the transportation options that the federal agency will offer in the GRH program.
- Establish criteria for eligibility. This includes who may use the program and how often.
- Typically, about seven percent of eligible employees use a GRH program in a year, thus the cost of operating the program is lower than generally expected.
- 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; GRH service should be free or offered at a nominal cost.
- Write the policies and procedures for the program and establish procedures to prevent employees from abusing the program. One option is to limit usage of the program to a few times a year per employee.
- Address use of the program during snow emergencies by permitting employees to share rides with employees from neighboring agencies or companies that may have differing snow emergency or leave policies.

Commuter Center. A Commuter Center, located within a federal agency installation, offers personalized service to employees committing to the installation. The Center's focus is customer service; personnel operating the Center should actively seek to help other employees at the installation seeking non-SOV commute alternatives to find a quality commute choice. This may include providing employee ridematching services, distributing transit passes, etc. 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 ridesharers.

Benefits of creating a Commuter Center include:

- 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.
- 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. The degree that Commuter Centers 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:

- Identify location, office space, and functional requirements for the center.
- Identify staffing and contracting requirements, and start-up costs.
- Identify available services and any additional service needs for the site; the center could provide information and sell fare media for local and regional transit agencies.
- Estimate agency demand for farecards, SmarTrip® cards, tickets, and tokens. 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.
- Connect the Commuter Center with the regional ridesharing program, Virginia Railway Express, MARC, Metrorail/Metrobus, Capital Bike Share, car sharing, and other potential transportation services and amenities for employees.
- Utilize MWCOG resources and displays if possible.
- Selling commuter-related retail products may be met with opposition from nearby businesses.
- Time-sensitive tickets or passes may require additional staffing to meet demand as the new time period approaches.

TDM Strategies: Installation Policies

Employer policies are typically passive methods written into employer handbooks that help encourage staff to use sustainable commute modes.

Subsidies. Transportation costs play an important role in determining employees' commuting behavior. Helping employees reduce their commuting costs by providing financial incentives for non-SOV travel modes can help shift a drive-alone commuter into an alternative. Offering various subsidies will help an installation reduce parking demand and meet their TMP goals. Potential subsidies include:

- **Vanpool subsidy:** The federal agency provides a financial incentive on a limited or continuing basis to vanpoolers. The subsidy is intended to help cover the cost of vanpool operations. If this is not a feasible option, consideration can be given to promoting the Commuter Connections 'Pool Rewards Vanpool Incentive and the Northern Virginia Vanpool Alliance. It is possible to load and apply vanpool subsidies through WMATA SmartBenefits.
- **Vanpool empty seat subsidy:** The federal agency 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. This is common when vanpools lose a rider and are searching for a new rider, or to help a vanpool "get off the ground."
- **Transit subsidy:** The federal agency can pay part or the full cost of a transit pass or voucher to encourage use of public transportation. Within the National Capital Region, WMATA administers the SmartBenefits program, which is a commonly utilized mechanism for applying direct subsidy benefits to commuters seeking to purchase a variety of different public transit passes. The IRS typically determines a maximum eligible transit subsidy amount on an annual basis.

The agency can offer these subsidies by either providing direct payment to the employees by check, voucher, SmartBenefits, or through a payroll deduction process where the federal agency itself handles the program's administration, including payments to transit operators. It is important to note that contractors and interns would not be eligible for these subsidies.

Subsidies are beneficial because they make driving in a single occupant vehicle less attractive and more costly than other transportation modes. Subsidies can significantly increase the installation's AVO and reduce trips especially in conjunction with increases in parking prices. Subsidies work best when solo drivers must pay to park and ridesharers are given a price reduction, which results in an economic incentive for the ridesharers.

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

Consider the following when implementing various subsidy programs:

- Determine the feasibility of charging for parking and/or offering subsidies. Conduct a small survey by calling at least five to ten 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 percent for two-person carpool, 50 percent for three-person carpool, 100 percent for four-plus carpools and vans).
- The ETC should be aware that employees may be resistant to the program at first since most subsidy programs are introduced along with a pay-for-parking scheme

Travel Allowances. A travel allowance program is based on providing every employee with an equal amount of money to spend on transportation. The program is a "cafeteria-style" benefit plan for transportation because employees can decide how to spend the benefit themselves and can use the allowance to pay for parking or for carpool, vanpool, or transit expenses. The program rationale is that employees will try to generate and maximize a profit by spending only part of the allowance on transportation costs, which makes driving alone a poor economic choice. The Internal Revenue Service considers any travel allowance taxable; however, if a federal employee opts for a transit pass or voucher, there may be a portion of the allowance that is considered non-taxable.

Additionally, the program is a constant reminder to employees that parking is not free, and at the same time, compensates employees for losing their free parking. A travel allowance program also rewards bicyclists and walkers by allowing them to save the allowance. The solo driver will have to spend most of their allowance on commuting, while ridesharers should be able to save their money at least partially. Individual employer experiences with allowances found an SOV reduction of twenty percent or more because of providing travel allowances.

A travel allowance program is applicable in all settings where employees are required to pay for parking and where parking may be scarce. If ample free parking is available, then a travel allowance program will not be as successful.

Selecting the appropriate amount for a travel allowance can be difficult. One way is to set an amount that it is equal to the cost of parking in the building. If the allowance is less than the parking cost, then employees would be responsible for providing the balance of the parking cost.

To gauge employee interest, ask employees who wish to participate to fill out a form monthly that identifies how they wish to spend their allowance. If employees opt for driving alone and

reserving a parking space, the agency may purchase parking passes to maintain the employee tax benefit. If the employee gets cash, it is taxable. For transit passes or vouchers, the amount of the pass or voucher is taxed, unless it is subsidized for less than the IRS-designated maximum amount.

The ETC should be aware that, like a parking pricing program, some employees will likely contest the idea of covering a partial cost of parking or paying taxes on the allowance. Program marketing literature can mitigate these potential criticisms by highlighting ways that employees can reduce commuting costs and save the travel allowance for other needs.

The most important benefit of a travel allowance is that it is equitable. Every employee receives the same amount of money regardless of rank, tenure, or mode choice.

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

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.

Parking in most urban areas costs a minimum of $5,000 per space to construct a surface parking space, $18,000 per space for an above ground parking deck spot, and up to $25,000 per space for below ground parking. In addition, there are on-going costs for maintaining and operating parking lots. A parking management program can result in major cost savings for a federal agency.

There are three parking management strategies that are commonly used to reduce the number of solo commuters to an installation:

- **The pricing of parking:** Commuters typically park for free at work. Most employees consider parking to be a right rather than a privilege. Research has shown that employees who are charged for parking tend to alter their travel behavior. One option for implementing a parking pricing program is to offer differential rates for solo drivers versus ridesharers.
- **Preferential parking:** By offering preferential parking to ridesharers, employees will be encouraged to drive together instead of alone. Usually, preferential parking is located close to parking lot elevators or main building entrances and is usually marked with a monitoring system put into place.
- **Parking supply reduction:** The best way to ensure trip reduction through parking management or any other TDM strategy is to limit the amount of parking available to employees. If employees are not all guaranteed parking spaces for their single occupant vehicles, then some employees will look for other commuting options.

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

The benefit of a parking management program for an employer is that it can substantially reduce the need for parking and will modify employee travel behavior toward non-SOV travel. Some employees like parking management programs because non-solo drivers are rewarded for making the choice to use an “alternative” means of travel. 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 appropriate 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.
- Form an internal committee to evaluate existing parking conditions, to research and inventory parking in the surrounding area, and to develop an appropriate strategy.
- Develop scenarios based on different pricing strategies (if using pricing or travel allowance).
- Introduce the strategy to the employees, while allowing them to offer feedback.
- 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.
- The federal government currently considers free parking as a non-taxable benefit up to $270 per month. A subsidy and travel program may impact 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.
- Do not allow a pricing strategy to result in parking spillover into neighborhoods or residential communities that are adjacent to the installation. Spillover parking can result in strained relations with the community.
- Consider the availability of off-site, local parking facilities. The projected reduction of SOV trips may not be achieved if drivers are able to locate "inexpensive" parking within walking distance to an installation.

Alternative Work Schedules, *or flexwork*, are installation policies that give employees the option of adjusting their arrival and departure times. These policies are proven ways to reduce congestion at peak travel times and could reduce installation parking demand if staggered appropriately. Compressed work schedules (such as a four-day, 40-hour work week) can eliminate commuting altogether one day a week for many employees, which would have a significant impact on reducing parking demand. Organizations with such programs report less absenteeism, fewer late employees, and less use of sick leave. Three common Alternative Work Schedule strategies include:

- **Flextime:** Employees can select their arrival and departure times and length of their lunch period. They work eight hours (not including lunch break) and must be in the office during a core period.
- **Compressed Work Week:** Employees can complete the number of weekly hours in fewer days per week. Common deviations include a four-day work week or working eighty hours in nine days and taking the tenth day off.
- **Staggered Work Hours:** The employer staggers the arrival and departure time of groups of employees so that employees do not all arrive and leave work at the same time.

For the federal agency and its employees, 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 shifting trips to off-peak hours
- Increased job satisfaction
- Occasional three-day weekends
- Improved air quality by eliminating some commute trips
- Increased transit use because of permitted schedule changes for employees
- Facilitated childcare and ridesharing (flextime)
- Better communication across time zones

In addition to reducing peak period vehicle trips (i.e., shifting these trips to other off-peak 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 National Capital Region. Flextime schedules are 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 decreasing traffic congestion in the vicinity of the work site by metering commute trips throughout the day, as well as reducing the number of total trips. Staggered hour schedules 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, may result in a shift to HOV or Express Lane facilities (for example, transit to carpool). Staggered and compressed schedules appear to decrease VMT and to increase travel time savings, though the extent varies widely.

The following factors should be considered when implementing these strategies:

- Determine employee interest by surveying employees or meeting with representatives from different departments.
- Try to be flexible; these programs may not suit the needs of all employees and may conflict with existing arrangements for ridesharing, childcare, 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.
- Develop formal policies for the program through a proposal that describes the rules. Rules are necessary for all logistical issues such as: banking of hours, workday 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.
- Compressed work weeks may be tiring for some employees, so it is important to watch for employee fatigue and/or decreases in productivity.
- Promote the Flextime Rewards incentive from Commuter Connections to increase participation.

Teleworking Policies. Teleworking (a.k.a. Telecommuting) refers to the option of working at home or at a coworking office/teleworking center close to home on a full or part-time basis. With teleworking, employees work at home, or an employer's satellite office one or more days per week. Communication is accomplished by phone, email, and teleconferencing. Regionally, 1,073,000 workers are going to work simply by turning on their home computers. This installation alternative pays real dividends for area businesses and their employees, while reducing traffic congestion and air pollution, increasing the area's economic vitality, and bolstering the overall quality of life.

Teleworking is an effective tool for agencies looking for a competitive edge in today's labor market. Teleworking can help an organization prosper by enhancing an employer's ability to recruit and retain skilled workers, improving employee satisfaction and productivity, and cutting overhead costs. Employer benefits include:

- Strengthened employee recruitment and retention
- Reduced absenteeism, sick leave, and late arrivals
- Increased employee productivity
- Increased employee satisfaction
- Reduced costs for office space and parking
- Expanded geographic access to skilled workers
- Enhanced public recognition as an innovative business and as a good corporate citizen
- Provides for business continuity of operations during a regional crisis, such as increased ability for business continuity in the event of a natural or man-made disaster, or pandemic
- Decreased overhead in times of office expansion
- Reduced employee commuting time, stress, and cost
- Reduced trips to the central work site resulting in reduced VMT (i.e., less traffic congestion, air pollution, and highway cost)

The Telecommuting Enhancements Act of 2010 is a key factor in the federal government's ability to achieve greater flexibility in managing its workforce using telework. Well-established and implemented telework programs provide agencies a valuable tool to meet mission objectives while helping employees enhance work/life effectiveness. Specifically, telework: 1) is a useful strategy to improve continuity of operations to help ensure that essential federal functions

continue during emergency situations; 2) promotes management effectiveness when telework is used to target reductions in management costs and environmental impact and transit costs; and 3) enhances work-life balance, i.e., telework allows employees to better manage their work and family obligations, retaining a more resilient federal workforce able to better meet agency goals.

Viable forms of teleworking include:

- **Work from home:** This is the most common and the least expensive form of telecommuting.
- **Satellite Work Center:** This form of telecommuting refers to an arrangement whereby an employer provides some of its employees with the option of working at an alternative office located closer to 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 co-workers are still reporting to the normal work site.
- **Neighborhood Shared Work Center or Co-working Centers:** The neighborhood work center leases or sells space to several different companies. The neighborhood co-working 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. A complete list of Telework/Co-Working Centers can be found at the Commuter Connections website.

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 must be measured by results under clearly defined tasks and deliverables.
- Teleworking 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 or agree with teleworking arrangements or policies that may need to be re-visited and revised from time to time.
- Hold sessions to inform the potential participants and their supervisors about the basics of the program, the policies, the selection criteria, and explain why the federal agency is experimenting with the concept of teleworking.
- Select teleworkers either by surveying the potential telecommuters and managers, or by letting employees participate who have their supervisor's approval and who are willing to work from home.
- Develop a training program to provide telecommuters and managers with guidelines for completing and supervising remote work.
- 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 visit to determine the site is safe.
- Help employees understand tax implications relating to the home work space.
- Federal ETCs should coordinate communications with their designated agency telework coordinator on Continuity of Operations plans as well as information security policies associated with an agency-wide telecommuting program

Commuter Connections offers free telework resources, such as program guidelines, FAQ's, sample policies and agreements, and tips for managers to assist employers in the National Capital Region to either start or expand a telework program.

TDM Strategies: Installation Infrastructure

Infrastructure located within or near an installation greatly impacts transportation choice. Ensuring a mixture of transportation options exist is an important component of TMPs.

Transit Service/Shuttle Improvements. Mass transit is an excellent choice for commuting where services are readily available and accessible. The National Capital Region has one of the best regional transit networks in the country, and organizations are increasingly discovering the importance of selecting installation locations with good transit accessibility and nearby community amenities such as retail, restaurants, and other support activities (e.g., daycare, banks, etc.).

Though not all locations enjoy immediate transit access, organizations may be able to overcome this with short-distance, high-frequency shuttle service between the installation and closest transit station. NCPC and GSA will research shuttle implementation options that may be available to a federal installation. Installations may also enter into agreements with local transportation agencies to provide public transit access, particularly along bus routes, to improve accessibility to the installation. This may include construction of a bus stop or slight bus route deviations. GSA serves as a broker between the installation and the public transit agency for these types of capital improvements.

Transit service improvements provided by the agency might include:

- Shuttle buses from nearby transit stations or residential areas to the installation.
- Express buses from park-and-ride lots to the installation.
- Shuttle buses between multiple company sites or between the installation and nearby retail areas (generally mid-day trips).

Complementary measures include transit subsidies, travel allowances, a 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:

- Evaluate the potential for transit usage by assessing access and system availability between employee homes and the work site. Valuable questions include: What is the distance from the transit station to the installation? Is the scheduling of service compatible with the federal agency needs? Are the areas where the employees live easily served by transit?
- Look for concentrated residential locations of employees.
- Be aware of the current level of transit use at the site. It is important to remember that not all employees will be able to use transit due to limited availability. The level of transit usage at the site could be economically infeasible to attract more employees from SOV trips.
- Shuttle 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 of the new transit service against those for other TDM strategies.
- Make transit route brochures available in convenient locations or online. Try to customize this to the installation by setting up a map showing appropriate routes and schedules.
- Directly assist employees in determining the best transit route from home to work.
- Provide SmartBenefits to all employees or set up a Commuter Center to sell transit and vanpool fare media.
- Promote the transit program by distributing marketing materials and by featuring articles on transit riders in the employee newsletter or other federal agency publications, or through the agency's Intranet.
- 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.

Bicycle/Pedestrian Facilities and Site Improvements. Biking and walking are important components in commuting within the National Capital Region. With growing interest in health and exercise, both are becoming increasingly popular modes of commuting. An installation can accommodate cyclists and pedestrian commuters through various installation improvements.

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

- As a primary mode of access to the installation
- As a feeder mode to connect with transit or ridesharing modes for longer trips (first and last mile)
- For circulation within an installation and/or to nearby facilities that provide access to local community amenities such as retail, restaurants, and other support activities (e.g., day care, bank, etc.)

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

Consider the following factors when promoting biking and walking as a TDM strategy:

- Provide maps identifying bike routes and walking paths both in hard-copy form and on the agency website. Also, make literature on bicycling safety available.
- Provide special attention to bicycle facilities when overnight storage is required.

- 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, wearing reflective clothing when it is dark outside, etc. A bike/walk club can also be established within the facility population. Friendly competitions can be organized.
- On days of poor air quality, encourage employees who are bicyclists and walkers to use another commute alternative. The current regional air quality forecast and ozone alerts may be accessed through Clean Air Partners.
- If the work site is in a remote or unsafe area, encourage walkers to walk in groups and during daylight hours.
- Participating in the Washington area's annual Bike to Work Day event is a good way to introduce employees who are not regular bicyclists and/or do not usually bicycle to work, to this form of travel. Bike-to-Work Day is held annually in May.
- Promote bikesharing through the Capital Bikeshare program. Alternatively, promote one of the dockless e-bike/e-scooter providers.
- Provide adequate bicycle storage and shower and locker facilities at the installation.
    - Bicycle Lockers are the most secure and weatherproof bicycle storage devices. Lockers are not usually recommended for indoor or garage use.
    - A rack in a covered, locked compound or storage room can provide excellent security. Some racks allow you to store bikes vertically to save space. Racks in an unsecured area should be highly visible. Covering racks with a simple shelter or locating them under an existing covered area can increase the number of days employees will bike to work.
    - Bike rooms and cages are typically located in the basement or on the ground floor, a bike cage is a fenced off area in a parking garage. By installing a key or combination lock to access the cage or room, only those who bike to work will have access.
    - More employees will consider biking to work knowing they can shower upon arrival. Showers also allow employees to exercise at lunch.
    - Ideally, there should be one secure gym locker available to store work clothes for every long-term bicycle parking space provided. In addition to providing a locker to each regular bicycle commuter, other lockers should be available to encourage potential new bike commuters.
- Provide adequate information regarding regional and local bicycle paths and travel routes on the agency website and/or through brochures and maps. The Washington Area Bicyclist Association (WABA) provides facility information, maps, tips, and support. Commuter Connections offers a free regional bike map and an online bicycle routing module for all registered users. Encourage bicyclists to use these tools to help find a safe and dependable route to work.
- First/last mile access to a transit stop is also important in terms of the quality, security, access, and safety of an employee's trip. Web information, such as WMATA's Trip Planner, or mobile apps such as NextBus can be promoted to provide information to employees to identify multimodal trip alternatives and provide information on transit routes and service frequency.

TDM Strategies: Public Resources

Public agencies and nonprofits in the National Capital Region provide resources to help employers create and maintain sustainability initiatives at their installation.

- **Commuter Connections Ridematching Program.** Commuter Connections provides free ridematching services for commuters looking for formal carpool partners. Users simply need to register an account to receive these free, public services. Federal agencies may also choose to become a "Commuter Connections Network Member," where customized webpages and administrative access is granted to further enhance the ability for employees to find ridematches.
- **Commuter Connections Guaranteed Ride Home (GRH) Program.** The free regional Commuter Connections GRH program is available to commuters in both the Washington, DC and Baltimore regions. The full-service program provides free rides for registered commuters in the event of family emergency, illness, childcare conflicts, or unexpected overtime. ETCs may choose to help promote the Commuter Connections GRH program at their installation as an "insurance policy against the unexpected" for those who take non-SOV travel modes.
- **Commuter Connections 'Pool Rewards Carpool and Vanpool Incentive.** The 'Pool Rewards program rewards commuters for sharing the ride. Earn up to $130 for 2+ person carpools or receive a $200 monthly subsidy for vanpools. ETCs can promote this program to encourage ridesharing between employees at the installation.
- **Commuter Connections Flextime Rewards Program.** The Flextime Rewards program offers cash incentives to registered Commuter Connections members who elect to flex their commute trips during periods of excessive congestion on roadways in the region. An ETC can promote this program and facility program registration among employees to help reduce the number of vehicles traveling to and from the installation during peak hours.
- **incenTrip Mobile App.** incenTrip is a multimodal trip planning app that rewards points for each commute trip commuters plan and take during the morning and afternoon peak commuting times and log into the app. After accumulating an appropriate amount of points, Washington, DC area commuters redeem their points for cash rewards. Up to $600 can be earned in a calendar year. An ETC can help promote incenTrip at the installation and assist commuters in utilizing the app to log their trips as part of a Commuter Center service.
- **CarpoolNow Mobile App.** The CarpoolNow mobile app, owned and maintained by Commuter Connections, aids commuters looking for on-demand carpool partners. The app shows potential riders and drivers in real-time. Registration is free for all commuters; a Commuter Connections account is required. Incentives are available to carpool drivers who pick up riders via the app
- **Commuter Connections Telework Resources.** Telework resources from Commuter Connections are available for both employees and employers looking to implement a successful telework program.
- **Telework!VA.** This program offers teleworking resources to employers seeking to install or expand a telework program at their Virginia installation(s).
- **Sales Outlets.** Sales outlets provide convenient, one-stop shopping for schedules, fares, and information about the many transportation options available in the region. Sales outlets are a valuable resource for smaller federal agencies because they are a cost-efficient way for federal agencies to provide commuter services. Sales outlets are in the District of Columbia, Montgomery County, the City of Alexandria, Arlington County, and Fairfax County. A complete list of sales outlets throughout the region can be found at the Commuter Connections website.

Appendix B:

Local Jurisdiction Requirements

Arlington County

Arlington County has a TMP ordinance that is used as a guide for new development. It prescribes strategies that should be included in the TMP based on one of four land-use categories. Which category is applicable will depend on the proposed project's consistency with planned land-uses and/or density levels as stated in the General Land-Use Plan, as well as fore casted traffic congestion problems.

Performance measures and goals for TDM site implementation are as follows:

1. Incorporate comprehensive TDM plans for all site plans and use permit developments to minimize vehicular trips and maximize the use of other travel options.
2. Incorporate TDM measures with respect to all existing public buildings and facilities, irrespective of redevelopment status. Explore strategies and incentives to achieve TDM measures in existing private buildings.
3. Require regular travel surveys of new development with TDM plans and link to performance measures to enable follow-up actions. Undertake biennial evaluations of the effectiveness of the County's TDM policies and private compliance with TDM commitments and implement revisions as warranted.
4. Conduct biennial Countywide resident and worker transportation surveys to monitor travel behavior and system performance, and guide future efforts.
5. Apply TDM programs to non-work travel, as well as commuting, for resident, visitor and employee trips through informational distributions via informational displays, website, promotional campaigns and mailings of materials.
6. Coordinate TDM efforts with other jurisdictions and agencies across the region and actively promote the expansion of the TDM program.
7. Implement TDM strategies, including coordination and re-timing of traffic signals, left-turn lanes, signal preemption for emergency and transit vehicles, cameras at intersections and transit stations, and real-time traffic information available to the public.

Transportation Management Associations, Commuter Stores, commuter information displays, telework, flexible work schedules, parking preferences for vanpools, carpools, car sharing vehicles, and bicycles, are identified as key elements of the installation-related traffic demand management process. In 2019 Arlington County adopted a bicycle element to the TDM infrastructure. The County's Master Transportation Plan includes:

- Provide high-quality transportation services
- Move more people without more traffic
- Promote safety
- Establish equity
- Manage effectively and efficiently
- Advance environmental sustainability

City of Alexandria

The City of Alexandria's TDM program, GoAlex, is a component of the City's Office of Transit Services and Programs. The program is geared toward encouraging residents, businesses, commuters, and visitors to use a non-drive-alone mode of transportation when possible. The following is a list of transportation options, programs, and services available.

Transportation Options

Bus Options

- DASH – local bus system; peak-period service to Pentagon
- Fairfax Connector – Fairfax County bus system that serves some sections of Alexandria
- Metrobus – regional bus service with many routes in Alexandria

Rail

- Metrorail – Four Metrorail stations (yellow and blue lines) serve Alexandria
- VRE (Virginia Railway Express) – Commuter rail line that stops at Alexandria's Union Station (adjacent to the King Street-Old Town Metrorail station)
- Amtrak – stops at Alexandria's Union Station (adjacent to the King Street-Old Town Metrorail station)

Rideshare – Carpool/vanpool HOV/Express Lanes

- I-395
- Washington Street
- Patrick Street/Rt. 1
- Henry Street/Rt. 1

Bicycle/Pedestrian

The City offers numerous on-street and off-street bikeways designed specifically for bicycle travel or with key elements that support safe bicycle travel.

Support Programs and Services

Commuter Connections – The City of Alexandria is a member of the regional Commuter Connections network, which provides carpool and vanpool matching and a guaranteed ride home in cases of emergency and unexpected overtime.

GoAlex–The City's Transportation Demand Management website, to link to maps and schedules; learn more about transportation options and programs; get real-time traffic information; and to sign up for eNews – Transportation Alternatives, the City's e-mail service providing information on transportation initiatives, programs, and updates. Phone number: 703-838-3800.

Employer Services – The city supports the efforts of employers to encourage non-drive-alone commuting and telework by assisting with transportation benefits program development, implementation, marketing, and ongoing support.

Transportation Management Plans – Special Use Permit

Transportation Management Plans are now part of the City of Alexandria Zoning Ordinance, Article XI, Division B, Development Approvals, and Section 11-700 – Transportation Management Special Use Permits. This ordinance was enacted by City Council on May 16, 1987 to offset the traffic impact of new developments.

The ordinance requires that projects of the sizes indicated below submit a special use permit application which must include a traffic impact analysis and a transportation management plan:

Fig. 15: City of Alexandria Special Use Permit Criteria

Land Use	Tier 1 TMP	Tier 2 TMP	Tier 3 TMP
	From to	*From to*	*From to*
Residential	20 - 99 dwelling units	100 - 349 dwelling units	350 dwelling units +
Office	10,000 - 100,000 sf	100,000 - 250,000 sf	250,000 sf or more
Retail	10,000 - 75,000 sf	75,000 - 150,000 f	150,000 sf or more
Hotel	30 room or more	NA	
Industrial/Warehouse	30 ksf or more	NA	

A TMP fund is established to finance the transportation strategies to induce people to use public transportation. Some of these strategies are discounted fare media, shuttle bus service, registration fees for car sharing, bus shelter maintenance, bicycle lockers and parking facilities, and some administrative costs of the plan. The fund stays in an account belonging to the TMP holder but the city can claim this money if no approved transportation activities are conducted.

In the Transportation and Environmental Services Department (T&ES), the Office of Transit Services & Projects (OTS&P) administers the TMPs. City staff verifies compliance with the conditions of TMPs through the following documents:

- **Semi-Annual Fund Report** — This form is used to record the TMP financial contributions made by a TMP holder to support the transportation activities. It also records the expenses incurred and gives a summary of the contribution, the expenses and the balance to carry-over, if any. Deficits are shown as additional contributions by the TMP holder to avoid carrying negative balances.
- **Residential and Commercial Surveys** — Their objective is to find out the modes of transportation used by residents and employees of developments holding a TMP. The survey measures the effectiveness of the transportation strategies carried out by TMP holders; these strategies are intended to stimulate single occupant vehicle (SOV) drivers to switch to transit, join a carpool, ride a bike, and use any other means of transportation.
- **TMP Annual Report** — A narrative of the activities carried out during a year, providing a summary of the survey, and indicates what activities are planned for the coming year.

The TMPs are conveyed in perpetuity with the land.

Permanence of the TMP Ordinance — Prior to the signing of any lease/purchase agreements, the applicant/developer shall prepare appropriate language to inform tenants/owners of the transportation management plan special use permit and conditions therein. The city attorney's office reviews and approves such language.

The Director of T&ES may approve modifications to agreed TMP activities, if the changes are consistent with the goals of the TMP.

For additional information you can contact the TMP Coordinator in the Office of Transit Services & Programs (OTS&P), at 703-838-3800, or visit www.AlexRide.org.

Prince George's County

Princes George's County enacted a Transportation Demand Management District (TDMD) Ordinance in 1993 to provide the County and its communities with a formal and legally recognized procedure for orchestrating and monitoring trip reduction in areas of the county which cannot meet the General Plan level of service standards solely through roadway improvements.

TDMDs may be created by a petition to the County Council or formally instituted by the Council within the boundaries of a master plan, including Transit District Development Plans (TDDPs). In areas that have approved TDDPs , such as West Hyattsville, New Carrollton and Prince George's Plaza, TDMDs have been enabled in the Council's approval of the TDDPs.

A TDMD could be established by petition or through adoption of an Area Master Plan. A TDMD could be triggered when twenty percent of the intersections or interchanges in a given area begin to operate at LOS E or ten percent at LOS F. The proposed thresholds that would trigger trip reduction requirements may differ in each TDMD.

Currently, the Prince George's County Council has enabled but not authorized any TDMDs. Trip reduction goals are determined in each area by existing capacity, comparable trip generation rates for proposed land use, and planned improvements.

Performance measures may 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 the General Plan LOS standard for the area.

Monitoring and compliance measures in the TDMD Ordinance include monitoring reports and annual reports by the Transportation Management Association or other responsible entity to the Planning Board. Violations for unsuccessful compliance, non-compliance resulting from deceitful actions, and non-compliance resulting from non-cooperation include varying levels of penalties.

Transportation Management Associations, parking policies, and bicycle programs are identified as key elements of the installation-related traffic demand management process once the TDMD is authorized and the TMA is created.

Greater detail on the boundaries and status of TDMDs within the County can be obtained from the County's Department of Public Works and Transportation.

Montgomery County

Montgomery County, under its adequate public facility ordinance, requires proposed developments in traffic congested areas to offset the impact of new peak-hour trips generated by the new development. A traffic impact area is defined, and baseline traffic counts collected from this area prior to construction to establish the existing setting which must be maintained. Activities to reduce trips are prescribed on a case-by-case basis through the development approval process. These requirements are made part of the conditions of approval of the development and culminate in negotiation of a Traffic Mitigation Agreement (TMA) with the developer.

Montgomery County's most urbanized areas have been designated as Transportation Management Districts (TMDs). Existing TMDs are located in Bethesda, Friendship Heights, North Bethesda, Silver Spring, and Greater Shady Grove. All new developments generating more than a minimal number of peak hour trips which are located within the County's Transportation Management Districts are required to undertake some type of traffic mitigation measures. Those generating larger numbers of trips are required to have TMA's.

The performance measure used for Montgomery County's program is no increase in peak hour traffic volumes in the defined area as a result of the proposed development, or in some cases no increase beyond a defined level. Under the county's recently-adopted Growth Policy, measures of impact are evaluated for both local intersections and on a broader "policy area" basis.

Monitoring and compliance measures for developments with TMA's may include driveway counts, periodic progress reports, and annual reports by the developer or other responsible entity.

To assist in obtaining traffic mitigation objectives, public parking in TMDs and many other urbanized areas of the County is carefully managed. A policy of constrained supply applies to most of these areas. New developments within Parking Lot Districts (PLDs) may forgo provision of on-site parking if payments are made to the PLD. Office developments within TMDs and certain other areas of the county may opt to reduce traffic impacts by reducing parking provided on-site. Under the zoning ordinance, two sets of reductions, of fifteen percent each may be obtained in return for certain actions, including annual payments in support of TMD activities. To implement these provisions, developers must enter into a Parking Reduction Agreement with the county.

In addition to development-based traffic mitigation, Montgomery County has an active program of employer-based traffic mitigation efforts. In November 2002, Montgomery County enacted County Council Bill 32-02, amending County law regarding the County's four TMDs. Effective March 2003, the purpose of the law [Montgomery County Code, Part II, Chapter 42A Ridesharing and Transportation Management] was to implement uniform requirements for employers in all TMDs in order to increase progress toward reducing traffic congestion and reaching commuting mode share goals.

Under Chapter 42A, all employers with twenty-five or more employees in the TMDs must implement the following transportation demand management (TDM) strategies:

- File a traffic mitigation plan (TMP)
- Submit an annual report of the employer's TDM activities
- Participate in the Annual Commuter Survey

Employers must file a traffic mitigation plan (TMP) within ninety days of notification. County guidelines require the employer's TMP to include the following elements:

- Designate an Employee Transportation Coordinator (ETC) a/k/a Transportation Benefits Coordinator (TBC)
- Post and/or distribute transportation information to employees
- Facilitate TMD presentations to employees/HR staff
- Promote MWCOG's Guaranteed Ride Home program
- Participate in the County's Annual Commuter Survey
- Provide American with Disabilities Act (ADA) transit information
- Provide a permanent display for bus/rail schedules and other information about commuting alternatives and "better ways to work."

Employers are encouraged and assisted by TMD staff to implement other TDM strategies, such as:

- Car/vanpool incentives
- Alternative work schedules
- Subsidized transit passes
- Pre-tax payroll deduction
- Enhanced Guaranteed Ride Home program
- Car sharing parking and/or incentive programs
- Air Quality Action Day participation
- Preferential parking for carpools/vanpools
- Formal telework (telecommuting) policy
- Bicycling/walking amenities (bicycle racks, changing rooms and showers)

The above-mentioned TDM activities are implemented by employers with assistance from Montgomery County's Commuter Services staff and their contractors. Activities are documented by employers with the submission of annual reports.

Commuter Services also operates a rideshare matching program in concert with the region-wide MWCOG Commuter Connections program. Prospective rideshare participants are matched with carpool, vanpool, or transit arrangements upon request. A program of personalized follow-up to ensure satisfaction with the commuting information and/or arrangements provided is an essential part of the County's rideshare program. Carpool and vanpool vehicles are also eligible for parking discounts in the county's public parking garages.

The Annual Commuter Survey developed by Commuter Services and administered through employers is used to create a database of employee commuting patterns in the TMDs and throughout the county. The survey helps monitor progress toward achieving mode share and other commuting goals. The survey also helps the Department of Public Works and Transportation determine what changes to programs and services are necessary.

Transportation Management Districts, developer Traffic Mitigation Agreements, parking management and reduction policies, personalized ride-matching assistance programs, and employer-based programs–including filing of Traffic Mitigation Plans, and undertaking strategies such as transit subsidies and telework programs–are key elements of the installation-related TDM process in Montgomery County. Together these efforts are encapsulated in the slogan used by Montgomery County Commuter Services: "Better Ways to Work."

Note: Montgomery County's employer TMPs (Traffic Mitigation Plans) are not required for federal government employers. However, Montgomery County will work with all federal agencies within Montgomery County and endeavor to have them voluntarily undertake the same types of strategies promoted with private sector employers. A new effort on behalf of Montgomery County is "Next Gen TDM," which is expected to implement new TDM requirements for development projects and employers based on size and geographic location, to support increased use of multi-modal options. NextGen TDM policies are in the process of being finalized by the County.

Loudoun County

Loudoun County will require Transportation Demand Management strategies for both residential and non-residential development. Staff will develop transportation demand management (TDM) standards that will be used by applicants to create TDM plans.

These TDM standards will encourage new and existing development to implement strategies that will ultimately reduce vehicle trips and vehicle miles traveled. Examples of such strategies include providing employment opportunities suitable to local residents and housing suitable to local workers, and connectivity of neighborhoods and retail/commercial areas. In 2010, the county issued a long range TDM plan outlining specifics on an organization's development plans and how their TMP will adapt to the requirements asked for by the county.

The county will encourage existing and new employment and business uses to support alternative travel modes by offering ridesharing and car/vanpooling, minimizing the availability of parking beyond current county requirements, and providing site amenities (e.g., transit shelters and bicycle lockers) as appropriate. Employers should also investigate other incentives (e.g., parking cash out programs and telework policies).

Prince William County

Prince William County uses a proffer system which is a funding mechanism that developers voluntarily provide to the jurisdiction to pay for services for new developments, to encourage Transportation Demand Management measures with respect to new public and private sector developments within the County. It has a formal proffer policy that sets proffer amounts for housing units sized to explicitly account for unfunded road improvements, parkland, schools, etc., but the policy does not currently account for needed and unfunded transit improvements. The county updated its comprehensive transportation plan.

Some of the requirements are as follows:

- Address safety (including pedestrian safety)
- Minimize conflicts with environmental and cultural resources
- Maximize cost effectiveness
- Increase accessibility of all travel modes
- Ensure consistency with land use plans to minimize projected trip demand
- Provide sufficient capacity to meet demand

Fairfax County

The Fairfax County Transportation Policy Plan identifies one of its policy goals as "Promoting Transportation Demand Management (TDM) to support efficient use of the county's transportation system."

Fairfax County TDM Resources and Programs

Ridesharing:

- **Commuter Connections Rideshare Program** - Commuter Connections is a regional network of transportation organizations that matches commuters with others who live and work in the same area.
- **Commuter Connections Guaranteed Ride Home Program (GRH)** - provides commuters who regularly (at least twice a week) carpool, vanpool, bike, walk, or take transit to work with a FREE and reliable ride home when one of life's unexpected emergencies arise.
- **VanStart** - can provide up to nearly half the cost to start a new vanpool under the VanStart program or keep an established vanpool on the road when unexpected rider loss occurs with the VanSave program.

Transit:

- **Fairfax Connector** –Local bus service offered by Fairfax County.
- **Metrorail** - Rail service offered by WMATA.
- **Metrobus** - Bus service offered by WMATA.
- **SmartBenefits Program** - SmartBenefits® is a fee-free way for employers to allow employees to commute tax free in DC, Northern Virginia and Southern Maryland.

Flexible Working Options:

- **Fairfax County Commuter Services** - Fairfax County Commuter Services (FCCS) is a Transportation Demand Management (TDM) program that advocates alternatives to drive-alone commuting for residents and employees in Fairfax County.
- **Telework!VA** – Program through the Virginia Department of Rail of Public Transportation (DRPT) providing telework training and financial incentives for Virginia businesses to establish or expand telework programs for their employees.

Bicycle Programs:

- **Fairfax County Active Transportation Program** – A collection of resources for Fairfax County residents who wish to learn more about human-powered travel including walking, biking, rolling (scooter, wheelchair, stroller), hiking, running, and riding.
- **Capital Bikeshare** – Regional bikeshare program with bike stations located throughout Fairfax County.

Fairfax County Transportation Demand Management Program

In 2013, Fairfax County adopted guidelines for TDM programs for new developments. These guidelines outline the expectations for office and residential developments based on their proximity to a Metro station. The closer a site is to the metro, the higher the TDM reduction goal. Hotels and retail establishments may also proffer goals for their employees, but these institutions do not always commute during standard peak hours. Developers shape their TDM proffers to fit these guidelines during their application process and are checked for compliance annually.

Below, is a summary of TDM guidelines for developments located within Fairfax County that are not within the Tysons Urban Center.

Fig. 16: TDM Guidelines

Development		Non-Tysons TOD Locations		Non-TOD Locations (More than 1/2 Mile from Station)
		0 - 1/4 Mile from Station	*1/4 - 1/2 Mile from Station*	
Office	**Baseline***	30%	25%	20%
	TDM Goal*	45% - 35%	40%-30%	35%-25%
Residential	**Baseline***	30%	25%	15% - 10%
	TDM Goal	45% - 35%	40% - 30%	25% - 15%

The following figure outlines the guidelines for developments within the Tysons Urban Center. These guidelines seek to achieve higher trip reductions and escalate based on new Gross Square Feet (GSF) developed in Tysons.

Fig. 17: Tysons Corner Trip Reduction Goals

Square Feet of GSF in Tysons	Distance from Metro Station			
	0 - 1/8 Mile	*1/8 - 1/4 Mile*	*1/4 - 1/2 Mile*	*Beyond 1/2 Mile*
	Trip Reduction Goal			
Up to 65,000,000	45%	35%	30%	25%
65,000,000	50%	40%	35%	30%
84,000,000	55%	45%	40%	35%
90,000,000	58%	48%	43%	38%
96,000,000	60%	50%	45%	40%
105,000,000	63%	53%	485	43%
113,000,000+	65%	55%	50%	45%

Required Elements:

- Transportation Demand Management Work Plan (TDMWP)
  - Each TDM program is required to submit a TDM Work Plan, which outlines the TDM strategies a development will implement, a timeline of when each strategy will be implemented, and provide an assessment of strategies executed to date.
- Trip Counts and Surveys
  - Developments conduct trip counts and surveys in order to verify they are meeting proffered trip reduction goals.
- TDM Funds
  - To help reach its TDM goals, every TDM program has two different funds: an Incentive Fund and a Remedy Fund, each with its own purpose. Additionally, developments within Tysons contribute to their local Transportation Management Association (TMA) and establish a penalty fund.

- Annual Report and Budget
  - The TDM Annual Report provides a snapshot of current TDM conditions for a site. Every year this report is to be submitted with information on traffic counts, status of the buildings on the site, TDM budget, trip reduction goal progress, what work has been done to satisfy each TDM proffer, and anticipated changes in the TDM program for the upcoming year.

More information about the Fairfax County TDM program can be found on the Fairfax County TDM page and on the Developer's TDM Toolkit.

District of Columbia

The District of Columbia passed the Sustainable DC Omnibus Amendment Act of 2014, which requires employers with 20 or more employees located in Washington, D.C. to offer commuter transit benefits to their employees. The federal government is exempt from the law, but the requirements are shared below for general TMP edification.

As of January 1, 2016, non-Federal employers with 20 or more employees in DC must offer access to one or more transit benefit options:

- Employee-paid, pre-tax benefit (most popular)
- Employer-paid, direct benefit
- Employer-provided transit

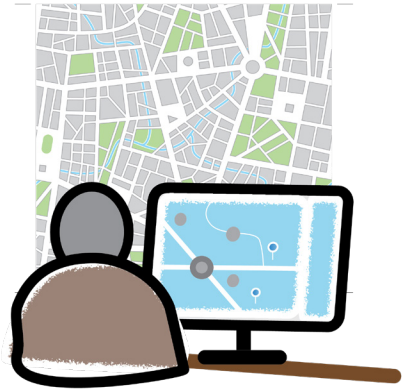
Non-Federal Employers are required to do the following in order to maintain compliance with the law:

- Notify employees of the available transit benefit program
- Provide information to covered employees on how to apply and receive benefits
- Issue benefits to covered employees that request or apply for them
- Maintain records to establish compliance with the requirements
  - Record that notice was given to employees
  - Records showing that elected benefits were provided

goDCgo is a District department of Transportation (DDOT) initiative that seeks to aid employers in establishing and maintaining compliance with the law.

Appendix C:

Toolkit for Information Gathering



This appendix lists various instruments for information gathering that will assist an ETC in understanding employees' commuting behavior and perception of the transportation network surrounding the installation. Information gathered from these instruments will be used to help determine TDM strategies for inclusion into the TMP, as the data will provide insights on which strategies might be most effective. Additionally, the data collected will permit the TMP to satisfy ongoing evaluation and modification requirements as commuter behavior changes as a result of TDM implementation at the installation.

There are four methods of collecting data about employee behavior: surveys, vehicle counts, focus groups, and internal personnel records. The method(s) selected will depend on the program objectives and budget. Each of these methods is described below.

Employer Commuter Surveys

Commuter surveys are critical components of any TMP. Initial commuter surveys should be distributed when a TMP is being created in order to understand baseline commuting trends. Follow-up surveys should then be issued biannually as a means to understand how commute trends have evolved with the implementation of TDM strategies.

Commuter surveys can help accomplish the following:

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

Prior to implementing a survey, ETCs should contact the appropriate legal and human resource representative within their organization to address any concerns related to employee privacy and data collection policies.

The agency may have to develop a custom survey. This process may be a bit more cumbersome than utilizing the Commuter Connections ready-built survey, but surveying employees is necessary for the success of the TMP. If an ETC must create a custom survey, consider these tips for a successful survey:

- 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 a two-part survey instead of one long survey.

After the survey has been administered, evaluate the survey results. The survey results should be compared to previous period results if available, in order to identify any trends or changes in the use of modes. From the survey, the following relevant factors should be identified which could influence existing employer commute patterns:

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 and 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
- The potential for each mode as compared to the existing mode share.

Vehicle Counts

Vehicle counts are a literal count of vehicles that enter the installation's designated parking facilities. Gathering information on the number of vehicles that access the installation will provide valuable data for determining parking demand and vehicular impacts (e.g. emissions, Vehicle Trips, Vehicle Trip Reduction, Vehicle Miles Traveled). Vehicle counts also help identify traffic areas/times of high traffic congestion around the installation, which should be documented in the TMP. An initial count should be conducted prior to TMP implementation and serve as a baseline for the number of vehicle trips originating/terminating at the installation. Counts can then be conducted biannually to understand how TDM strategies are reducing vehicular demand at the installation.

Whereas surveys collect *perceived* data from employees, vehicle counts are considered real data in the sense that they record true observations of commuter behavior. As such, counts may take a greater weight in analysis when determining TMP effectiveness.

Consider the following tips when conducting vehicle counts:

- Count vehicles entering and exiting all driveways to the site simultaneously.
- Count during peak periods, e.g. from 6:30 to 9:30 a.m. and from 3:30 to 6:30 p.m.
- Autumn is the optimal time of year to conduct a count.
- Count on Tuesdays, Wednesdays, or Thursdays, not during weeks in which holidays occur
- Count vehicle trips only (not person trips).
- If desired, consider contracting with a qualified transportation consultant to conduct the counts and/or to collect other data as needed.

Bike and Pedestrian Counts

Bike and pedestrian counts are a literal count of cyclists and pedestrians that enter the installation. Counts can be done simultaneously to Vehicle Counts and will help provide data as to the current percentage of the workforce who bikes or walks. When counting, include all individuals who enter and exit the site within a given time-frame.

Focus Groups

A focus group is a small group of persons (8 to 12) that is 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 purposes of the focus group sessions could include:

- Identify employee perceptions of the future commute.
- Identify important factors determining mode choice and mode captivity, describe ideal systems, and note trade-offs.
- 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

Focus groups are developed as a survey technique by companies testing new products before they are released to the marketplace. 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. 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 group interviews are used as a way of facilitating an understanding of employee 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.

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 assessed.

Access to position titles or grade levels could examine the need for different levels of service and marketing strategies. It is important to first check with agency human resources and legal departments regarding current policies for protecting employee's personal information. Personnel records are considered private information and the data should never be exposed to contractors or anyone outside of organizational management.

Evaluation Implementation Considerations

The instruments recommended in this Appendix for information gathering are ultimately implemented in order to conduct data evaluation on the effectiveness of the TMP. There are three basic methods of conducting an evaluation: by mail, phone, or e-mail. The following provides some guidance in achieving high response rates. Please consult with agency human resources and legal department to ensure consistency with agency privacy policies and other related requirements before initiating the evaluation process.

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. It is inevitable that inefficiencies will occur due to communication problems, ineffective distribution methods, or for other reasons. 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 decreases as the response rate gets higher.

Independent of the distribution method, the ETC should give close attention 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.

(A) Selecting the Sample

Respondents are usually selected from some kind of master list that either approximates or actually is the group under study. When an agency is relocating to a new installation, every employee who will be transferred should be included in the sample. Otherwise, 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. Next, every nth employee 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.

(B) 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 three hundred completed surveys, and the federal agency estimates a response rate of sixty percent, the federal agency would need to start with a sample size of five hundred cases.

After the records are selected, they need to be 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.

(C) Pre-notification of Potential Respondents

Whatever the distribution method chosen, the ETC should take every opportunity to notify employees of the survey in advance. Survey 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, bulletin board, or online.

(D) 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.
- The questionnaire should be as brief as possible while still allowing the federal agency to obtain the desired information. Questionnaires that are too long and/or contain repetitive questions will be met with low response rates.
- 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 number 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.

(E) 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.

(F) 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:

(A) 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.
- Effective 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.

The survey may be personalized with elements 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.

(B) 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.

(C) E-mail/Online Surveys

E-mail messages for online surveys are simple and cost-effective. The formatting of an online survey is critical to its success. One of the benefits of online surveys is that employees of an installation are typically on the same system, resulting in consistency of responses. Turnaround time for response is also good. When distributing the survey, the participation request email should come from the most senior executive possible to achieve a higher response rate.

One of the pitfalls of on-line surveys is that employees might perceive the e-mail notification as simply more "junk" e-mail and be less likely to respond. It is important to check with agency human resource and legal representatives to ensure that any survey is consistent with agency guidance.

Monitoring Questions

NCPC's biennial monitoring policies (refer to NCPC's Submission Guidelines) require agencies report answers to the following:

- What are the goals for trip reduction, mode split, and vehicle occupancy?
- What projects have been implemented (in design or construction phase, or completed) to help meet your milestones?
- Is there new (under construction or planned) infrastructure near the building/campus that influences transportation?
- What is your current number of employees?
- What is your current parking ratio?
- What is the current parking demand?
- Does your agency offer a shuttle system for commuters?
- Please provide mode choice information for your employees commuting patterns.

Other notable questions that may provide insight into a TMP or TDM strategy's effectiveness could be:

- 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 SmartBenefits were provided to employees? What was their sales value?
- Which implementation tactics were the most effective?
- Were all planned activities carried out on-time and within budget?
- What is the estimated change in Vehicle Miles Traveled (VMT)?
- 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 implementation and the plan (relationship of planned to actual activities) may determine whether, for example, the number of match-lists 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?
- Was 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 percent 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.

Data Collection Instruments

There are several different methods for collecting the data for evaluation purposes. The evaluation method and data collection requirements will depend on the measures of effectiveness being used. Some of the most commonly used methods involve:

- Employee Commuter Surveys
- Program participation documentation (e.g., registrations for preferential parking, applications for subsidies)
- Vehicle counts
- Timesheets/activity logs

These evaluation methods serve as an instrument for obtaining data that will help measure effectiveness of TDM strategies, as discussed below. Ultimately, it is the data collected by the ETC that are ported as part of the TMP reporting process that will determine the overall effectiveness of a TMP.

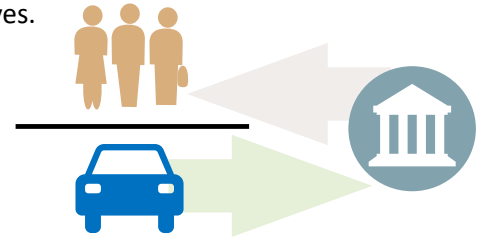
Appendix C: Toolkit for Information Gathering describes best practices for data collection in greater detail.

Measuring Effectiveness

When considering various TDM strategies to implement at the installation, it will be necessary to establish a basis for measurement. Creating metrics will provide data on the effectiveness of any given TDM strategy, or a suite of strategies, implemented at the installation. Common TDM measurements include:

- **Vehicle Trips** measures the number of vehicle trips taken to and from the installation. This measure of effectiveness can be assessed through commuter surveys by asking commuters how often they start or end a vehicle trip to the installation during an average week. Or, it can be assessed by vehicle counts, which is a literal count of vehicles entering/leaving the designated area over the span of a specified time period (e.g., 6am – 7pm for 2 weeks). ETCs can simply create a tic sheet and log the number of vehicles entering/leaving the designated area. Alternatively, if there is controlled-access parking, it may be possible to procure data from automatic counters.

  When measuring the effectiveness of TDM strategies, this measurement is usually taken in the form of **Vehicle Trip Reduction**. For this measurement, a pre-count of vehicle trips to/from the installation is needed prior to implanting a TDM strategy. Then, after the TDM strategy is implemented for an appropriate duration, post-counts can take place. The strategy may be considered effective if vehicle trips are trending downward. Vehicle trip reduction could be measured as a daily total, peak period, or peak hour reduction depending on the TMP's goals and objectives.



- **Average Vehicle Occupancy (AVO)** represents the ratio of employees to vehicles: the total number of employees reporting to the installation is divided by the total number of vehicles in which employees report. This relationship describes the number of vehicles that may be located within the installation premises as they relate to the number of people also present. If every employee drove alone to the installation, the AVO for the installation would be recorded as 1.00. If every employee arrived in a 2-person carpool, the AVO would be 1.50, thereby indicating there is an average of 1.5 occupants in every vehicle that commutes to the installation.

  As seen in the above examples, AVO is increased by reducing the number of vehicles that commute to the installation. Typical TMP goals may aspire to increase the AVO of vehicles commuting to the installation by 0.1, 0.2, or 0.5. While this may seem like a small change, if an installation has four hundred employees, an AVO increase of 1.05 to 1.25 would have a Vehicle Trip Reduction impact of sixty vehicle trips reduced, a 16% decrease! [7]

  When conducting an AVO analysis for a TDM strategy, the calculation should be completed before and after implementation. Typical AVOs range from 1.05 to 1.50 persons per vehicle. Ideally, an increase in AVO should be observed after the implementation of a TDM strategy.

7 380 – 320 = 60

- **Vehicle Miles Traveled (VMT)** represents the total amount of vehicle miles accumulated by employees commuting to-and-from the installation for a given timeframe. VMT calculations can be a bit complex, as it is not simply a count of the total distance traveled by all vehicles arriving at the installation. Reduction factors need to be applied to employees who commute via rideshare.

Consider the below example demonstrating a VMT calculation for eight employees for one day:

Wednesday Travel Log

Fig. 18: VMT Calculations with Trip Reduction Factors

Employee 1	Mode: SOV	Distance: 10 miles	Commute type: Morning
Employee 1	Mode: SOV	Distance: 10 miles	Commute type: Evening
Employee 2	Mode: SOV	Distance: 15 miles	Commute type: Morning
Employee 2	Mode: SOV	Distance: 15 miles	Commute type: Evening
Employee 3	Mode: Transit	Distance: 5 miles	Commute type: Morning
Employee 3	Mode: Transit	Distance: 5 miles	Commute type: Evening
Employee 4	Mode: 2-occupant carpool	Distance: 10 miles	Commute type: Morning
Employee 4	Mode: 2-occupant carpool	Distance: 10 miles	Commute type: Evening
Employee 5	Mode: 2-occupant carpool	Distance: 10 miles	Commute type: Morning
Employee 5	Mode: 2-occupant carpool	Distance: 10 miles	Commute type: Evening
Employee 6	Mode: 3-occupant carpool	Distance: 20 miles	Commute type: Morning
Employee 6	Mode: 3-occupant carpool	Distance: 20 miles	Commute type: Evening
Employee 7	Mode: 3-occupant carpool	Distance: 20 miles	Commute type: Morning
Employee 7	Mode: 3-occupant carpool	Distance: 20 miles	Commute type: Evening
Employee 8	Mode: 3-occupant carpool	Distance: 20 miles	Commute type: Morning
Employee 8	Mode: 3-occupant carpool	Distance: 20 miles	Commute type: Evening

At first glance, an ETC may incorrectly sum all of the miles traveled in automobiles to calculate the VMT (210). This is incorrect. Reduction factors must be applied to the five employees who carpool. Employees 4 and 5 each need their total mileage reduced by one-half, as two commuters consolidated their vehicle trips into one vehicle [8]. Similarly, employees 6 – 8 need their total mileage reduced by two-thirds, as 3 commuters consolidated their vehicle trips into one vehicle.[9] This pattern continues for the number of occupants in any carpool or vanpool.

8 Calculation: VMT = Total Miles Traveled (40) / # Carpool Occupants (2) = 20 credited to the carpool / carpool participants (2) = 10 miles credited to each individual carpooler

9 Calculation: VMT = Total Miles Traveled (120) / # Carpool Occupant (3) = 40 miles credited to the carpool / participants (3) = 13.33 miles credited to each individual carpooler

Back to our example: Using the appropriate trip reduction factors, total VMT traveled on Wednesday for the sample size can be calculated as follows:

Fig. 19: Mode Split Breakdown

Wednesday VMT Calculation
Employee 1 – 20 miles (two 10-mile SOV commute trips)
Employee 2 – 30 miles (two 15-mile SOV commute trips)
Employee 3 – 0 miles (two transit commute trips)
Employee 4 – 10 miles (two 2-occupant 10-mile carpool commute trips)
Employee 5 – 10 miles (two 2-occupant 10-mile carpool commute trips)
Employee 6 – 13.33 miles (two 3-occupant 20-mile carpool commute trips)
Employee 7 – 13.33 miles (two 3-occupant 20-mile carpool commute trips)
Employee 8 – 13.33 miles (two 3-occupant 20-mile carpool commute trips)
TOTAL VMT = 110 miles

For the purposes of this calculation, commute trips identified as biking, walking, or any form of transit are considered "0 miles traveled." The calculation can become even more complex if carpoolers drive alone for a portion of their commute trip prior to joining a carpool; a TDM expert at MWCOG, NCPC, or trained consultant may need to assist with these calculations.

As seen by the calculation, total VMT is dramatically reduced when commuters elect to share the ride, or chose transit, bike, or walk travel modes. Of note, long-distance commutes are more accurately represented as part of the VMT measurement. A commuter traveling forty miles by SOV adds considerably more strain to the road network and emits more pollutants than a commuter traveling five miles. One long distance commuter that reduces their VMT by forty miles per day is equivalent to four employees reducing their VMT by ten 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 is particularly useful for calculating impact goals for a TMP. By figuring the number of VMT, an ETC can then easily calculate emissions data from vehicles used by employees to commute to the installation. Overall reductions in VMT indicate a TMP is helping employees reduce the amount of cars traveling to the installation, and by extension, reducing the demand for parking and reducing automobile emissions.

- **Mode Split** is the percentage of employees using each mode (i.e. transit, biking, walking, etc.) of travel. Contrary to the previously identified measurements (Vehicle Trips, AVO, and VMT), mode split is an ideal measurement for understanding specific mode use of an employee population.

An example of a mode split breakdown might be:

An example of a mode split breakdown might be:

Drive alone	59 %
Carpool	8 %
Vanpool	2 %
Public Transit	10 %
Micromobility (e.g. Bike, scooter)	3 %
Walk or Jog	1 %
Multi-modal (tqo or more modes)	12 %
Teleworking	5 %
TOTAL	**100 %**

In the above example, notice that each possible travel mode to a particular installation is assigned a value. There appear to be a reasonable amount (30%) of employees utilizing non-SOV commute modes. An ETC may recognize, however, that there are no employees biking or walking to work. Knowing this, an ETC may wish to create a goal in the TMP that grows the amount of biking or walking trips to 2% of total trips. A TDM strategy that promotes biking and/or walking could then be identified in the TMP, such as creating bike facilities on-site, offering a bike subsidy, etc. As the example demonstrates, mode split measurements permit an ETC to create or enhance mode-specific strategies to a specific target group.

Similar to the Vehicle Trips measurement, mode split measurements can be tallied by issuing commuter surveys or conducting manual counts of how trips begin/end at the installation. When collecting data, it is best to compile counts over the course of at least a 2-week timespan.

If an individual uses multiple modes to travel, their assigned travel mode is typically whichever mode is used to physically arrive at the installation vicinity. Therefore, if an employee drove to a park-and-ride lot and joined a carpool to get to the installation, the employee would be assigned a carpool trip. ("Vicinity" is key – an employee who drives alone and parks a few streets away from the actual installation and walks to the entrance is considered an SOV trip, not a walker.)

- **Level of Service (LOS)** is a standard measure of traffic flow through average travel delay. 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. LOS can be a relatively complex measurement and is considered optional for a TMP. Hiring consultants to perform the study may be necessary.

In summary, all of these measurements are intended to help ETCs understand the effectiveness of TDM strategies deployed at an installation. At their core, TDM strategies exist to reduce parking demand at the installation by encouraging a healthy mix of non-SOV mode split, which should be a primary goal and objective for all TMPs. Changes in these measures over time will provide indicators of a TMP's effectiveness. Certain TDM strategies may impact a specific measurement more than others.

Appendix D:

Transportation Management Plan Checklist

As discussed in Section 3 of this Handbook, the federal agency should have analyzed the work site, identified existing transportation programs, set goals and objectives, evaluated employee needs and concerns, and selected TMP strategies prior to proceeding with implementation. The next step of the process brings these items together in the form of an implementation plan.

This section provides an overview of the implementation process and lists many of the necessary tasks needed to implement a TMP. To help the ETC in developing the TMP, linear steps are identified that will assist installations in implementing a successful TMP; from plan creation to program administration. The information contained within this appendix is an expansion of what is contained in Section 3 of the Handbook; it is supplemental and more nuanced.

It is important to remember that TMPs are cyclical: they are living plans that are constantly being monitored and will require updating every five years. An installation will likely cycle through this implementation process every five years or so, although plan updates are typically less burdensome than crafting an entirely new TMP from scratch. Regardless, the TMP implementation process is an important component to maintaining compliance with federal guidelines.

Implementation Prerequisites

All agencies preparing to develop a TMP are advised to contact GSA as a prerequisite to the implementation process. GSA will assemble a team of specialists from NCPC and MWCOG to serve as experienced consultants throughout the TMP development and implementation process. For instance, MWCOG may offer information about available resources at the regional and local levels; NCPC may offer guidance on TMP requirements, including parking guidance, for the agency's planning efforts. It may also behoove the agency to contact the locality's Planning and Transportation Departments regarding TMP requirements at the local level. A summary of local TMP requirements is in Appendix A.

After reviewing this handbook in its entirety, the federal agency should determine time and resources available for TMP preparation. If internal constraints exist, assess the need for outside expertise.

Step 1: Establish an ETC

The common element in all successful TMPs is a motivated, enthusiastic Employee Transportation Coordinator (ETC). The first step in the preparation and implementation of a successful TMP is to designate the best person to carry out the program and then to provide them with adequate agency support.

An ETC will need to maintain a close relationship with GSA; GSA will assist the ETC in coordinating with external stakeholders when necessary. MWCOG serves as the primary resource agency for federal ETCs in the region, and NCPC staff is also available to provide guidance on implementing approved transportation management plans. Agency management should provide substantive decision-making authority and strong support to the ETC. Agencies should allocate adequate funding to enable the ETC to conduct regular employee commuter surveys; hold informational meetings/fairs for employees; design and distribute marketing materials; coordinate programs with other nearby federal campus installations, and actively participate in local, regional and national continuing education and training efforts to foster professional development in TDM efforts.

When determining who would be an ideal candidate for the ETC role, it is important to consider the candidate's ability to easily communicate with your agency's general workforce and leadership. ETCs interact with a broad range of internal stakeholders to your agency, including the human resources department, an in-house sustainability/green team, the facilities/ operations department, and/or key decision makers regarding employee benefits.

The role of ETC is multi-faceted. An effective ETC must be part insightful planner, part effective communicator, part consummate customer service representative, and part proficient transportation analyst. The ETC will find that many of these skills will be called upon as the federal agency develops and implements their TMP.

Other highly desirable qualities in an effective ETC include the desire for variety in their work, the ability to adapt quickly to change, and an ability to think strategically in order to promote, market, and gain organizational support for a plan.

The role of an ETC will change while developing a new TMP or expanding an existing one. To assist during this process, federal agencies and ETCs have sources of outside support that include the GSA, NCPC, Metropolitan Washington Council of Governments (MWCOG), Washington Metropolitan Area Transit Authority (WMATA), Washington Area Bicyclist Association (WABA), and local transit and ridesharing agencies.

Actions of a typical ETC could include:

- Investigate the existing transportation-related conditions of the campus/installation, develop a database, and determine the potential for change. For example, detailed information on parking lot use rates should be compiled, analyzed, and maintained to identify shared parking opportunities, and to help influence future project location decisions.
- Select reasonable goals and objectives, plan appropriate strategies and tasks for carrying them out, develop a timetable, and establish a budget. The goals should be designed to attain applicable federal regulations as well as the NCPC employee parking ratio goals, as specified in the Comprehensive Plan's Transportation Element, that applies to the campus/installation.
- Actively solicit internal support from agency management, other departments, and key individuals within the federal agency, as well as relevant external agencies like the local city/county planning and transportation departments, local transit agency, and transportation advocacy groups (if appropriate).
- Advertise and market TDM strategies to employees and visitors in order to create awareness and interest in participating in alternative travel modes. Many successful TMPs are based on a robust, usable, informative, agency website that provides a "one stop shop" for employee and visitor travel-related information.
- Coordinate TMP programs and strategies with other nearby federal installations to maximize their effectiveness and efficiency as appropriate.
- Establish conditions through information, incentives, and disincentives that will encourage employees and visitors to change their travel behavior, and personally facilitate overall installation-wide change.
- Administer a regular on-line employee commuter survey to collect travel-related data and use that information to update and maintain the TMP as needed.
- Report changes in site-related travel behavior to agency leadership, employees (as appropriate), and NCPC on a regular basis.
- Rely on NCPC, GSA, and MWCOG for TMP development and support. MWCOG's Commuter Connections program hosts a dedicated ETC resource website at www.federaletc.org.

Step 2 – Gather Contextual Installation Information

A discussed in Sections 3.2 and 3.4, the agency will need to become familiar with pertinent policies, programs, transit services, current traffic conditions, etc. at the installation. It may also be helpful to organize interviews with agency management to determine current policies and programs regarding parking, alternative work hours, and transit subsidies. Research zoning/code documents from the locality and determine the minimum and maximum amount of site parking space required or permitted. The locality may also have data on future development that may affect traffic within the TMP planning area.

Potential exercises for information gathering could include:

- List all applicable agencies that provide transit, vanpooling, ridesharing, and other types of transportation services for employees as a resource. 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 work site (number of racks, bike lockers, Bikeshare stations, clothes lockers, showers, lighting, and paths).

- Identify the type and quality of roadway, transit, bicycle, and walking access to the installation, including location of nearest freeways, transit stops, 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, Carshare/Bikeshare access, expensive parking).
- Identify the locations of the following local community amenities: cafeterias, restaurants, banks, ATM machines, day care facilities, post office and dry cleaners.
- Perform necessary field measurements of traffic levels.

Inventorying existing and planned services/facilities will provide the context necessary for your agency's TMP. Linkages between the TDM strategies and the current and/or planned services/facilities must also be determined.

Further explanation on information gathering methods can be found in Appendix C.

Step 3 – Determine Baseline Commute Trends

As discussed in Section 3.3, the federal agency will need to understand current commute trends among employees and contractors at the installation. Conduct commuter surveys, vehicle counts, focus groups, etc. to determine these trends (Appendix C). After gathering data, determine existing and projected parking needs and the official parking requirements. Develop a table that shows the number of spaces needed by type (accessible, visitor, carpool/vanpool, etc.) and square footage, and the annualized cost per space to build and maintain.

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

Step 4 – Determine TMP Goals and Objectives

Goals and objectives are critical for establishing the desired outcomes of a TMP. Advice on creating TMP goals and objectives is thoroughly covered in section 3.1.

Step 5 – Identify Strategies and Associated Timelines for Implementation

Sections 3.5 and 3.6 discuss the importance of identifying TDM strategies and subsequent implementation of the strategy. To help identify TDM strategies, consider the following tasks:

- Prioritize the needs and challenges facing the agency.
- Summarize current strategies including the program, pricing level, promotional effort, and methods of reaching or providing the program to employees.
- Adopt general guidelines for selecting TDM strategies; for example, maximize participation in the programs to reduce cost per employee served and cost per employee placed into a commute alternative other than driving alone.
- Propose new strategies or changes to existing strategies.

- Determine whether the TDM strategies under consideration directly contribute to fulfilling the agency's TMP objectives.
- Determine whether selected TDM strategies match the needs of the target employee group.
- Estimate the costs of each TDM strategy selected.
- Evaluate the marketing effort necessary 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 commuter information dissemination as part of the new employee orientation program. Consider using the program as a marketing tool to attract potential candidates.
- Create a branding 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.

Consider which strategies may be better to precede others, or if certain strategies may be better suited to build off the successes of others. Also consider constraints that may impact a successful administration of the strategy, such as funding availability and staffing resources. Once these (and any additional) factors are developed, develop a spreadsheet to document which quarters throughout the fiscal year a strategy should be active.

As data is gathered, an ETC may determine that a TDM strategy needs to be adapted, removed, or added. TMP updates are encouraged and should be sent to NCPC for review. At least one update is expected every five years.

Step 6 – Develop a Marketing and Communications Plan

After determining appropriate TMP strategies for the federal agency, an effective ETC will analyze the information collected to determine where efforts to modify employee commute patterns are most likely to be successful. A strategic marketing and branding approach is required to maximize the effectiveness of the program by providing services, pricing levels, promotional strategies at the right time and place to targeted segments of the workforce.

The American Marketing Association defines the process of strategic marketing as "The planning process that yields decisions in how a business unit can best compete in the markets it elects to serve." Strategic market decisions are based on assessments of product market and pertain to the basis for advantage in the market. The plan that is the output of the process serves as a blueprint for the development of the skills and resources of a business unit and specifies the results to be expected. In many companies these are called strategic business plans.

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, while others may be more resistant to change. By knowing which employees to target, the ETC can focus their efforts in places that are more likely to generate the desired results.

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

Commuter Decision-Making Process

Attitudes determine whether those who qualify to rideshare may be willing to actually participate in the program or not. When preparing to undertake the campaigning process, one must not only consider the commute characteristics that qualify individual employees for particular alternate modes and their attitudes about ridesharing, but also how these two aspects interrelate. It is equally 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:

Awareness: Although employees may be aware of the agency's various commuter programs and services, they still may not possess detailed knowledge regarding their specific benefits and costs. These employees can be labeled as Inform Me. To move to the next step, these employees will require personalized information pertinent to their own specific needs.

Interest: Employees are provided with more information about the TMP's services and discover that it may meet their needs. To move to the next step of inquiry requires a means for facilitating an action by these employees. 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.

Inquiry: At this point, employees are 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 these Convince Me employees.

Trial Use: The decision to try an alternative on a part-time or trial basis can allow employees to try new commuting options without committing to a long-term change in behavior. These employees are placing the option On Trial. Positive experiences can lead to the final step — regular use.

Regular Use of Mode: Employees are convinced that the program or service meets their needs. They may require ongoing attention, however, to be sure that they do not revert to their old habits. These individuals can serve as valuable testimonials for convincing co- workers to modify their travel behavior as well. These commuters are the program's Champions. They perceive it to be in their self-interest.

Components of a Marketing Plan

To implement the various selected TDM strategies, the ETC must determine how to utilize 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, the federal agency's communications or public affairs office, and others. Several examples are provided simply to illustrate the various components of the marketing strategy.

6.A: Product

A federal agency's TMP includes information on the various features of the different potential commute modes and usable transportation facilities, as well as the services 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, keeping literature racks filled with the latest transit schedules, or making the information available on the agency website.
- **Features:** Locating providers of van conversions to add "captain chairs" in a vanpool could be an example of changing the product's feature.
- **Packaging:** Match lists 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.

6.B: Price

Pricing decisions, like subsidizing a program, cross-subsidizing one program from another, or changing 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:** SmartBenefits could be offered to employees or actively encouraging sign-ups to regional commuting incentive programs offered through Commuter Connections such as 'Pool Rewards, CarpoolNow, Flextime Rewards, and incenTrip.
- **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:** SmartBenefits could be purchased either using agency-appropriated funds or on a pre-tax basis or through payroll deduction and delivered on a set schedule.

6.C: Promotion

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

Promotional strategies include:

- **Advertising:** The agency website, posters, cafeteria table top displays, and rewards provided in exchange for taking some action such as completing a survey or visiting the Commuter Center are examples of advertising tools that 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 the 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 the Washington, DC area Bike to Work Day, Car Free Day, 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). An attractive webpage with multiple links to various service providers and relevant information is currently one of the best ways to publicize the different programs.

6.D: 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. Also, a highly visible location on the agency website will also make it more convenient for employees to use the available online services and locate pertinent information. Alternatively, much of the information employees need to access to find out more about their transportation options can be placed in a centralized agency intranet location.
- **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.

Retaining Commuters through Complaint Handling

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 their decision.
- The commute trip is inseparable from the provider; in other words, transit options are limited to the transit services available in the National Capital Region.
- Lost opportunities are not recoverable:
    - Studies have shown that a typical business hears from 25-30 percent of its dissatisfied customers. 40-60 percent of customers who did take the time to complain about their service experience reported being dissatisfied with the outcome of their complaint. 69-80 percent of customers who reported being completely satisfied with the outcome of their complaint planned to re-purchase the service.
    - Studies have also shown that a typical dissatisfied customer will tell eight to ten people about the problem. One in five will tell twenty. It takes twelve positive service contacts to make up for one negative incident.
    - The average business spends six times more money to attract new customers compared to the amount spent keeping current customers. Yet customer loyalty is in most cases worth ten times the price of single purchases.

For the reasons listed above, it is essential that customers have a mechanism through which to complain so that any service failures may be corrected. Typical reasons why customers decide not to complain include the following: not worth the time and effort, no one would be concerned about the problem (or resolving it), did not know where to report complaints.

It is recommended that TMP administrators maintain a service complaint log so that all service failures can be documented. A complaint log will allow administrators to see what, if any, problems are being reported repeatedly. With this knowledge, administrators are able to more easily identify the points of failure, and to more effectively find solutions to customer complaints.

Summary

The challenge is to select the most appropriate TMP services and then 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 their agency.

Step 7 – Monitor, Evaluate, and Modify

Once baseline commuting trends must be established prior to TMP implementation, monitoring and evaluating the effectiveness of a TMP is an ongoing occurrence. The work of a TMP is continuous. See Appendix C and Section 3.7 for information on how to monitor, evaluate, and modify the TMP.

Appendix E:

Relevant Federal Policies & Guidelines

Commuter Tax Benefit: Authorized in the Internal Revenue Code section 132(f). The Commuter Tax Benefit authorizes fringe benefits for commuters to save on federal income taxes (employers also save on payroll related taxes).

Telework Enhancement Act of 2010: The Telework Enhancement Act of 2010 is a key factor in the Federal Government's ability to achieve greater flexibility in managing its workforce through the use of telework. Well implemented and established telework programs provide agencies with a valuable tool to meet mission objectives while helping employees enhance work-life effectiveness. The signing of this law was the culmination of years of legislative activity to advance federal telework.

Executive Order 13834, of May 17, 2018, establishes sustainability goals for federal agencies by requiring increased energy efficiency; reduced fleet petroleum consumption; and improved water quality, with annual reporting to the White House Council on Environmental Quality (CEQ).

Executive Order 13990, of January 20, 2021, directs Federal agencies to immediately review federal actions that conflict with national objectives to improve public health and the environment; ensure access to clean air and water; limit exposure to dangerous chemicals and pesticides; hold polluters accountable, including those who disproportionately harm communities of color and low-income communities; reduce greenhouse gas emissions; bolster resilience to the impacts of climate change; restore and expand our national treasures and monuments; and prioritize both environmental justice and employment.

Executive Order 13985, of January 20, 2021, requests the federal government pursue a comprehensive approach to advance equity for people of color and other historically underserved communities by identifying: (1) potential barriers to enrollment in and access to benefits and services in federal programs; (2) potential barriers in taking advantage of agency procurement and contracting opportunities; and (3) whether new policies, regulations, or guidance documents may be necessary to advance equity in agency actions and programs.

Executive Order 14008, as of January 27, 2021, requests that the federal government build resilience against the negative impacts of climate change, deliver environmental justice, and work with other countries and partners to put the world on a sustainable climate pathway.

Executive Order 14035, of June 25, 2021, charges the federal government with strengthening diversity, equity, inclusion, and accessibility in its workforce functions, including recruitment, hiring, training, promotion, retention, pay and benefits, and addressing workplace harassment.

The Energy Independence and Security Act of 2007 – Section 438 requires the sponsor of any development or redevelopment project involving a federal facility with a footprint that exceeds five thousand square feet to use site planning, design, construction, and maintenance strategies for the property to maintain or restore its predevelopment hydrology with regard to temperature, rate, volume, and duration of flow (storm water runoff). It is intended to help improve water quality through stricter storm water management requirements for federal development by discouraging new impervious (paved or compacted) surface areas, a large portion of which is often used for parking and roadway infrastructure. This guidance will encourage minimizing parking as part of future building projects, as well as gradually removing existing parking by using previously-developed sites for future projects. Future parking reduction will put increasing pressure on changing employee travel from SOVs to alternative modes.

NCPC's essential functions are found in 40 USC 87. This includes the development of the Federal Elements of the regional Comprehensive Plan, which establishes employee parking ratio goals that vary according to a installation's unique location.

2018 Master Plan for the Consolidation of the U.S. Food and Drug Administration Headquarters at the Federal Research Center at White Oak located in Silver Spring, Maryland.

Appendix F:

Federal TMP Examples

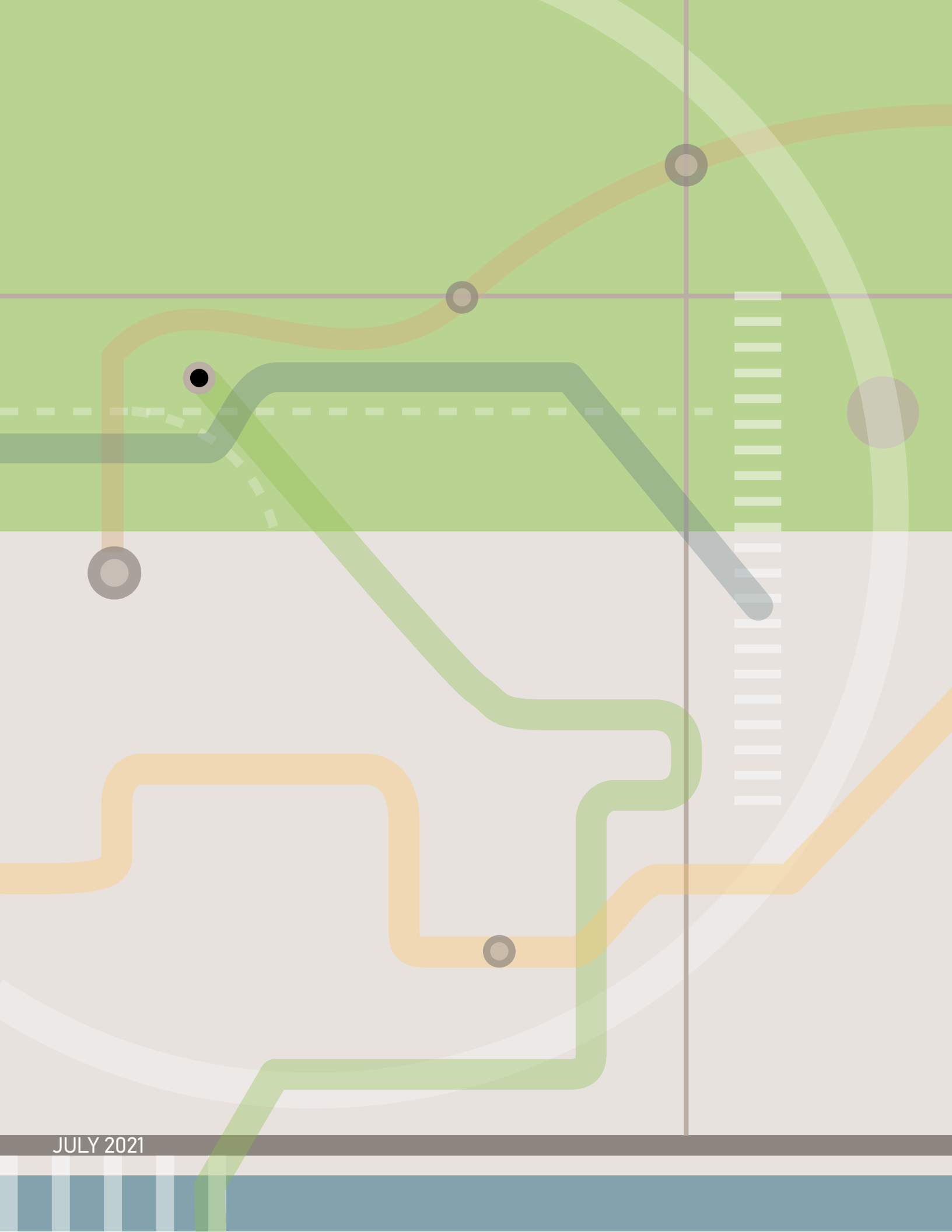
Department of Homeland Security Headquarters at St. Elizabeths, *Washington, DC, 2020*

U.S. Food and Drug Administration Headquarters at the Federal Research Center at White Oak
Silver Spring, Maryland, 2018

Fort Belvoir Transportation Management Plan,
Fort Belvoir, Virginia, 2015

Pentagon Transportation Management Plan,
Washington, DC, 2015

Naval Support Activity Bethesda,
Bethesda, Maryland, 2013



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