ITEM 8 - Action
January 21, 2004

Approval of Solicitation Document for the
2004 Constrained Long Range Plan (CLRP) and the
FY2005-2010 Transportation Improvement Program (TIP)

Staff Recommendation: Approve the final solicitation document for the 2004 CLRP and the FY2005-2010 TIP for distribution to state, regional, and local agencies.

Issues: None

Background: The Board was briefed on the draft document, which is an updated version of last year's document, at its December 17, 2003 meeting. The TPB Technical Committee reviewed it on December 5, 2003 and January 9, 2004, and recommended that it be approved by the Board. The proposed schedule for the 2004 CLRP, the new TIP, and the air quality conformity determination, is on page v.

SOLICITATION DOCUMENT FOR

THE YEAR 2004 CONSTRAINED LONG-RANGE PLAN

AND

THE TRANSPORTATION IMPROVEMENT PROGRAM FOR FY 2005-2010

DRAFT

January 21, 2004

METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS
NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD

TABLE OF CONTENTS

SECTION 2: FEDERAL REGULATIONS

SECTION 3: PROJECT SUBMISSION INSTRUCTIONS

APPENDICES

List of Figures

PROPOSED YEAR 2004 CLRP AND FY 2005-2010 TIP
AIR QUALITY CONFORMITY SCHEDULE

*December 17, 2003	TPB Reviews Draft Solicitation Document
*January 21, 2004	TPB Releases Final Solicitation Document
February 6, 2004	DEADLINE: Implementing Agencies Complete Electronic Submissions of Project Information to staff - including CMS, CLRP, and TIP Data.
February 12, 2004	CLRP and TIP Project Submissions for inclusion in the Air Quality Conformity Analysis and Draft Scope of Work Released for Public Comment and Inter-Agency Review
*February 18, 2004	TPB Reviews Project Submissions and Scope of Work
March 8, 2004	Public Comment Period Ends for Project Submissions and Scope of Work
*March 17, 2004	TPB Reviews Public Comments, Approves Project Submissions for inclusion in the Air Quality Conformity Analysis for CLRP and TIP and Scope of Work
*May 19, 2004	TPB Receives Briefing on Draft Air Quality Conformity Determination, CLRP and TIP Documents
*June 16, 2004	TPB Releases Draft Air Quality Conformity Determination, Draft Year 2004 CLRP, and Draft FY 2005-2010 TIP for Public Comment and Inter-Agency Review
July 16, 2004	Public Comment Period Ends for Draft Documents
*July 21, 2004	TPB Reviews Public Comments on Draft Documents, Approves Responses to Comments, and Adopts the Air Quality Conformity Determination, the Year 2004 CLRP and FY 2005-2010 TIP

*TPB Meeting

INTRODUCTION

The National Capital Region Transportation Planning Board (TPB), the designated Metropolitan Planning Organization (MPO) for the Washington region, has responsibilities for both long-term transportation planning covering the next two to three decades (the financially Constrained Long Range Plan or CLRP) and short-term programming of projects covering the next six years (the Transportation Improvement Program or TIP). The planning horizon for the 2004 CLRP is from 2004 to 2030. The CLRP identifies transportation projects and strategies that can be implemented by 2030, within financial resources "reasonably expected to be available."

In accordance with federal planning regulations, the TPB conducts and publishes a comprehensive update to the region's CLRP every three years. (Amendments to the CLRP are made in intervening years, usually in conjunction with the annual July adoption of the Transportation Improvement Program (TIP), but occasionally at other times.) The first three-year update under the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) provisions was adopted by the TPB in September of 1994, the second three-year update was adopted in July of 1997 and the third three-year update adopted in October of 2000. These updates are documented in published reports and are summarized in the 1995, 1997 and 2001 Region magazines.

The Interim 2003 Update to the CLRP and the FY 2004-2009 TIP

On December 19, 2003 the Federal Highway Administration (FHWA) and the Federal Transit Agency (FTA) found that the Interim 2003 CLRP and the FY2004-2009 TIP conform to the region's State Implementation Plan (SIP) for air quality attainment within the Metropolitan Washington non-attainment area. A conformity lapse would have occurred on January 21, 2004 if federal approval of an updated plan and TIP was not received by that date. For this reason, the TPB approved the interim three-year update to the CLRP and interim FY 2004-2010 TIP to enable federal funding to continue for specific eligible projects. The interim TIP is based on the full 2003 CLRP and full FY 2004-2009 TIP with certain projects or project phases excluded[1]. The TPB adopted the full 2003 CLRP and full FY 2004-2009 TIP at the December 17, 2003 meeting and is awaiting federal approval for the full plan and TIP.

The plan reflects provisions of the 1998 Transportation Equity Act for the 21st Century (TEA-21). The plan also reflects the TPB Vision adopted in October 1998. The Vision statement, goals, objectives and strategies of the TPB Vision are the policy elements of the 2000 CLRP, replacing the previous policy element.

[1]Project information for the interim 2003 CLRP and FY 2004-2009 TIP can be found at: http://www.mwcog.org/transportation/activities/clrp/default.asp

Purpose

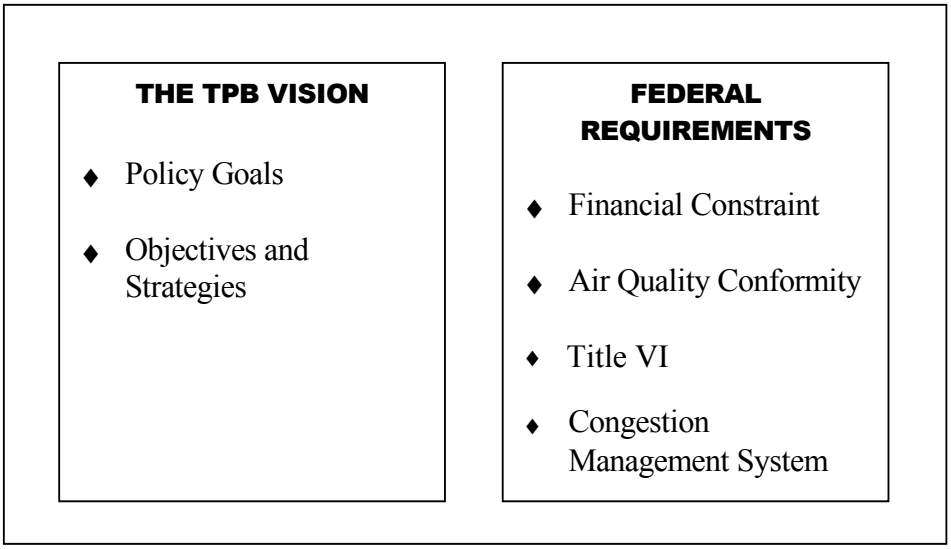
Each year, the TPB issues a broad solicitation for proposals of projects and strategies to be included in the CLRP and TIP that will meet goals in the TPB Vision and federal requirements. Individual counties, municipalities and state and federal agencies with the fiscal authority to fund transportation projects, as well as public groups and individuals, respond. The purpose of this document is: 1) to describe the policy framework for implementing agencies to use in deciding which projects to submit for inclusion in the plan; and 2) to review federal regulations related to the CLRP and TIP, and 3) to describe the project submission process for the 2004 CLRP and the TIP for FY 2005-2010.

The TPB Vision and Federal Requirements

The CLRP and TIP will be developed to address the TPB Vision and federal requirements. The Vision serves as the policy framework to guide the formation of the CLRP and TIP. The TPB adopted the Vision in October 1998 after an extensive public involvement process which considered creative new approaches to the region's transportation future without having to limit the discussion to measures that can be paid for with existing funds. Representatives of a broad range of viewpoints were involved in the process to consider innovative ways to assure the future sustainability of the region's infrastructure, environment, air quality, economic development, and quality of life. Figure 1 displays the key criteria for developing the CLRP.

The CLRP and TIP must meet federal regulations involving financial constraint, air quality conformity, environmental justice, and other requirements including a Congestion Management System (CMS). A financial plan must show how the updated long-range plan can be implemented with expected revenues. The CLRP and TIP need to demonstrate conformity with national air quality standards. Environmental justice guidance issued in 1998 and 1999 provides additional requirements for the long-range plan, some of which were previously addressed on a project level.

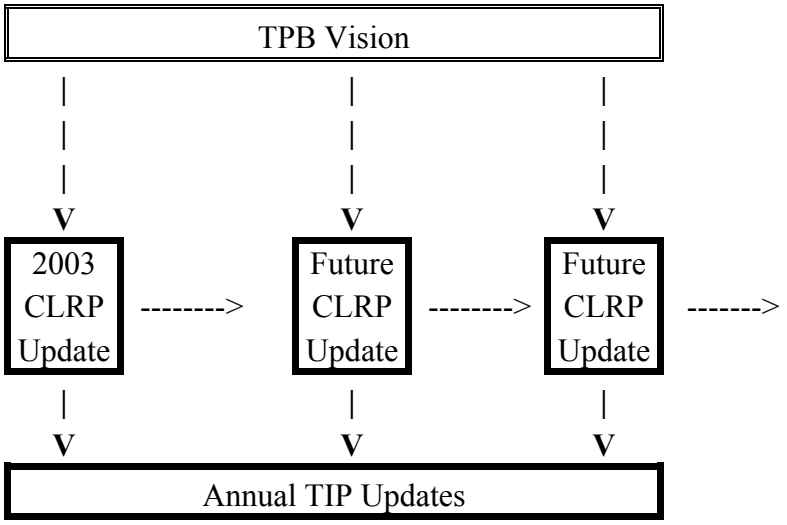
Figure 1:
Key Criteria for Developing the Constrained Long-Range Plan (CLRP) and Transportation Improvement Program (TIP)



Relationship Between the CLRP and TIP

Every year the TPB prepares a program for implementing the CLRP using federal, state, and local funds. This document, known as the TIP, provides detailed information showing how portions of the CLRP will be implemented over a six-year period. Like the CLRP, the TIP needs to address the TPB Vision and federal requirements. The TIP includes portions , or phases, of projects selected for implementation from the CLRP. While the entire project is described in the CLRP, in many instances only a portion of the project is included in the six-year TIP. The CLRP is reviewed every year and under federal regulations must be updated at least every three years. This overall process is illustrated in Figure 2.

Figure 2: The Process of Updating the Financially Constrained Long-Range Plan and Annual TIP



Key Dates in the Update Process

The fist major step in the process of developing the CLRP and TIP occurs in February when the project submissions are released for public comment. In March, the TPB is scheduled to approve the project submissions for inclusion in the Air Quality Conformity analysis for the CLRP and TIP. The draft updated plan is assessed to ensure that it meets Air Quality Conformity and other federal planning requirements between April and May. The CLRP amendments, TIP and Air Quality Conformity Determination are released for public comment in June. At the July meeting, the TPB responds to public comments and is scheduled to adopt the Air Quality Conformity Determination, the CLRP amendments, and TIP. The key dates for the update process this year are shown page v.

SECTION 1:
POLICY FRAMEWORK

THE TPB VISION

To guide the planning and implementation of transportation strategies, actions and projects for the National Capital Region, the TPB adopted a Vision in October 1998 which is a comprehensive set of policy goals, strategies and objectives. The federal Transportation Efficiency Act for the 21st Century (TEA-21) was enacted in 1998 and the seven TEA-21 planning factors are incorporated in the Vision. The Vision and TEA-21 will guide the development of the CLRP and TIP.

The Vision includes:

- a statement; and
- eight policy goals with numerous objectives and strategies.

These components of the TPB Vision will be used to review and assess the strategies and projects under consideration for inclusion in the CLRP and TIP. **In developing proposed projects and strategies in the CLRP, or for inclusion in the FY 2005-2010 TIP, each agency must consider their contributions to meeting the Vision's policy goals and objectives set by the TPB.** In this way, the TPB will be able to ensure and document that consideration of the required planning factors has taken place. Consideration of regional goals and objectives may also prove useful to agencies in selecting among proposed projects or actions when the desired level of investment exceeds the projected available revenues. Especially important are projects and strategies which contribute to meeting the required emission reductions and achieving air quality conformity.

The policy goals, objectives and strategies are provided in the following pages.

Policy Goals, Objectives, and Strategies

The eight policy goals address pubic values such as equity, efficiency, choice, environmental quality, feasibility, and quality of life.

Vision Statement

In the 21st Century, the Washington metropolitan region remains a vibrant world capital, with a transportation system that provides efficient movement of people and goods. This system promotes the region's economy and environmental quality, and operates in an attractive and safe setting—it is a system that serves everyone. The system is fiscally sustainable, promotes areas of concentrated growth, manages both demand and capacity, employs the best technology, and joins rail, roadway, bus, air, water, pedestrian and bicycle facilities into a fully interconnected network.

POLICY GOAL 1: THE WASHINGTON METROPOLITAN REGION'S TRANSPORTATION SYSTEM WILL PROVIDE REASONABLE ACCESS AT REASONABLE COST TO EVERYONE IN THE REGION.

Objectives:

1. A comprehensive range of choices for users of the region's transportation system.
2. Accurate, up-to-date and understandable transportation system information which is available to everyone in real time, and is user-friendly for first-time visitor and residents, regardless of mode of travel or language of the traveler.
3. Fair and reasonable opportunities for access and mobility for persons with special accessibility needs.
4. Convenient bicycle and pedestrian access.

Strategies:

1. Plan, implement, and maintain a truly integrated, multi-modal regional transportation system.
2. Plan and implement a tourist-friendly system that encourages the use of transit and provides international signage and information.
3. Make the region's transportation facilities safer, more accessible, and less intimidating for pedestrians, bicyclists, and persons with special needs.
4. Plan and implement a uniform fare system for transit and commuter rail.
5. Adopt a regional transit planning process and plan, with priority to uniformity, connectivity, equity, cost effectiveness and reasonable fares.

POLICY GOAL 2: THE WASHINGTON METROPOLITAN REGION WILL DEVELOP, IMPLEMENT,

AND MAINTAIN AN INTERCONNECTED TRANSPORTATION SYSTEM THAT ENHANCES QUALITY OF LIFE AND PROMOTES A STRONG AND GROWING ECONOMY THROUGHOUT THE ENTIRE REGION, INCLUDING A HEALTHY REGIONAL CORE AND DYNAMIC REGIONAL ACTIVITY CENTERS WITH A MIX OF JOBS, HOUSING AND SERVICES IN A WALKABLE ENVIRONMENT.

Objectives:

1. Economically strong regional core.
2. Economically strong regional activity centers with a mix of jobs, housing, services, and recreation in a walkable environment.
3. A web of multi-modal transportation connections which provide convenient access (including improved mobility with reduced reliance on the automobile) between the regional core and regional activity centers, reinforcing existing transportation connections and creating new connections where appropriate.
4. Improved internal mobility with reduced reliance on the automobile within the regional core and within regional activity centers.
5. Efficient and safe movement of people, goods, and information, with minimal adverse impacts on residents and the environment.

Strategies:

1. Define and identify existing and proposed regional activity centers, taking full advantage of existing infrastructure, for the growth and prosperity of each jurisdiction in the region.
2. Encourage local jurisdictions to provide incentives for concentrations of residential and commercial development along transportation/transit corridors within and near the regional core and regional activity centers, such as zoning, financial incentives, transfer of development rights, priority infrastructure financing, and other measures.
3. Encourage the federal government to locate employment in the regional core and in existing and/or planned regional activity centers.
4. Give high priority to regional planning and funding for transportation facilities that serve the regional core and regional activity centers, including expanded rail service and transit centers where passengers can switch easily from one transportation mode to another.
5. Identify and develop additional highway and transit circumferential facilities and capacity, including Potomac River crossings where necessary and appropriate, that improve mobility and accessibility between and among regional activity centers and the regional core.
6. Intercept automotive traffic at key locations, encouraging "park once," and provide excellent alternatives to driving in the regional core and in regional activity centers.
7. Develop a system of water taxis serving key points along the Potomac and Anacostia Rivers.

POLICY GOAL 3: THE WASHINGTON METROPOLITAN REGION'S TRANSPORTATION SYSTEM WILL GIVE PRIORITY TO MANAGEMENT, PERFORMANCE, MAINTENANCE, AND SAFETY OF ALL

MODES AND FACILITIES.

Objectives:

1. Adequate maintenance, preservation, rehabilitation, and replacement of existing infrastructure.
2. Enhanced system safety through effective enforcement of all traffic laws and motor carrier safety regulations, achievement of national targets for seatbelt use, and appropriate safety features in facility design.

Strategies:

1. Factor life-cycle costs into the transportation system planning and decision process.
2. Identify and secure reliable sources of funding to ensure adequate maintenance, preservation, and rehabilitation of the region's transportation system.
3. Support the implementation of effective safety measures, including red light camera enforcement, skid-resistant pavements, elimination of roadside hazards, and better intersection controls.

POLICY GOAL 4: THE WASHINGTON METROPOLITAN REGION WILL USE THE BEST AVAILABLE TECHNOLOGY TO MAXIMIZE SYSTEM EFFECTIVENESS.

Objectives:

1. Reduction in regional congestion and congestion-related incidents.
2. A user-friendly, seamless system with on-demand, timely travel information to users, and a simplified method of payment.
3. Improved management of weather emergencies and major incidents.
4. Improved reliability and predictability of operating conditions on the region's transportation facilities.
5. Full utilization of future advancements in transportation technology.

Strategies:

1. Deploy technologically advanced systems to monitor and manage traffic, and to control and coordinate traffic control devices, such as traffic signals, including providing priority to transit vehicles where appropriate.
2. Improve incident management capabilities in the region through enhanced detection technologies and improved incident response.
3. Improve highway lighting, lane markings, and other roadway delineation through the use of advanced and emerging technologies.
4. Establish a unified, technology-based method of payment for all transit fares, public parking fees, and toll roads in the region.

5. Utilize public/private partnerships to provide travelers with comprehensive, timely, and accurate information on traffic and transit conditions and available alternatives.
6. Use technology to manage and coordinate snow plowing, road salting operations, and other responses to extreme weather conditions, and to share with the public assessments of road conditions and how much time it will take to clear roadways.
7. Use advanced communications and real-time scheduling methods to improve time transfers between transit services.
8. Develop operating strategies and supporting systems to smooth the flow of traffic and transit vehicles, reduce variances in traffic speed, and balance capacity and demand.
9. Maintain international leadership in taking advantage of new technologies for transportation, such as automated highway systems and personal rapid transit.

POLICY GOAL 5: THE WASHINGTON METROPOLITAN REGION WILL PLAN AND DEVELOP A TRANSPORTATION SYSTEM THAT ENHANCES AND PROTECTS THE REGION'S NATURAL ENVIRONMENTAL QUALITY, CULTURAL AND HISTORIC RESOURCES, AND COMMUNITIES.

Objectives:

1. The Washington region becomes a model for protection and enhancement of natural, cultural, and historical resources.
2. Reduction in reliance on the single-occupant vehicle (SOV) by offering attractive, efficient and affordable alternatives.
3. Increased transit, ridesharing, bicycling and walking mode shares.
4. Compliance with federal clean air, clean water and energy conservation requirements, including reductions in 1999 levels of mobile source pollutants.
5. Reduction of per capita vehicle miles traveled (VMT).
6. Protection of sensitive environmental, cultural, historical and neighborhood locations from negative traffic and developmental impacts through focusing of development in selected areas consistent with adopted jurisdictional plans.

Strategies:

1. Implement a regional congestion management program, including coordinated regional bus service, traffic operations improvements, transit, ridesharing, and telecommuting incentives, and pricing strategies.
2. Develop a transportation system supportive of multiple use and higher density (commercial and residential) in the regional core and regional activity centers as a means of preserving land; natural, cultural and historic resources; and existing communities.
3. Support regional, state and federal programs which promote a cost-effective combination of technological improvements and transportation strategies to reduce air pollution, including promoting use of transit options, financial incentives, and voluntary emissions reduction measures.
4. Develop a regional tourism initiative to encourage air and train arrival in the region, and

additional transit access and automobile parking at the termini of Metrorail/rail services.
5. Provide equivalent employer subsidies to employees with the intent of "leveling the playing field" between automobile and transit/ridesharing.
6. Plan and implement transportation and related facilities that are aesthetically pleasing.
7. Implement a regional bicycle/trail/pedestrian plan and include bicycle and pedestrian facilities in new transportation projects and improvements.
8. Reduce energy consumption per unit of travel, taking maximum advantage of technology options.

POLICY GOAL 6: THE WASHINGTON METROPOLITAN REGION WILL ACHIEVE BETTER INTER-JURISDICTIONAL COORDINATION OF TRANSPORTATION AND LAND USE PLANNING.

Objectives:

1. A composite general land use and transportation map of the region that identifies the key elements needed for regional transportation planning--regional activity centers, principal transportation corridors and facilities, and designated "green space."
2. Region-wide coordination of land use and transportation planning in accordance with the recommendations of the Partnership for Regional Excellence report approved by the COG Board of Directors in 1993.

Strategies:

1. Develop a regional process to notify local governments formally of regional growth and transportation policy issues, and encourage local governments to specifically address such issues in their comprehensive plans.
2. Identify an agreed-upon set of definitions and assumptions to facilitate regional cooperation.
3. Ensure that major corridor studies include options that serve the regional core and regional activity centers shown on the regional map.
4. Develop, in cooperation with local governments, model zoning and land use guidelines that encourage multiple use development patterns and reduce non-work automobile dependency.
5. Plan for development to be located where it can be served by existing or planned infrastructure.

POLICY GOAL 7: THE WASHINGTON METROPOLITAN REGION WILL ACHIEVE AN ENHANCED FUNDING MECHANISM(S) FOR REGIONAL AND LOCAL TRANSPORTATION SYSTEM PRIORITIES THAT CANNOT BE IMPLEMENTED WITH CURRENT AND FORECASTED FEDERAL, STATE, AND LOCAL FUNDING.

Objectives:

1. Consensus on a set of critical transportation projects and a funding mechanism(s) to address the region's growing mobility and accessibility needs.
2. A fiscally sustainable transportation system.
3. Users of all modes pay an equitable share of costs.

Strategies:

1. Conduct outreach and education activities to promote public participation.
2. Develop public support and approval for a specific set of regional and local transportation priorities and a funding mechanism(s) to supplement (and not supplant) priorities to be implemented with current and forecasted federal, state, and local funding.

POLICY GOAL 8: THE WASHINGTON METROPOLITAN REGION WILL SUPPORT OPTIONS FOR INTERNATIONAL AND INTER-REGIONAL TRAVEL AND COMMERCE.

Objectives:

1. The Washington region will be among the most accessible in the nation for international and inter-regional passenger and goods movements.
2. Continued growth in passenger and goods movements between the Washington region and other nearby regions in the mid-Atlantic area.
3. Connectivity to and between Washington Dulles International, National, and Baltimore-Washington International airports.

Strategies:

1. Maintain convenient access to all of the region's major airports for both people and goods.
2. Support efficient, fast, cost-effective operation of inter-regional passenger and freight rail services.
3. Support the development of a seamless regional transportation system.
4. Support coordinated ticketing and scheduling among Amtrak, MARC, VRE, WMATA, local bus and inter-city bus service.
5. Develop a regional plan for freight movement.

TPB RESOLUTIONS RELATED TO THE VISION

Since the TPB adopted the Vision and Action Agenda in October 1998, it has adopted three resolutions that address the funding challenges and the identification of regional transportation priorities. The resolutions, which are presented in the following pages, include the following:

October 18, 2000	-	Resolution on Funding Challenges in Meeting the Goals of the TPB Vision with the 2000 Update to the Financially Constrained Long-range Transportation Plan
April 18, 2001	-	Resolution Recognizing the Tremendous Success of Metrorail on its 25th Anniversary, and Declaring Preservation, Rehabilitation, and Capacity Expansion for the Existing Metrorail System to Be a Regional Priority
November 21, 2001	-	Resolution Declaring Proposed Actions to Strengthen Transportation Emergency Response Policies and Procedures to Be Regional Transportation Priorities

Resolution on Funding Challenges in Meeting the Goals of The TPB Vision with the 2000 Update to The Financially Constrained Long-range Transportation Plan For the National Capital Region

WHEREAS, the National Capital Region Transportation Planning Board (TPB), which is the metropolitan planning organization (MPO) for the Washington Region, has the responsibility under the provisions of the Transportation Equity Act for the 21st Century (TEA-21) for developing and carrying out a continuing, cooperative and comprehensive transportation planning process for the Metropolitan Area; and

WHEREAS, on October 18, 2000 the TPB approved the *2000 Update to the Financially Constrained Long-Range Transportation Plan (CLRP) for the National Capital Region*; and

WHEREAS, the 2000 CLRP was developed based on an extensive analysis of revenues and expenditures over the next 25 years; and

WHEREAS, the plan included only those projects and programs that can be accommodated within the funding reasonably expected to be available, as required by federal planning regulations; and

WHEREAS, the TPB has reviewed the performance of the plan in relation to the goals set forth in the TPB's Vision adopted in October 1998; and

WHEREAS, while the 2000 CLRP meets air quality conformity requirements, the margin between the projected emissions and budgets in 2005 is quite small; and

WHEREAS, the review identified the following immediate challenges in the year 2000 CLRP:

- Identify reliable sources of funding to rehabilitate and maintain the region's transportation system adequately; and

- Address projected gridlock on transit and roadway networks.

NOW, THEREFORE, BE IT RESOLVED THAT THE NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD:

- Expresses serious concerns over the inability of the 2000 Update to the Financially Constrained Long-Range Transportation Plan for the National Capital Region to meet the goals of the TPB Vision due to a shortfall in transportation funding;
- Commits to in-depth dialogue and discussion on regional transportation needs with state transportation agencies, WMATA, state secretaries of transportation, and key members of the Council of the District of Columbia and of the Maryland and Virginia General Assemblies over the next several months;

- Commits to conduct an outreach program to the general public to build consensus and support for a regional transportation action plan consistent with the TPB Vision goals; and
- Commits to ensuring that mobile source emissions continue to conform to budget levels established in the air quality plan for the metropolitan Washington region.

Adopted by the Transportation Planning Board at its regular meeting on October 18, 2000.

Resolution Recognizing the Tremendous Success of Metrorail on its 25th Anniversary, and Declaring Preservation, Rehabilitation, and Capacity Expansion for the Existing Metrorail System to Be a Regional Priority

WHEREAS, the National Capital Region Transportation Planning Board (TPB), which is the metropolitan planning organization (MPO) for the Washington Region, has the responsibility under the provisions of the Transportation Equity Act for the 21st Century (TEA-21) of 1998 for developing and carrying out a continuing, cooperative and comprehensive transportation planning process for the Metropolitan Area; and

WHEREAS, the Washington Metropolitan Area Transit Authority (WMATA) began to operate the Metrorail system for revenue service on March 29, 1976, and;

WHEREAS, the entire planned 103-mile Metrorail system was completed and opened for service on January 13, 2001, and;

WHEREAS, at the Metrorail system's 25th Anniversary, it has grown to be the second-largest rail system in the United States, carrying 605,000 passengers on an average weekday, and;

WHEREAS, today the Metrobus and Metrorail system together provide a total of 1.1 million passenger trips on an average weekday, and carry approximately 40% of peak period trips into the regions' core, and;

WHEREAS, ridership on the system has increased more than 20 percent over the past three years and continues to grow rapidly, and at a pace that is approaching current capacity capabilities; and

WHEREAS, growth in transit ridership must be accommodated in order to maintain regional mobility levels and help the region to continue to meet air quality conformity requirements;

WHEREAS, on October 18, 2000 the TPB approved the *2000 Update to the Financially Constrained Long-Range Transportation Plan (CLRP) for the National Capital Region,* which included only those projects and programs that can be accommodated within the funding reasonably expected to be available, as required by federal planning regulations; and

WHEREAS, the funding identified in the 2000 CLRP addressed only 88 percent of the $6.5 billion (constant 2000 dollars) requested by WMATA for preservation and rehabilitation of the existing Metrorail system through the year 2025; and

WHEREAS, no funding could be identified in the 2000 CLRP to address the $1.54 billion (constant 2000 dollars) requested by WMATA for access and capacity enhancements to accommodate ridership growth on the existing Metrorail system through the year 2025; and

WHEREAS, there are a limited number of transit capacity expansion projects included in the currently adopted Constrained Long Range Plan (CLRP) for the metropolitan area;

NOW, THEREFORE, BE IT RESOLVED THAT THE NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD

- Recognizes the tremendous success of Metrorail on its 25th anniversary,
- Declares that addressing unmet preservation, rehabilitation, and capacity expansion needs for the existing Metrorail system is a regional transportation priority,
- Urges that reliable sources of funding be identified by the federal, state, and local governments at the earliest possible time to address the unmet needs.

Adopted by the Transportation Planning Board at its regular meeting on April 18, 2001.

Resolution Declaring Proposed Actions to Strengthen Transportation Emergency Response Policies and Procedures to Be Regional Transportation Priorities

WHEREAS, the National Capital Region Transportation Planning Board (TPB) has the responsibility under the provisions of the Transportation Equity Act for the 21st Century (TEA-21) of 1998 for developing and carrying out a continuing, cooperative and comprehensive transportation planning process for the Washington Metropolitan Area; and

WHEREAS, the tragic events of September 11demonstrated the vital importance of coordinated management and operations of the region's complex transportation system in times of emergency; and

WHEREAS, since September 11, the various local, state, and regional transportation agencies have assessed their responses to the September 11 events and identified the need to improve real-time communications between all agencies and with the public, the need to coordinate interagency plans and procedures, and the need to upgrade a number of specific management and operating capabilities; and

WHEREAS, at its October 17, 2001 meeting, the TPB received a briefing on transportation response capabilities in emergency situations, and directed that the TPB chairman work expeditiously with all affected agencies to identify necessary improvements to these capabilities, as well as to represent the transportation sector as a vice-chairman of the Metropolitan Washington Council of Governments (COG) Board of Directors Ad Hoc Task Force on Homeland Security and Emergency Preparedness for the National Capital Region; and

WHEREAS, at a special TPB work session on October 30, 2001, the TPB chairman convened the organizations that own, operate, and police the major elements of the region's transportation system to clarify the roles and responsibilities of the key players and to identify the regional-level emergency response issues and action items that need to be addressed; and

WHEREAS, on November 7, 2001, the TPB chairman made the attached presentation on the issues and actions identified at the October 30 special TPB work session to the COG Board of Directors Ad Hoc Task Force on Homeland Security and Emergency Preparedness; and

WHEREAS, the November 7 presentation identified immediate (30-60 days), short-to-mid-term (6 months), and mid-to-long-term (6 months to 2+ years) actions needed to improve transportation emergency response capabilities; and

WHEREAS, the attached draft concept for real-time interagency communications and coordinated decision-making has been developed in response to the key issues identified in the November 7 presentation;

NOW, THEREFORE BE IT RESOLVED THAT THE NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD:

- Adopts in principle the attached draft concept for improving communications for coordination of decision making among multiple jurisdictions/agencies and directs COG/TPB staff to facilitate its implementation as soon as possible;

- Declares that actions to strengthen transportation emergency response policies and procedures as presented in preliminary form in the attached November 7 presentation are regional transportation priorities;

- Urges that reliable sources of funding be identified by federal, state, and local governments at the earliest possible time to address these vital actions.

- Directs the TPB Chairman to convey to the Washington region's congressional delegation that the timely implementation of these priority actions will require federal funding assistance.

Adopted by the Transportation Planning Board at its regular meeting on November 21, 2001.

COMPOSITE REGIONAL MAP

Background

Policy Goal 6 in the TPB Vision calls for "a composite map that identifies key elements needed for regional transportation planning--regional activity centers, principal transportation corridors and facilities, and designated "green space." "

In response to the TPB Vision, a regional committee of planning directors from the local jurisdictions undertook the task of developing composite regional maps with regional activity centers, transportation corridors and "green space." The two-year process produced six maps and a set of data tables describing 58 regional activity centers. "Green space" layers are not yet developed due to challenges in identifying a common set of regional definitions for green space. The TPB accepted the maps and depicting data on April 17, 2002 with resolution R23-2002 which states the following in the resolve clause:

"1. The National Capital Region Transportation Planning Board accepts the six maps and associated data depicting regional activity centers, which are based on COG's Round 6.2 cooperative forecasts.

2. The six maps supplement the cooperative forecasting program and depict major regional activity centers on which the TPB's transportation planning and programming will in part be based. The six maps are descriptive of regional activity centers and transportation corridors and facilities.

3. The six maps, like the cooperative forecasting program, shall acknowledge and respect each local jurisdiction's authority to determine its own future pursuant to powers, which are accorded to local government by state and federal law.

4. The six maps and accompanying information have been developed for use by local jurisdictions, the TPB, and other regional bodies to encourage mixed-use development and to significantly increase the percentage of jobs and households that are found in regional activity centers."

The activity centers are based on current local government growth forecasts and categorized according to similar employment, residential and growth pattern characteristics. Recognizing that significant concentrations of residential and commercial development exist immediately adjacent to the tightly defined activity centers along the region's transportation facilities, 24 "activity center corridors" of development called clusters, were created. The map showing the regional activity clusters is shown in Figure 3.

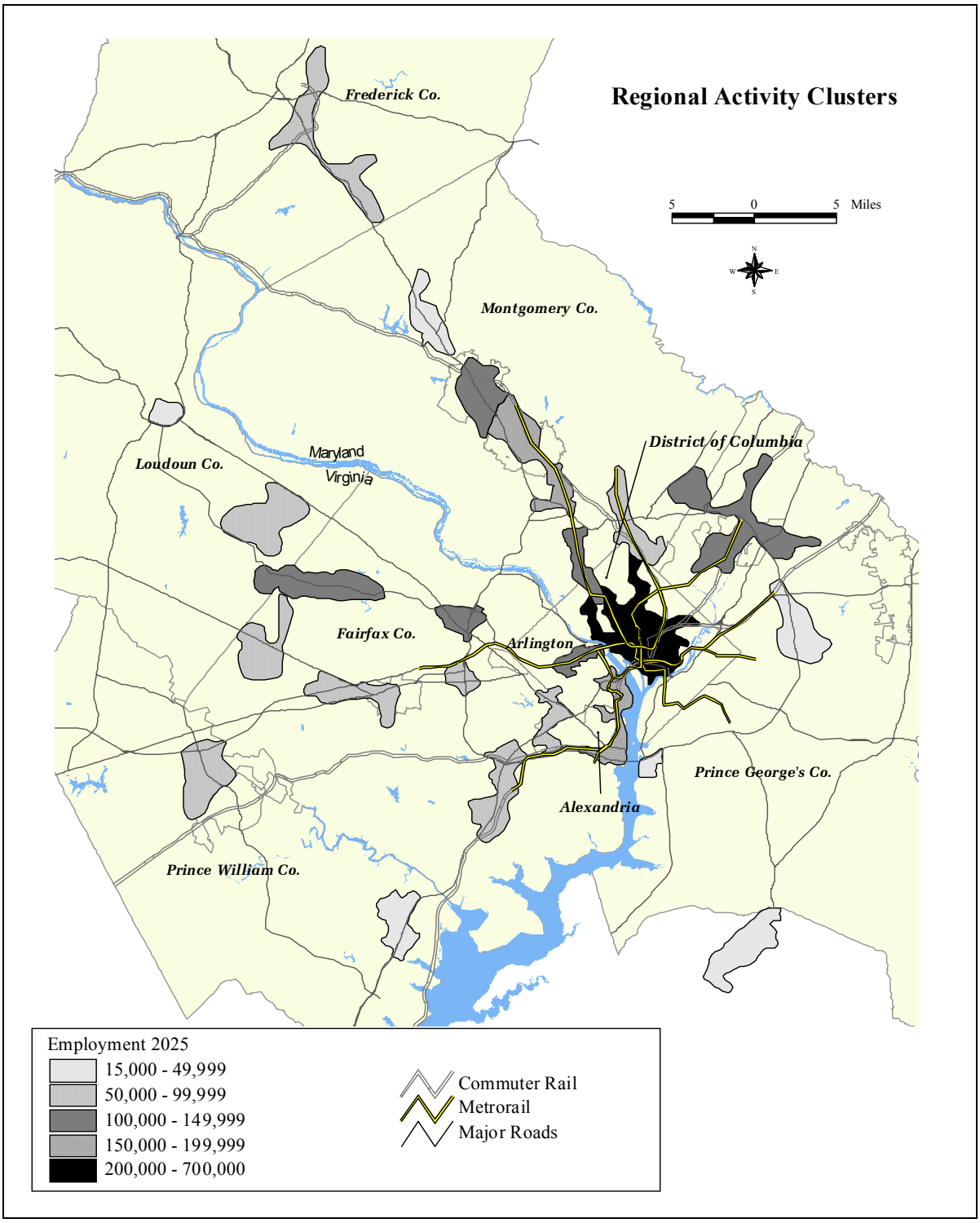
Major Findings on the Regional Activity Clusters

The 24 regional activity clusters comprise about 455 square miles (13 percent) of the region's total land area and contain 70 percent of the region's jobs and more than 31 percent of the region's households. The clusters include 60 out of the 83 total current Metrorail stations in the region. Twenty-three of the existing 83 Metrorail stations are not within a regional activity cluster. Conversely, 14 activity clusters currently have no Metrorail station.

It is important to note that the regional activity center and cluster maps are descriptive of current forecasts and transportation plans, and that as these forecasts and plans change, the maps will also change. The current maps suggest three questions concerning future development patterns and transportation infrastructure:

- Where might additional transportation infrastructure be needed to serve existing and projected development?
- Where might additional development be located to better utilize existing and planned transportation infrastructure?
- Where should the region designate protected "green space" -- where neither new transportation nor new development would be located?

Figure 3: Regional Activity Clusters



DEVELOPMENT OF CIRCULATION SYSTEMS AND GREEN SPACE

The TPB was awarded a Transportation and Community and Systems Preservation (TCSP) grant in May 1999 to assist in the implementation of two key components of the adopted Vision for transportation in the Washington region:

- circulation systems within the regional core and regional activity centers;
- and integration of green space into a regional greenways system.

TCSP funding provided the resources and level of attention needed to advance these program areas, including involvement of key agencies, officials and stakeholders and the identification of financial resources for project implementation. The TCSP funding was used to design comprehensive regional programs for each of these two components, to identify priority projects which need to be implemented within each of the programs, and to encourage the inclusion of these priority projects into the Constrained Long Range Plan (CLRP) and Transportation Improvement Program (TIP).

The TPB appointed representatives from government, non-profit, and business groups to serve on the Circulation Systems and Green Space/Greenways Advisory Committees to guide the implementation of the TCSP grant in September 1999. The committees completed their work in September 2000. The TPB was briefed on their comprehensive reports and recommended priority projects on December 20, 2000. On February 21, 2001, the TPB adopted resolutions receiving the reports and encouraging their use in future planning.

REGIONAL BICYCLE AND PEDESTRIAN PRIORITIES

The Bicycle and Pedestrian Subcommittee of the TPB Technical Committee developed a list of top unfunded regional bicycle and pedestrian projects recommended for consideration in the FY 2005-2010 Transportation Improvement Program (TIP). The TPB endorsed the nine pedestrian and bicycle projects as regional priorities in December 2002. The priorities range from new trail constructions to safety improvements, and could all be completed by 2009. The list was developed based on the regional bicycle plan adopted in 1995, the TPB Vision, and several criteria. Criteria included bicycle network connectivity, pedestrian safety, access to transit, time frame, local support, and reasonable cost. A list of the priority projects is provided on page 1-20, followed by project descriptions on page 1-21.

The Bicycle and Pedestrian Subcommittee presented a priority list previously to the TPB in 2000. Eight of the eleven projects in the 2000 list received funding, as shown at the bottom of page 1-20.

Priority Bicycle/Pedestrian Projects Recommended for Consideration for the TIP

Endorsed by the TPB on December 18, 2002. Updated December, 2003. All project included in approved local plans and/or supported by the local governments. Although some have been funded for study, none have received full funding commitment. The total costs of these projects are less than 1 percent of estimated spending for the first year of the TIP.

State	Jurisdiction	Project Name	Funding Requested (thous.)	Transit Access	Bicycle Network Connectivity	Pedestrian Safety
DC	DC	Metropolitan Branch Trail	10,000	U	U	U
MD	MC	Matthew Henson Trail	4,400	U	U	
	PGC	Henson Creek Trail	750	U	U	
VA	ALX	Holmes Run Stream Crossing	200		U	
	ARL	Pentagon Area Bicycle Access Improvements (Study)	150	U	U	U
	FFX	Route 1 Pedestrian and Bicycle Safety Improvements	8,000	U	U	U
	Town of Herndon	Centreville Road underpass at Dulles Airport Access Road	300		U	U
	LDN	Loudoun County Parkway	1,000	U	U	
	PWC	Dumfries Road (Route 234) Bike Path	900	U	U	
		Total Cost	$25,700			
		Annual Cost	$4,283			
		D.C. Total	$10,000			
		Maryland Total	$5,150			
		Virginia Total	$10,550			

	Projects funded from the 2000 priority list		Funding Provided	Funding Source		
DC	DC	DC Bicycle Plan Update	500	CMAQ		
MD	MC	Forest Glen Pedestrian Bridge	5,900	County, State Enhancements		
	MC	Silver Spring Green Trail	6,060	County		
	RVL	Rockville Millennium Trail (Bicycle Beltway)	2,153	Enhancement		
	PGC	Prince George's Connector to Met Branch Trail	250	State		
VA	ALX	Eisenhower Trail/Bikeway Improvement	830	TEA-21		
	ARL	Rosslyn Circle Crossing (Implementation)	1,000	STP		
	LDN	Purcellville to Round Hill Trail	875	Enhancement		
		Total Cost	$17,568			

Priority Bicycle/Pedestrian Project Descriptions
Endorsed by the TPB on December 18, 2002

Metropolitan Branch Trail (District of Columbia)
This 7.7 mile multi-use path will run from Union Station to Silver Spring, parallel to the Red Line of the Metro. It will link to the planned Prince Georges Connector Trail at Fort Totten. On the Montgomery County side, the trail will eventually connect to the Georgetown Branch Trail.

Matthew Henson Trail (Montgomery County)
This trail will be constructed as a 10-foot wide bituminous trail from Rock Creek Trail to the Northwest Branch Park, a distance of 4 miles.

Henson Creek Trail (Prince George's County)
This project includes the extension of the existing stream valley trail to both the north and south. In the north, the trail will be extended from Temple Hills Road to the Branch Avenue Metro. To the south, this trail will be extended from Oxon Hill Road into the Broad Creek Historic District on the Potomac.

Holmes Run Stream Crossing (City of Alexandria)
The Holmes Run Park Trail is a multi-use trail which extends from the City's western border at Holmes Run Parkway and Chambliss Street south along the Holmes Run and Cameron Run stream valleys for approximately 2 miles to Eisenhower Ave. Locally, this multi-use stream crossing will connect the north and south ends of Chambliss Street at the Holmes Run Trail. Regionally, the trail crossing will connect to Fairfax County's Stream Valley Trail system.

Pentagon Area Bicycle Access Improvements Study (Arlington County)
Study trails needing construction or improvement in the vicinity of the Pentagon, including the East Wall of Arlington Cemetery, which provides access to the Route 110 Trail, the Washington Boulevard Trail, the Mount Vernon Trail and Boundary Drive.

Route 1 Pedestrian and Bicycle Safety Improvements (Fairfax County)
Route 1 in Fairfax County has experienced a high rate of pedestrian fatalities and injuries. Several studies have identified and proposed sidewalk, pedestrian crossing, and other pedestrian and bicycle safety improvements which would be constructed on this road.

Centreville Road Underpass at Dulles Airport Access Road (Town of Herndon)
Build a multi-use path through the underpass. Although a sign indicates that pedestrians are prohibited, bicyclists and pedestrians do use the striped area to traverse the underpass. An improved underpass would connect the existing sidewalk networks in Fairfax County and the Town of Herndon.

Loudoun County Parkway (Loundoun County)
Build a 4.4 mile multi-use path parallel to Loudoun County Parkway from Route 7 to Waxpool Road.

Dumfries Road (Prince William County)
Provide a separated 1.2 mile, 10' wide asphalt multi-purpose trail along Dumfries Road from Lake Jackson Drive intersection to Prince William Parkway West intersection.

SECTION 2:
FEDERAL REGULATIONS

AIR QUALITY CONFORMITY REQUIREMENTS

The Clean Air Act Amendments (CAAA) of 1990 require that the transportation actions and projects in the CLRP and TIP support the attainment of the federal health standard for ozone, which was violated three times last year. The CLRP and the TIP have to meet air quality conformity requirements as specified in the amended Environmental Protection Agency (EPA) regulations issued in August 1997 and in supplemental guidance issued periodically thereafter.

Background

As the Washington area was classified as a "serious" non-attainment area for ozone in the 1990 CAAA, requirements for the District of Columbia, Maryland and Virginia included submission of State Implementations Plans (SIPs) that demonstrated how the Washington region would reduce emissions sufficiently to ensure: a 15 percent reduction in emissions from 1990 levels by 1996, an additional 9% reduction between 1996 and 1999, and the attainment of the federal health standard for ozone by 1999. The Washington area developed plans demonstrating achievement of each of these milestones; following approval by the Metropolitan Washington Air Quality Committee (MWAQC), the state air agencies submitted each in turn to the EPA. The Attainment Plan, which demonstrated attainment by 1999 but for ozone transport, was completed and submitted to EPA in April 1998.When the region did not meet the air quality standards in 1999, an updated Attainment Plan, focusing on attainment of the ozone standards by 2005, was approved by MWAQC in March 2000 and subsequently was approved by EPA in January 2001.

Current Status

In July 2002 a court decision remanded EPA's approval of the region's Attainment Plan to EPA for reconsideration. As a result, in a January 2003 Federal Register notice EPA published a proposed rule which reclassified the region to a "severe" area. The action required the region to re-analyze the rate of progress and other planning requirements, demonstrating attainment of the standards by the year 2005.

Using EPA's new Mobile6 model, the region addressed most of these requirements leading to a 'phase I' severe area ozone attainment SIP. This plan was approved by MWAQC in August 2003 and submitted to EPA by the states in September 2003. The plan identified new mobile emissions budgets for VOC and NOx which, when determined to be adequate for conformity by EPA, set maximum allowable emissions levels for TPB's conformity assessments. Specifically, these budgets are being used as conformity criteria for assessment of the 2003 CLRP and FY2004-09 TIP adopted by the TPB in December 2003.

A 'phase II' severe area ozone attainment SIP to meet remaining requirements, primarily contingency measures, has been developed by MWAQC. At its December 17, 2003 meeting MWAQC approved the plan for release for public hearings to be held in January 2004 by the District of Columbia, Maryland and Virginia air agencies. This plan is scheduled to be submitted to EPA by March 1, 2004. The plan is expected to slightly lower the phase I plan's emissions

budgets and will represent the relevant budgets to be used in the conformity assessment of the 2004 CLRP and FY2005-10 TIP. That air quality conformity analysis will involve a test to determine that future emissions will be within the mobile source emissions budgets established as part of the severe area attainment planning. This will include the projected emissions for the actions and projects expected to be completed in the 2005, 2015, 2025 and 2030 analysis years. If the analysis of mobile source emissions for any of these years shows an increase in NOx or VOC above what is allowed in the budget, it will be necessary for the TPB to define and program transportation emission reduction measures (TERMs) to mitigate the 'excess' emissions, as has been done in the past. The TPB Technical Committee's Travel Management Subcommittee is developing a schedule for submittal and analysis of TERMs for potential inclusion in the 2004 CLRP and FY 2005-2010 TIP for the purpose of NOx or VOC mitigation. Should emissions analysis for any forecast year estimate excess emissions which cannot be mitigated, TPB's programming actions would become limited to those projects which are exempt from conformity.

Eight Hour Ozone Standards

As part of the transition from the one hour to the eight hour ozone standards, by May 2004 EPA will designate geographic areas which are in violation of the standards. At this time it is not known whether the Washington area non-attainment boundaries will be the same or be revised. Also, in November 2003 EPA published proposed rules (and options within the proposed rules) for assessing transportation conformity under the new standards. At this point we can say only that the TPB's conformity activities will be affected as these new standards become effective. But it is still too early to tell just how the region will be affected and whether such additional actions will apply to the 2004 CLRP / FY2005-10 TIP, or subsequent conformity assessments. Staff will provide such information as soon as it becomes available.

FINANCIAL REQUIREMENTS

Amending the CLRP

The following financial requirements for the CLRP are provided in the federal planning regulations.

> The CLRP "must include a financial plan that demonstrates the consistency of proposed transportation investments with already available and projected sources of revenues. The plan shall compare the estimated revenue from existing and proposed funding sources that can reasonably be expected to be available for transportation use, and the estimated costs of constructing, maintaining and operating the total (existing plus planned) transportation system over the period of the plan.
>
> The estimated revenue by existing revenue source (local, State, and Federal and private) available for transportation projects shall be determined and any shortfalls shall be identified. Proposed new revenue and/or revenue sources to cover shortfalls shall be identified, including strategies for ensuring their availability for proposed investments. Existing and proposed revenues shall cover all forecasted capital, operating, and maintenance costs."

The 2003 CLRP update was developed to meet these requirements. Agencies should review the timing, costs and funding for the actions and projects in the CLRP, ensuring that they are consistent with the "already available and projected sources of revenues." Significant changes to the projects or actions in the current plan should be identified. New projects and strategies, specifically addressing regional air quality conformity needs also should be identified. If new funding sources are to be utilized for a project or action, agencies should describe the strategies for ensuring that the funding will be available.

TEA-21 has a provision allowing “illustrative” projects in the CLRP above and beyond those projects for which funds can reasonably be expected to be available. Illustrative projects may be included in the CLRP for analysis or vision planning purposes. A change in project status from illustrative to full status would require a CLRP amendment.

The TPB is conducting a study to quantify the region’s near term transit and highway funding needs and priorities, and to identify sources of revenues over the six year period 2005 to 2010. A brochure will be developed to inform the public and elected and appointed officials about the critical short term funding shortfall in the region. Sources of potential new revenues for transportation may assist implementing agencies in identifying new sources of funding for projects or actions.

If new funding sources are to be utilized for a project or action, agencies should describe the strategies for ensuring that the funding will be available. Finally, other projects or actions above and beyond those for which funds are available or committed may be submitted to the CLRP under illustrative status. Illustrative projects will not be assumed in the air quality conformity determination of the CLRP.

Developing Inputs for the FY 2005-2010 TIP

The following financial requirements for the TIP are provided in the federal planning regulations.

"The TIP shall be financially constrained by year and include a financial plan that demonstrates which projects can be implemented using current revenue sources and which projects are to be implemented using proposed revenue sources (while the existing transportation system is being adequately operated and maintained).

The financial plan shall be developed by the MPO in cooperation with the State and the transit operator. The State and transit operator must provide MPOs with estimates of available Federal and State funds which the MPOs shall utilize in developing financial plans. It is expected that the State would develop this information as part of the STIP development process and that the estimates would be refined through this process.

Only projects for which construction and operating funds can reasonably be expected to be available may be included under full status in the CLRP. In the case of new funding sources, strategies for ensuring their availability shall be identified. In developing the financial analysis, the MPO shall take into account all projects and strategies funded under Title 23, USC and the Federal Transit Act, other Federal funds, local sources, state assistance, and private participation.

In non-attainment areas, projects included for the first two years of the current TIP shall be limited to those for which funds are available or committed."

To develop a financially constrained TIP, agencies should begin with the projects and actions committed in the previous TIP After reviewing the estimates of available state and federal funds for the period, agencies can identify the actions and projects as inputs for the FY 2005-2010 TIP, ensuring that projects for the first two years are "limited to those for which funds are available or committed."

ENVIRONMENTAL JUSTICE REQUIREMENTS

Background

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations*, dated February 11, 1994, requires Federal agencies to identify and address disproportionately high and adverse human health and environmental effects, including interrelated social and economic effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

In December of 1998 the US Department of Transportation/Federal Highway Administration released Order 6640.23 "*FHWA Actions to Address Environmental Justice In Minority and Low-Income Populations*". Order 6640.23 "establishes policies and procedures for the Federal Highway Administration (FHWA) to use in complying with Executive Order 12898". The DOT order states that Executive Order 12898 is "primarily a reaffirmation of the principles of Title VI of the Civil Rights Act of 1964 (Title VI) and related statutes, the National Environmental Policy Act (NEPA), 23 U.S.C. 109(h) and other Federal environmental laws, emphasizing the incorporation of those provisions with the environmental and transportation decisionmaking processes*."*

FHWA and FTA released a memorandum October 7, 1999 on "Implementing Title VI Requirements in Metropolitan and Statewide Planning". The memorandum provides guidelines on how FHWA and FTA will review the long range plan and the certification process in regards to environmental justice regulations. Questions are provided "as an aid to reviewing and verifying compliance with Title VI requirements" in the planning certification reviews and relate to the planning processes overall strategies and goals, service equity, and public involvement. This memorandum and other related documents can be viewed online at http://www.fhwa.dot.gov/environment/ej2.htm.

Activities Related to the CLRP

Consistent with the guidance provided in the October 7, 1999 memorandum, an analysis was completed to assess the impacts of the 1999 CLRP on low-income and minority populations. The work was performed as described in the FY2000 UPWP and included an accessibility analysis of the 1999 CLRP. Changes in accessibility to jobs were used to review how low-income and minority populations were impacted from transportation projects and actions in the 1999 CLRP between 2000 to 2020. Demographic data used included 1990 Census tract data and 1999 estimated data from a private data marketing firm. The analysis was documented in a report, which was presented to the TPB on February 16, 2000. The analysis with the 1999 data was provided to the TPB on May 17, 2000. These analyses showed that the distribution of benefits and burdens of the 1999 CLRP, measured by changes in regional accessibility to jobs, do not appear to be affecting low-income and minority populations in a disproportionate and adverse way.

Databases for GIS mapping were created with 1990 and 2000 comparable information on race, ethnicity, poverty and mode share The 1990 and 2000 Census demographic and travel data was tabulated based on the East-West divide described in the Brookings Institution report "A Region Divided". An analysis of this information was conducted and presented to several TPB advisory committees. In addition, the 2003 draft CLRP major studies, HOV and transit improvements and highway improvements were mapped with 2000 Census demographic information including population below the poverty line, and African-American / Black , Asian, and Hispanic/Latino populations . This work helped inform the

"Region Undivided" alternative scenario for TPB's Regional Mobility and Accessibility Study (RMAS). The RMAS will examine six integrated land use and transportation scenarios. The scenarios will be compared for their performance against a set of measures of effectiveness, which include transit mode share, accessibility measures, vehicle emissions, vehicle miles of travel and land use considerations. The "Region Undivided" scenario shifts future forecast jobs and households to the Eastern side of the region from the rapidly growing Western side, bringing more development balance to the region, to see how this may improve travel conditions in 2030.

Actions have been taken to ensure that the planning process includes participation by low-income, minority, disabled and elderly populations. First, the TPB in January 2000 appointed members to the new Citizens Advisory Committee including appropriate representation from low-income, minority, and disabled groups as specified in the TPB Public Involvement Process as amended on October 20, 1999. The TPB CAC holds monthly meetings open to the public and six of the twelve meetings are held in different communities in the region. Second, the TPB held a workshop "Ensuring Access for All" on June 22, 2000 that was designed for community leaders representing low-income, minority, and disabled groups to provide input on how to better involve these groups in the regional transportation planning process.

On November 15, 2000 the TPB established the Access for All Advisory Committee to advise the TPB on issues and concerns of low-income and minority communities, and persons with disabilities. Since that time, the AFA has released a report of recommendation, formally adopted by the TPB in March 2002, as well as a subsequent report outlining the recommendations of a subcommittee to improve transit access to Limited-English Proficient communities, adopted by the TPB during the Spring of 2003.

The tasks of the committee, as originally established, were to 1) "identify projects, programs, services and issues that are important to low-income, minority and disabled communities"; and 2) "develop a report on the results of this effort for use in the project solicitation process for the annual CLRP and TIP update cycle." It's current membership includes more than 20 representatives of groups from throughout the metropolitan region, including organizations representing the interests of various minority communities, low-income communities, and people with disabilities.

Committee Perspective

The 2003 draft CLRP major studies, high occupancy vehicle (HOV) and transit improvements and highway improvements were mapped with 2000 Census demographic information including population below the poverty line, and African-American/Black, Asian, and Hispanic/Latino populations. The maps were reviewed by the TPB Access for All Advisory Committee for potential impacts on low-income communities, minority communities and people with disabilities. The following comments are based on that review and were provided to the TPB at its October 15, 2003 meeting regarding the draft 2003 CLRP, and are pertinent to remind implementing agencies to be thoughtful of as project inputs are developed.

More Transit is Needed in the Inner Parts of the Region

Committee members observed that transit improvements in the 2003 CLRP appear to be serving more suburban areas, rather than low-income communities that may be more transit dependant near the inner part of the region.

Concerns were raised about the lack of planned transit improvements or studies in Southern Prince George's County. The light rail transit study between Silver Spring and New Carrolton should extend further south into Prince George's County and include new rail service across the Woodrow Wilson Bridge.

Current Transit Services Need to be Maintained and Improved *in the Short-Term*

Although the expansion of the Metrorail system is very important, low-income communities and persons with disabilities rely upon the services provided by MetroAccess, Metrobus, and local, community-based bus services.

The AFA committee is concerned about proposed discontinuation in six Metrobus lines due to funding shortfalls. The AFA stressed that the impacts on low-income communities from reductions in Metrobus service need to be considered. The possible reduction in service between the Branch Avenue Metro station and King Street in Alexandria, lines N11 and N13, was of particular concern.

Many low-income workers hold more than one job, and have jobs that do not follow traditional work hours such as 9 a.m. to 6 p.m. The region needs more transit service in the reverse commute direction and expanded levels of transit service to allow these workers access to employment opportunities.

Transit information for people who have limited English proficiency (LEP) needs to be improved and widely available for a significant part of the population dependent on transit. The AFA subcommittee looks forward to hearing from the transit agencies regarding progress on implementing the recommendations from the LEP report presented to the Board in July.

Transit Services for People with Disabilities

Concerns were raised over recent news articles regarding WMATA's short-term budget problems that were credited to increasing costs in paratransit services. Paratransit services for low-income and persons with disabilities should be funded at higher levels and expanded.

The AFA committee will be formally recommending that WMATA study the current door-to-door paratransit system. A six-month study should review how improvements could help more people use paratransit services, and in light of current budget issues, investigate if there are more cost-effective ways to provide and operate paratransit services.

Promote More Development Around Transit Stations, But Take Care Of The Community That's Already There

The AFA committee would like to see more development around transit stations, especially on the eastern side of the region. However, states and localities should make provisions to mitigate potentially negative

impacts from such development, in the short- and long-term, such as the increased housing costs and displacement.

CONGESTION MANAGEMENT DOCUMENTATION

A Congestion Management System (CMS) is an integral part of the transportation planning process of the Washington metropolitan area, and is a component of the metropolitan area's Constrained Long Range Plan (CLRP). The CMS component of the CLRP provides information on transportation system performance, usage, and efficiency, and provides information on the potential impact of proposed strategies to alleviate congestion. The CMS component of the CLRP will document that serious consideration has been given to strategies that provide the most efficient and effective use of existing and future transportation facilities, including alternatives to highway capacity increases for single-occupant-vehicles (SOVs).

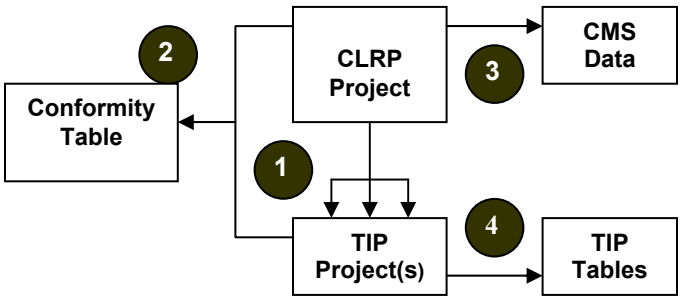
CMS requirements are addressed in both ISTEA and TEA-21; federal regulations published in the *Federal Register* on December 19, 1996 are in effect. Federal regulations require consideration of congestion management strategies in cases where single-occupant-vehicle capacity is proposed. Thus the congestion management documentation form needs to be filled out for any project to be included in the CLRP or Transportation Improvement Program (TIP) that significantly increases the single occupant vehicle carrying capacity of a highway. Non-highway projects do not need a form. Certain highway projects may also be exempt from needing a form. It is recommended to complete a form in association with all submitted, non-exempt projects to ensure compliance with federal regulations and with regional goals.

SECTION 3:
PROJECT SUBMISSION INSTRUCTIONS

INTRODUCTION

This section describes the process to be used by the transportation implementing agencies in preparing the inputs for updating the region's Constrained Long Range Transportation Plan (CLRP) for the year 2030 and the Transportation Improvement Program (TIP). The CLRP, TIP, and Congestion Management System (CMS) Project Description Forms are designed to elicit information to enable policy makers, citizens and other interested parties and segments of the community affected by transportation plans, programs and projects to understand and review them. Description Forms must be completed for all projects to be included in the CLRP and the TIP. All regionally significant projects, *regardless of funding source*, must be included in the CLRP for Air Quality Conformity information purposes. A Congestion Management Documentation Form must be completed for all projects meeting the requirements described on page 3-3 of the instructions. The relationship between the CLRP, TIP, CMS, and Conformity information is shown in Figure 4. The end products of this process will remain the same as in past years; CLRP and TIP Project Description Forms with CMS Documentation Forms, TIP Funding Tables, and Air Quality Conformity Tables. Examples of CLRP and TIP Description Forms are shown on pages 3-4 and 3-5. The TERM analysis and reporting are not addressed here; see Section 4 for those instructions.

Figure 4: Relationship Between CLRP, TIP, CMS, and Conformity Information



1. CLRP projects are at the "parent" level. Each CLRP record may have one or more "child" projects in the TIP
2. CLRP and TIP information are combined to create the project listings for the Air Quality Conformity Table
3. Some CLRP projects may require a CMS description form (see page 3-3)
4. Financial data from the TIP description forms is used to produce the TIP Tables

Agencies can access an updated version of the **ETIP** database application to update and submit project information from the COG website. [1] **ETIP** allows users to enter all data for the CLRP, TIP, Air Quality Conformity Analysis, and CMS Documentation in one integrated platform, rather than an array of word processing and spreadsheet formats. The intent is to eliminate the need for entering redundant information, save time for the user, and reduce errors and inconsistencies within the data. The database will contain all project information submitted in the previous year's returns along with any updates received prior to approval by the TPB in October of the current year.

The user manual and form instructions previously included in this section will be provided to application agency staff in an electronic format along with the application. The remainder of this section will cover the purpose of the forms, changes in the new version, means of distribution and some sample output reports.

[1] For assistance with electronic project submissions, please contact Andrew Austin at (202) 962-3353.

PURPOSE OF PROJECT DESCRIPTION FORMS

CLRP Description Form

Each submission should describe the project in sufficient detail to facilitate review by the TPB and the public. Specific information is needed on the project location and physical characteristics, purpose, projected completion date, total estimated costs, proposed sources of revenues, and other characteristics. Submissions for studies (formerly major investment studies) should indicate those cases where the design concept and scope (mode and alignment) have not been fully determined and will require further analysis. TERM projects or actions should be identified. CLRP Project Description Forms should be used to describe the full scope of a facility's improvements. Each phase of the project (even if there is only one) should be described under the "Project Phasing". The Air Quality Conformity Analysis is based on the information in these listings, so all CLRP and sub-projects thereof need to be included. A project phase, whether completed for Conformity Analysis or inclusion in the TIP, is based on the same record (i.e., one Conformity Phase = one TIP Phase).

TIP Description Form

A TIP Project Description Form should be completed for each project intended for programming in the current TIP. Every TIP project record must have a "parent" CLRP record. Any projects that do not have funding associated with them between last fiscal year's annual element and the out year of the TIP will not be listed in the published TIP Tables. Projects that are noted as having funding included under another project listing are exempt from this.

CMS Documentation Form

A Congestion Management Documentation Form should be completed for each project or action intended for the CLRP or the current TIP that involves a significant increase in single-occupant vehicle (SOV) carrying capacity of a highway. Below are the criteria to determine whether a project needs a form. Congestion Management Documentation Forms are also included in the electronic database format (see appendix for additional instructions).

The following categories of projects **REQUIRE** a congestion management form (mark "YES" on Item 7 of the CLRP Project Description Form), except if they fall under one or more of the exemption criteria listed subsequently.

- New limited access or other principal arterial roadways on new rights-of-way
- Additional through lanes on existing limited access or other principal arterial roadways
- Construction of grade-separated interchanges on limited access highways where previously there had not been an interchange.

Exemption criteria for the above categories (mark "NO" for item 7 on the CLRP Project Description Form, and note the reason(s) the project is exempt - these criteria are also provided electronically by clicking on the "criteria" hyperlink under item 7):

- The number of lane-miles added to the highway system by the project totals less than one lane-mile
- The project is an intersection reconstruction or other traffic engineering improvements, including replacement of an at-grade intersection with an interchange
- The project will not allow motor vehicles, such as bicycle or pedestrian facilities
- The project consists of preliminary studies or engineering only, and is not funded for construction
- Any project that received NEPA approval on or before April 6, 1992
- Any project that was already under construction on or before September 30, 1997, or for which construction funds were committed in the FY98-03 TIP. Note that funds being committed in the FY99-04 TIP does not exempt a project.
- Any project whose construction cost is less than $5 million.

Brief and complete answers to all questions are recommended. A reference to an external document or an attachment without further explanation on the form itself is not recommended; findings of studies, Major Investment Studies, for example, should be summarized on the form itself. References to other documents can be made if desired *in addition to* the answer provided on the form.

As a rule of thumb, the scale and detail in the responses to the questions should be in proportion to the scale of the project. For example, a relatively minor project needs less information than a major, multi-lane-mile roadway construction project.

The form can summarize the results of EISs or other studies completed in association with the project, and can also summarize the impact or regional studies or programs. It allows the submitting agency to explain the context of the project in the region's already-adopted and implemented programs, such as the Commuter Connections program, and to go on to explain what new and additional strategies were considered for the project or corridor in question.

DISTRIBUTION OF ETIP APPLICATION

The eTIP will be available to download from the COG website at
http://www.mwcog.org/transportation/activities/clrp/online.
For assistance or more information, please call Andrew Austin at (202) 962-3353.

SAMPLE FORMS

The following pages are samples for the CLRP and TIP Project Description Forms. These samples were printed using data from previous project submissions and are provided for illustrative purposes only.

Figure 5: CLRP Description Form

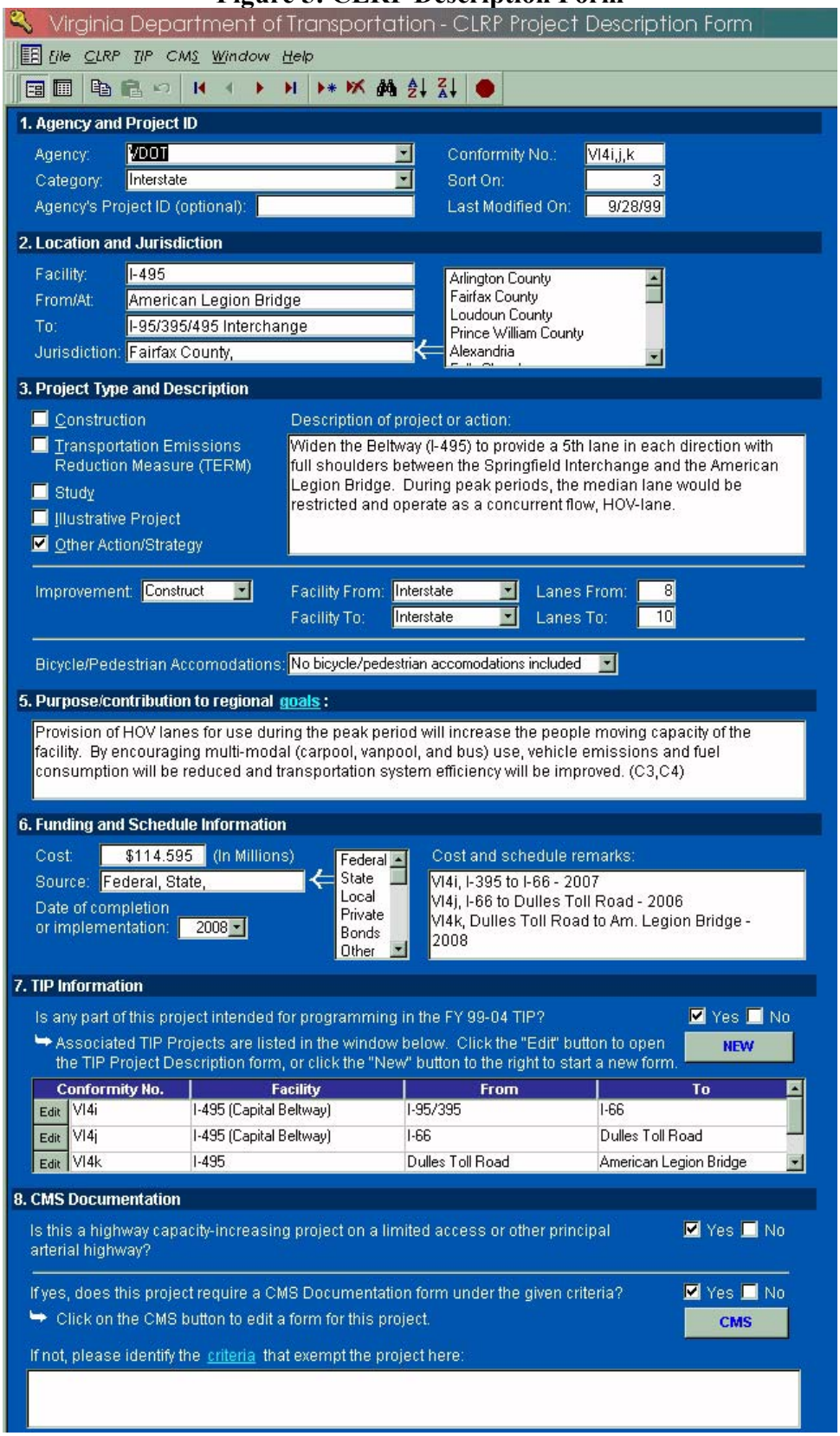
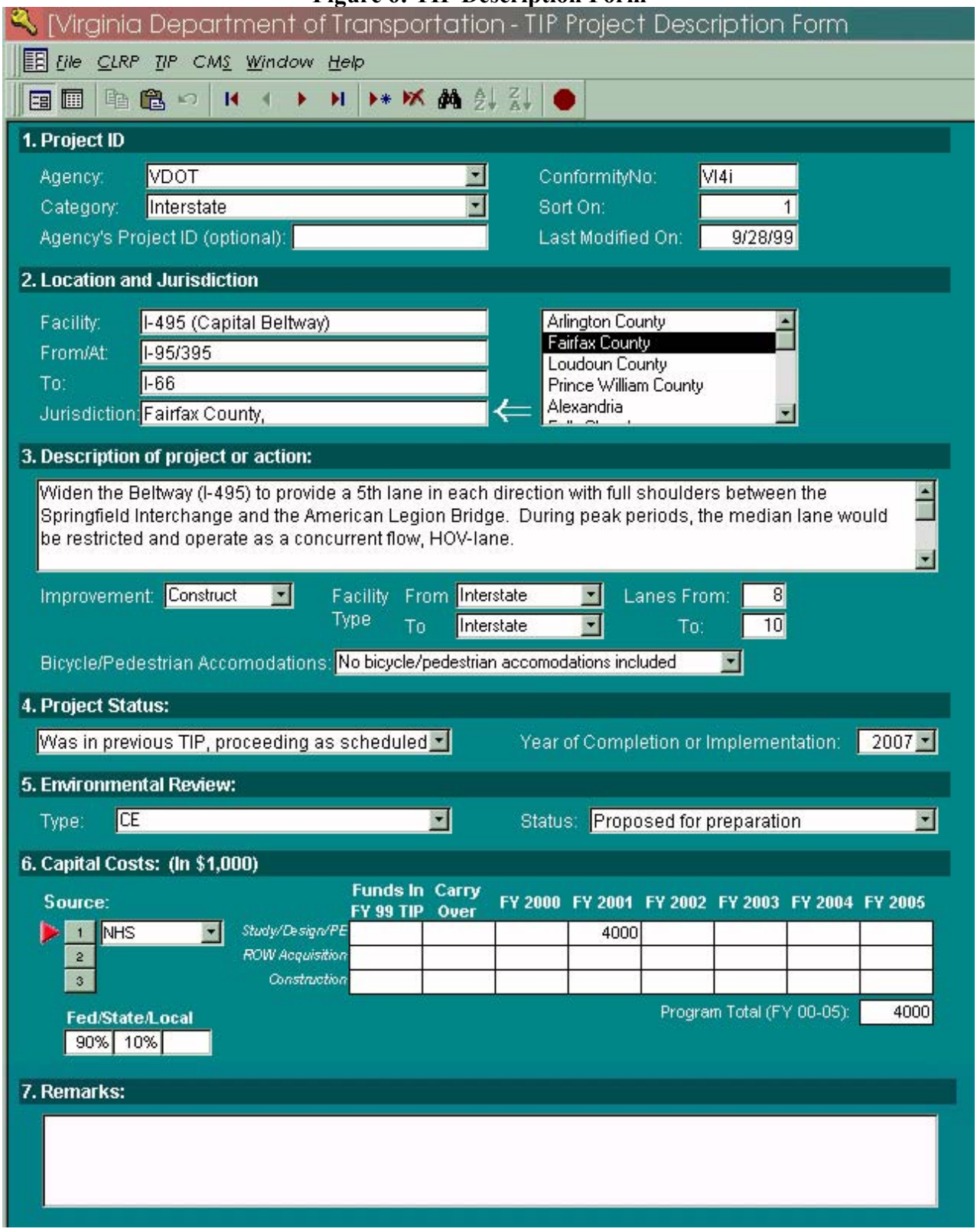


Figure 6: TIP Description Form



APPENDIX A:
TRANSPORTATION EMISSION REDUCTION MEASURE (TERM) ANALYSIS INSTRUCTIONS

TERM EMISSIONS REDUCTION CALCULATIONS

This section of the solicitation document contains instructions for analyzing transportation emissions reduction measure (TERM) projects. A new methodology will be used to analyze TERMs for the 2004 CLRP and FY 2005 - 2010 TIP which utilizes the latest travel demand results from the Version 2.1 model and emissions data from the Mobile 6 emissions model.

The introduction of the Mobile 6 emissions model offers the potential for a more disaggregate emissions reduction analysis of TERMs. Instead of the 8 different vehicle classes used in the Mobile 5b model, the Mobile 6 model utilizes 28 vehicle classes. Four categories of TERMs have been developed utilizing the disaggregate nature of the vehicle classes. The four categories are:

- TERMs impacting the traffic stream (all vehicle types), such as the Signal Optimization TERM, will continue to be analyzed using a regional composite vehicle emissions factor. 2005, 2015, 2025 and 2030 emissions factors for this category are shown in Tables 2,3, 4 and 5.

- TERMs impacting commuting vehicle trips, such as the Employer Outreach and Telework Resources Center TERM (item # 75 and # 90 on the TERM tracking sheet, page 5-4), will be analyzed using an average light duty vehicle emissions factor composed of emissions factors for several classes of light duty vehicles and for motorcycles. Tables 6, 7, 8 and 9 display emissions factors for commuting vehicle trips for 2005, 2015, 2025 and 2030.

- TERMs impacting all types of heavy duty diesel vehicles, such as a Diesel Fuel Additive TERM, are the next category. A general emissions rate for heavy duty diesel vehicles of different weight classes will be developed. Emissions rates for heavy duty diesel transit buses are shown in Table 10.

- TERMs impacting an individual heavy duty vehicle type of a specific weight class, are categorized as a specific vehicle type, such as school buses, transit buses, tractor trailers.

Attached are tables of emissions factors for use by implementing agencies to analyze emissions reduction projects submitted for inclusion in the TIP and CLRP. Table 1 provides an overview of the three emissions components, namely Start-up (Cold Start), Running, and Hot Soak. Table 2 through 9 shows Cold Start, Running, Hot Soak emissions factors for VOC and NOx for the analysis years 2005, 2015, 2015 and 2030 to be used for analyzing "Traffic Stream" and Commute Vehicle" TERMs. Table 10 shows 2005 emissions factors for school and transit buses (heavy duty diesel vehicles). Table 11 shows the average speed generated by the post-processor which is used to compute hourly speeds for emissions calculations. Table 12 provides the Mobile 6 vehicle classifications.

The cost effectiveness calculation methodology is explained following the emissions factors tables and is a primary criteria used to select TERMs. The final section provides an example of a commuting vehicle TERM analysis using the emissions factors included in the tables.

For purpose of determining emissions reductions, the start-up, running, and hot soak portions of each trip must be considered. Table 1 shows the procedure to use in the analysis.

Table 1: Mobile Source Emissions Overview

EMISSIONS=TRAVEL X EMISSIONS RATE

Start-up=Trip Origins X Grams/Trip

Running=VMT X Grams/Mile

Hot Soak=Trip Destins X Grams/Trip

There should be a consistent use of emissions factors. Such factors were obtained from the Mobile 6 model and are contained herein. NOx emissions do not occur in the hot soak portion of the trip, therefore only VOC factors are shown for this category.

It may be noted that the running factors and cold start/hot soak factors shown in the attached tables were generated using the Mobile 6 emissions model with the latest VMT and vehicle registration data as input to the model. These are the factors that will be used in the conformity analysis of the 2004 CLRP and FY 2005-2010 TIP. In previous years, running emissions factors for speeds in 5 mph increments were shown. This year, running emissions factors for speed range 1 to 65 mph are shown in the emissions factor tables. If the actual speed for a TERM is known, use the appropriate emissions factors, otherwise use emissions factors for average travel speed.

Table 2: 2005 Running, Cold Start, and Hot Soak Average Emissions Factors for "Traffic Stream" TERMs
(Mobile 6)

Emission Type	Speed (mph)	Average 2005 Network Running Emission Factor (g/mi)					
		Arterial	Freeway	Weighted Factor VOC	Arterial	Freeway	Weighted Factor NOx
		VOC		Arterial - 60%, Freeway- 40%	NOx		Arterial - 60%, Freeway- 40%
Running (g/mi)	1	5.0417	5.0435	5.0424	2.5756	2.6609	2.6097
Running (g/mi)	2	5.0435	5.0435	5.0435	2.5756	2.6609	2.6097
Running (g/mi)	3	3.9417	3.9417	3.9417	2.4667	2.5522	2.5009
Running (g/mi)	4	2.5641	2.5640	2.5641	2.3309	2.4161	2.3650
Running (g/mi)	5	1.7377	1.7377	1.7377	2.2492	2.3346	2.2834
Running (g/mi)	6	1.4360	1.4218	1.4303	2.1043	2.1329	2.1157
Running (g/mi)	7	1.2208	1.1963	1.2110	2.0009	1.9888	1.9961
Running (g/mi)	8	1.0594	1.0273	1.0466	1.9234	1.8808	1.9064
Running (g/mi)	9	0.9336	0.8959	0.9185	1.8630	1.7965	1.8364
Running (g/mi)	10	0.8332	0.7906	0.8162	1.8148	1.7294	1.7806
Running (g/mi)	11	0.7671	0.7221	0.7491	1.7398	1.6434	1.7012
Running (g/mi)	12	0.7121	0.6650	0.6933	1.6772	1.5720	1.6351
Running (g/mi)	13	0.6658	0.6169	0.6462	1.6243	1.5113	1.5791
Running (g/mi)	14	0.6258	0.5756	0.6057	1.5792	1.4595	1.5313
Running (g/mi)	15	0.5914	0.5398	0.5708	1.5397	1.4146	1.4897
Running (g/mi)	16	0.5580	0.5132	0.5401	1.5013	1.4008	1.4611
Running (g/mi)	17	0.5286	0.4898	0.5131	1.4669	1.3886	1.4356
Running (g/mi)	18	0.5024	0.4690	0.4890	1.4368	1.3779	1.4132
Running (g/mi)	19	0.4790	0.4504	0.4676	1.4096	1.3683	1.3931
Running (g/mi)	20	0.4577	0.4335	0.4480	1.3852	1.3596	1.3750
Running (g/mi)	21	0.4402	0.4197	0.4320	1.3628	1.3513	1.3582
Running (g/mi)	22	0.4243	0.4071	0.4174	1.3423	1.3434	1.3427
Running (g/mi)	23	0.4096	0.3960	0.4042	1.3238	1.3363	1.3288
Running (g/mi)	24	0.3961	0.3854	0.3918	1.3066	1.3300	1.3160
Running (g/mi)	25	0.3839	0.3759	0.3807	1.2909	1.3239	1.3041
Running (g/mi)	26	0.3731	0.3665	0.3705	1.2778	1.3198	1.2946
Running (g/mi)	27	0.3630	0.3580	0.3610	1.2657	1.3160	1.2858
Running (g/mi)	28	0.3537	0.3497	0.3521	1.2545	1.3123	1.2776
Running (g/mi)	29	0.3455	0.3425	0.3443	1.2441	1.3090	1.2701
Running (g/mi)	30	0.3372	0.3356	0.3366	1.2344	1.3055	1.2628
Running (g/mi)	31	0.3294	0.3281	0.3289	1.2298	1.3043	1.2596
Running (g/mi)	32	0.3220	0.3210	0.3216	1.2253	1.3029	1.2563
Running (g/mi)	33	0.3151	0.3146	0.3149	1.2212	1.3015	1.2533
Running (g/mi)	34	0.3085	0.3082	0.3084	1.2173	1.3003	1.2505
Running (g/mi)	35	0.3025	0.3025	0.3025	1.2137	1.2993	1.2479
Running (g/mi)	36	0.2977	0.2977	0.2977	1.2195	1.3050	1.2537
Running (g/mi)	37	0.2932	0.2932	0.2932	1.2250	1.3105	1.2592
Running (g/mi)	38	0.2892	0.2892	0.2892	1.2303	1.3156	1.2644
Running (g/mi)	39	0.2852	0.2852	0.2852	1.2352	1.3207	1.2694
Running (g/mi)	40	0.2815	0.2815	0.2815	1.2401	1.3254	1.2742
Running (g/mi)	41	0.2775	0.2775	0.2775	1.2508	1.3361	1.2849
Running (g/mi)	42	0.2742	0.2742	0.2742	1.2611	1.3463	1.2952
Running (g/mi)	43	0.2708	0.2708	0.2708	1.2707	1.3562	1.3049
Running (g/mi)	44	0.2674	0.2674	0.2674	1.2799	1.3654	1.3141
Running (g/mi)	45	0.2647	0.2647	0.2647	1.2890	1.3744	1.3232
Running (g/mi)	46	0.2610	0.2610	0.2610	1.3045	1.3899	1.3387
Running (g/mi)	47	0.2581	0.2581	0.2581	1.3192	1.4048	1.3534
Running (g/mi)	48	0.2550	0.2550	0.2550	1.3333	1.4188	1.3675
Running (g/mi)	49	0.2524	0.2524	0.2524	1.3471	1.4325	1.3813
Running (g/mi)	50	0.2494	0.2494	0.2494	1.3603	1.4456	1.3944
Running (g/mi)	51	0.2467	0.2467	0.2467	1.3817	1.4671	1.4159
Running (g/mi)	52	0.2443	0.2443	0.2443	1.4023	1.4878	1.4365
Running (g/mi)	53	0.2416	0.2416	0.2416	1.4221	1.5077	1.4563
Running (g/mi)	54	0.2393	0.2393	0.2393	1.4414	1.5267	1.4755
Running (g/mi)	55	0.2371	0.2371	0.2371	1.4597	1.5452	1.4939
Running (g/mi)	56	0.2355	0.2355	0.2355	1.4893	1.5748	1.5235
Running (g/mi)	57	0.2341	0.2341	0.2341	1.5178	1.6034	1.5520
Running (g/mi)	58	0.2325	0.2325	0.2325	1.5453	1.6311	1.5796
Running (g/mi)	59	0.2310	0.2310	0.2310	1.5720	1.6576	1.6062
Running (g/mi)	60	0.2298	0.2298	0.2298	1.5978	1.6833	1.6320
Running (g/mi)	61	0.2287	0.2287	0.2287	1.6388	1.7241	1.6729
Running (g/mi)	62	0.2276	0.2276	0.2276	1.6783	1.7637	1.7125
Running (g/mi)	63	0.2268	0.2268	0.2268	1.7168	1.8022	1.7510
Running (g/mi)	64	0.2258	0.2258	0.2258	1.7539	1.8393	1.7881
Running (g/mi)	65	0.2249	0.2249	0.2249	1.7899	1.8754	1.8241

Emission Type	VOC	NOx
Hot Start (g/trip)	0.2516	0.1960
Cold Start (g/trip)	1.5041	0.9107
Hot Soak Loss (g/trip end)	0.7192	-

Table 3: 2015 Running, Cold Start, and Hot Soak Average Emissons Factors for "Traffic Stream" TERMs
(Mobile 6)

Average 2015 Emission Factors (gm/mi)							
Emission Type	Speed (mph)	Arterial	Freeway	Weighted Factor VOC	Arterial	Freeway	Weighted Factor NOx
		VOC		Arterial - 60% Freeway 40%	NOx		Arterial - 60% Freeway 40%
Running (g/mi)	1	1.8336	1.8336	1.8336	0.7545	0.7668	0.7594
Running (g/mi)	2	1.8336	1.8336	1.8336	0.7545	0.7668	0.7594
Running (g/mi)	3	1.4500	1.4498	1.4499	0.7218	0.7345	0.7269
Running (g/mi)	4	0.9703	0.9703	0.9703	0.6814	0.6941	0.6865
Running (g/mi)	5	0.6827	0.6827	0.6827	0.6572	0.6697	0.6622
Running (g/mi)	6	0.5710	0.5648	0.5685	0.6141	0.6088	0.6120
Running (g/mi)	7	0.4915	0.4803	0.4870	0.5835	0.5651	0.5761
Running (g/mi)	8	0.4315	0.4171	0.4257	0.5604	0.5325	0.5492
Running (g/mi)	9	0.3850	0.3681	0.3782	0.5428	0.5070	0.5285
Running (g/mi)	10	0.3477	0.3285	0.3400	0.5283	0.4868	0.5117
Running (g/mi)	11	0.3209	0.3009	0.3129	0.5063	0.4612	0.4883
Running (g/mi)	12	0.2988	0.2777	0.2904	0.4878	0.4397	0.4686
Running (g/mi)	13	0.2801	0.2580	0.2713	0.4723	0.4218	0.4521
Running (g/mi)	14	0.2638	0.2412	0.2548	0.4589	0.4064	0.4379
Running (g/mi)	15	0.2500	0.2267	0.2407	0.4472	0.3928	0.4254
Running (g/mi)	16	0.2360	0.2155	0.2278	0.4358	0.3898	0.4174
Running (g/mi)	17	0.2233	0.2055	0.2162	0.4263	0.3866	0.4104
Running (g/mi)	18	0.2122	0.1966	0.2060	0.4173	0.3841	0.4040
Running (g/mi)	19	0.2020	0.1887	0.1967	0.4095	0.3819	0.3985
Running (g/mi)	20	0.1931	0.1818	0.1886	0.4024	0.3797	0.3933
Running (g/mi)	21	0.1858	0.1761	0.1819	0.3961	0.3778	0.3888
Running (g/mi)	22	0.1793	0.1710	0.1760	0.3901	0.3758	0.3844
Running (g/mi)	23	0.1733	0.1665	0.1706	0.3847	0.3741	0.3805
Running (g/mi)	24	0.1678	0.1622	0.1656	0.3798	0.3724	0.3768
Running (g/mi)	25	0.1628	0.1584	0.1610	0.3753	0.3712	0.3737
Running (g/mi)	26	0.1581	0.1545	0.1567	0.3714	0.3701	0.3709
Running (g/mi)	27	0.1538	0.1511	0.1527	0.3679	0.3692	0.3684
Running (g/mi)	28	0.1499	0.1477	0.1490	0.3647	0.3683	0.3661
Running (g/mi)	29	0.1460	0.1444	0.1454	0.3616	0.3675	0.3640
Running (g/mi)	30	0.1427	0.1414	0.1422	0.3588	0.3668	0.3620
Running (g/mi)	31	0.1393	0.1384	0.1389	0.3573	0.3665	0.3610
Running (g/mi)	32	0.1364	0.1357	0.1361	0.3561	0.3661	0.3601
Running (g/mi)	33	0.1333	0.1330	0.1332	0.3548	0.3658	0.3592
Running (g/mi)	34	0.1307	0.1306	0.1307	0.3536	0.3655	0.3584
Running (g/mi)	35	0.1281	0.1281	0.1281	0.3525	0.3651	0.3575
Running (g/mi)	36	0.1264	0.1264	0.1264	0.3543	0.3669	0.3593
Running (g/mi)	37	0.1244	0.1244	0.1244	0.3559	0.3685	0.3609
Running (g/mi)	38	0.1228	0.1228	0.1228	0.3573	0.3700	0.3624
Running (g/mi)	39	0.1213	0.1213	0.1213	0.3590	0.3714	0.3640
Running (g/mi)	40	0.1195	0.1195	0.1195	0.3603	0.3729	0.3653
Running (g/mi)	41	0.1181	0.1181	0.1181	0.3633	0.3758	0.3683
Running (g/mi)	42	0.1169	0.1169	0.1169	0.3662	0.3789	0.3713
Running (g/mi)	43	0.1155	0.1155	0.1155	0.3688	0.3817	0.3740
Running (g/mi)	44	0.1140	0.1140	0.1140	0.3716	0.3842	0.3766
Running (g/mi)	45	0.1128	0.1128	0.1128	0.3742	0.3866	0.3792
Running (g/mi)	46	0.1116	0.1116	0.1116	0.3782	0.3909	0.3833
Running (g/mi)	47	0.1105	0.1105	0.1105	0.3826	0.3952	0.3876
Running (g/mi)	48	0.1094	0.1094	0.1094	0.3863	0.3989	0.3913
Running (g/mi)	49	0.1085	0.1085	0.1085	0.3900	0.4027	0.3951
Running (g/mi)	50	0.1075	0.1075	0.1075	0.3938	0.4064	0.3988
Running (g/mi)	51	0.1066	0.1066	0.1066	0.3998	0.4123	0.4048
Running (g/mi)	52	0.1061	0.1061	0.1061	0.4053	0.4180	0.4104
Running (g/mi)	53	0.1055	0.1055	0.1055	0.4108	0.4235	0.4159
Running (g/mi)	54	0.1046	0.1046	0.1046	0.4160	0.4286	0.4210
Running (g/mi)	55	0.1040	0.1040	0.1040	0.4213	0.4338	0.4263
Running (g/mi)	56	0.1038	0.1038	0.1038	0.4292	0.4417	0.4342
Running (g/mi)	57	0.1036	0.1036	0.1036	0.4368	0.4495	0.4419
Running (g/mi)	58	0.1033	0.1033	0.1033	0.4443	0.4570	0.4494
Running (g/mi)	59	0.1033	0.1033	0.1033	0.4514	0.4642	0.4565
Running (g/mi)	60	0.1031	0.1031	0.1031	0.4584	0.4711	0.4635
Running (g/mi)	61	0.1033	0.1033	0.1033	0.4693	0.4821	0.4744
Running (g/mi)	62	0.1031	0.1031	0.1031	0.4800	0.4927	0.4851
Running (g/mi)	63	0.1033	0.1033	0.1033	0.4903	0.5028	0.4953
Running (g/mi)	64	0.1033	0.1033	0.1033	0.5001	0.5128	0.5052
Running (g/mi)	65	0.1033	0.1033	0.1033	0.5098	0.5224	0.5148

Emission Type	VOC	NOx
Hot Start (g/trip)	0.1075	0.0774
Cold Start (g/trip)	0.6068	0.3457
Hot Soak Loss (g/trip end)	0.3431	0.0000

Table 4: 2025 Running, Cold Start, and Hot Soak Average Emissons Factors for "Traffic Stream" TERMs
(Mobile 6)

Average 2025 Emission Factors (gm/mi)							
Emission Type	Speed (mph)	Arterial	Freeway	Weighted Factor VOC	Arterial	Freeway	Weighted Factor NOx
		VOC		Arterial - 60% Freeway 40%	NOx		Arterial - 60% Freeway 40%
Running (g/mi)	1	1.5113	1.5113	1.5113	0.3888	0.3898	0.3892
Running (g/mi)	2	1.5113	1.5113	1.5113	0.3888	0.3898	0.3892
Running (g/mi)	3	1.1956	1.1956	1.1956	0.3708	0.3718	0.3712
Running (g/mi)	4	0.8002	0.8002	0.8002	0.3482	0.3491	0.3486
Running (g/mi)	5	0.5635	0.5635	0.5635	0.3345	0.3355	0.3349
Running (g/mi)	6	0.4717	0.4667	0.4697	0.3109	0.2998	0.3065
Running (g/mi)	7	0.4060	0.3975	0.4026	0.2940	0.2746	0.2862
Running (g/mi)	8	0.3569	0.3457	0.3524	0.2813	0.2554	0.2709
Running (g/mi)	9	0.3187	0.3055	0.3134	0.2714	0.2407	0.2591
Running (g/mi)	10	0.2880	0.2732	0.2821	0.2635	0.2288	0.2496
Running (g/mi)	11	0.2661	0.2503	0.2598	0.2514	0.2145	0.2366
Running (g/mi)	12	0.2479	0.2314	0.2413	0.2415	0.2027	0.2260
Running (g/mi)	13	0.2323	0.2151	0.2254	0.2330	0.1925	0.2168
Running (g/mi)	14	0.2193	0.2016	0.2122	0.2257	0.1840	0.2090
Running (g/mi)	15	0.2076	0.1894	0.2003	0.2193	0.1764	0.2021
Running (g/mi)	16	0.1957	0.1798	0.1893	0.2134	0.1758	0.1984
Running (g/mi)	17	0.1853	0.1714	0.1797	0.2083	0.1752	0.1951
Running (g/mi)	18	0.1759	0.1637	0.1710	0.2036	0.1746	0.1920
Running (g/mi)	19	0.1673	0.1568	0.1631	0.1995	0.1741	0.1893
Running (g/mi)	20	0.1597	0.1506	0.1561	0.1958	0.1736	0.1869
Running (g/mi)	21	0.1539	0.1460	0.1507	0.1925	0.1731	0.1847
Running (g/mi)	22	0.1486	0.1419	0.1459	0.1893	0.1726	0.1826
Running (g/mi)	23	0.1437	0.1381	0.1415	0.1865	0.1723	0.1808
Running (g/mi)	24	0.1393	0.1344	0.1373	0.1840	0.1718	0.1791
Running (g/mi)	25	0.1349	0.1313	0.1335	0.1816	0.1715	0.1776
Running (g/mi)	26	0.1310	0.1280	0.1298	0.1795	0.1713	0.1762
Running (g/mi)	27	0.1275	0.1250	0.1265	0.1775	0.1710	0.1749
Running (g/mi)	28	0.1242	0.1222	0.1234	0.1757	0.1707	0.1737
Running (g/mi)	29	0.1210	0.1195	0.1204	0.1740	0.1705	0.1726
Running (g/mi)	30	0.1180	0.1170	0.1176	0.1726	0.1704	0.1717
Running (g/mi)	31	0.1153	0.1144	0.1149	0.1718	0.1702	0.1712
Running (g/mi)	32	0.1127	0.1123	0.1125	0.1708	0.1698	0.1704
Running (g/mi)	33	0.1103	0.1101	0.1102	0.1698	0.1695	0.1697
Running (g/mi)	34	0.1080	0.1078	0.1079	0.1689	0.1694	0.1691
Running (g/mi)	35	0.1057	0.1057	0.1057	0.1684	0.1693	0.1688
Running (g/mi)	36	0.1042	0.1042	0.1042	0.1690	0.1701	0.1694
Running (g/mi)	37	0.1029	0.1029	0.1029	0.1699	0.1709	0.1703
Running (g/mi)	38	0.1014	0.1014	0.1014	0.1707	0.1716	0.1711
Running (g/mi)	39	0.0998	0.0998	0.0998	0.1714	0.1723	0.1718
Running (g/mi)	40	0.0985	0.0985	0.0985	0.1721	0.1729	0.1724
Running (g/mi)	41	0.0972	0.0972	0.0972	0.1732	0.1744	0.1737
Running (g/mi)	42	0.0960	0.0960	0.0960	0.1748	0.1756	0.1751
Running (g/mi)	43	0.0949	0.0949	0.0949	0.1759	0.1766	0.1762
Running (g/mi)	44	0.0938	0.0938	0.0938	0.1769	0.1777	0.1772
Running (g/mi)	45	0.0927	0.0927	0.0927	0.1780	0.1789	0.1784
Running (g/mi)	46	0.0919	0.0919	0.0919	0.1798	0.1806	0.1801
Running (g/mi)	47	0.0909	0.0909	0.0909	0.1814	0.1822	0.1817
Running (g/mi)	48	0.0900	0.0900	0.0900	0.1829	0.1839	0.1833
Running (g/mi)	49	0.0890	0.0890	0.0890	0.1844	0.1854	0.1848
Running (g/mi)	50	0.0882	0.0882	0.0882	0.1859	0.1869	0.1863
Running (g/mi)	51	0.0875	0.0875	0.0875	0.1882	0.1891	0.1886
Running (g/mi)	52	0.0870	0.0870	0.0870	0.1902	0.1913	0.1906
Running (g/mi)	53	0.0864	0.0864	0.0864	0.1923	0.1933	0.1927
Running (g/mi)	54	0.0860	0.0860	0.0860	0.1943	0.1953	0.1947
Running (g/mi)	55	0.0855	0.0855	0.0855	0.1963	0.1972	0.1967
Running (g/mi)	56	0.0854	0.0854	0.0854	0.1992	0.2001	0.1996
Running (g/mi)	57	0.0855	0.0855	0.0855	0.2019	0.2028	0.2023
Running (g/mi)	58	0.0854	0.0854	0.0854	0.2045	0.2058	0.2050
Running (g/mi)	59	0.0852	0.0852	0.0852	0.2073	0.2081	0.2076
Running (g/mi)	60	0.0853	0.0853	0.0853	0.2097	0.2106	0.2101
Running (g/mi)	61	0.0853	0.0853	0.0853	0.2135	0.2143	0.2138
Running (g/mi)	62	0.0855	0.0855	0.0855	0.2170	0.2180	0.2174
Running (g/mi)	63	0.0857	0.0857	0.0857	0.2208	0.2214	0.2210
Running (g/mi)	64	0.0858	0.0858	0.0858	0.2240	0.2249	0.2244
Running (g/mi)	65	0.0858	0.0858	0.0858	0.2273	0.2283	0.2277

Emission Type	VOC	NOx
Hot Start (g/trip)	0.0797	0.0407
Cold Start (g/trip)	0.445	0.1752
Hot Soak (g/trip end)	0.201	0

Table 5: 2030 Running, Cold Start, and Hot Soak Average Emissons Factors for "Traffic Stream" TERMs
(Mobile 6)

Average 2030 Emission Factors (gm/mi)							
Emission Type	Speed (mph)	Arterial	Freeway	Weighted Factor VOC	Arterial	Freeway	Weighted Factor NOx
		VOC		Arterial - 60% Freeway 40%	NOx		Arterial - 60% Freeway 40%
Running (g/mi)	1	1.4958	1.4958	1.4958	0.3599	0.3599	0.3599
Running (g/mi)	2	1.4958	1.4958	1.4958	0.3599	0.3599	0.3599
Running (g/mi)	3	1.1832	1.1832	1.1832	0.3430	0.3430	0.3430
Running (g/mi)	4	0.7914	0.7914	0.7914	0.3218	0.3218	0.3218
Running (g/mi)	5	0.5568	0.5567	0.5568	0.3090	0.3090	0.3090
Running (g/mi)	6	0.4662	0.4614	0.4643	0.2868	0.2756	0.2823
Running (g/mi)	7	0.4015	0.3930	0.3981	0.2710	0.2515	0.2632
Running (g/mi)	8	0.3527	0.3421	0.3485	0.2590	0.2337	0.2489
Running (g/mi)	9	0.3150	0.3020	0.3098	0.2499	0.2197	0.2378
Running (g/mi)	10	0.2847	0.2701	0.2789	0.2424	0.2084	0.2288
Running (g/mi)	11	0.2632	0.2479	0.2571	0.2312	0.1949	0.2167
Running (g/mi)	12	0.2452	0.2288	0.2386	0.2217	0.1837	0.2065
Running (g/mi)	13	0.2298	0.2130	0.2231	0.2139	0.1743	0.1981
Running (g/mi)	14	0.2168	0.1994	0.2098	0.2072	0.1662	0.1908
Running (g/mi)	15	0.2052	0.1875	0.1981	0.2011	0.1591	0.1843
Running (g/mi)	16	0.1937	0.1781	0.1875	0.1956	0.1588	0.1809
Running (g/mi)	17	0.1831	0.1696	0.1777	0.1908	0.1581	0.1777
Running (g/mi)	18	0.1738	0.1620	0.1691	0.1864	0.1578	0.1750
Running (g/mi)	19	0.1656	0.1553	0.1615	0.1827	0.1575	0.1726
Running (g/mi)	20	0.1580	0.1493	0.1545	0.1791	0.1571	0.1703
Running (g/mi)	21	0.1522	0.1444	0.1491	0.1760	0.1568	0.1683
Running (g/mi)	22	0.1468	0.1404	0.1442	0.1732	0.1563	0.1664
Running (g/mi)	23	0.1419	0.1365	0.1397	0.1706	0.1560	0.1648
Running (g/mi)	24	0.1374	0.1332	0.1357	0.1681	0.1558	0.1632
Running (g/mi)	25	0.1334	0.1298	0.1320	0.1659	0.1555	0.1617
Running (g/mi)	26	0.1294	0.1265	0.1282	0.1639	0.1552	0.1604
Running (g/mi)	27	0.1260	0.1236	0.1250	0.1622	0.1549	0.1593
Running (g/mi)	28	0.1227	0.1208	0.1219	0.1606	0.1548	0.1583
Running (g/mi)	29	0.1195	0.1181	0.1189	0.1588	0.1546	0.1571
Running (g/mi)	30	0.1166	0.1156	0.1162	0.1575	0.1545	0.1563
Running (g/mi)	31	0.1139	0.1131	0.1136	0.1565	0.1543	0.1556
Running (g/mi)	32	0.1114	0.1109	0.1112	0.1556	0.1539	0.1549
Running (g/mi)	33	0.1090	0.1087	0.1089	0.1549	0.1538	0.1545
Running (g/mi)	34	0.1066	0.1065	0.1066	0.1540	0.1535	0.1538
Running (g/mi)	35	0.1046	0.1046	0.1046	0.1535	0.1535	0.1535
Running (g/mi)	36	0.1028	0.1028	0.1028	0.1541	0.1541	0.1541
Running (g/mi)	37	0.1014	0.1014	0.1014	0.1549	0.1549	0.1549
Running (g/mi)	38	0.1000	0.1000	0.1000	0.1555	0.1555	0.1555
Running (g/mi)	39	0.0986	0.0986	0.0986	0.1561	0.1561	0.1561
Running (g/mi)	40	0.0973	0.0973	0.0973	0.1568	0.1568	0.1568
Running (g/mi)	41	0.0960	0.0960	0.0960	0.1579	0.1579	0.1579
Running (g/mi)	42	0.0947	0.0947	0.0947	0.1591	0.1591	0.1591
Running (g/mi)	43	0.0937	0.0937	0.0937	0.1601	0.1601	0.1601
Running (g/mi)	44	0.0924	0.0924	0.0924	0.1611	0.1611	0.1611
Running (g/mi)	45	0.0912	0.0912	0.0912	0.1621	0.1621	0.1621
Running (g/mi)	46	0.0903	0.0903	0.0903	0.1637	0.1637	0.1637
Running (g/mi)	47	0.0896	0.0896	0.0896	0.1650	0.1650	0.1650
Running (g/mi)	48	0.0886	0.0886	0.0886	0.1665	0.1665	0.1665
Running (g/mi)	49	0.0877	0.0877	0.0877	0.1679	0.1679	0.1679
Running (g/mi)	50	0.0870	0.0870	0.0870	0.1690	0.1690	0.1690
Running (g/mi)	51	0.0863	0.0863	0.0863	0.1710	0.1710	0.1710
Running (g/mi)	52	0.0858	0.0858	0.0858	0.1730	0.1730	0.1730
Running (g/mi)	53	0.0853	0.0853	0.0853	0.1749	0.1749	0.1749
Running (g/mi)	54	0.0848	0.0848	0.0848	0.1766	0.1766	0.1766
Running (g/mi)	55	0.0842	0.0842	0.0842	0.1781	0.1781	0.1781
Running (g/mi)	56	0.0841	0.0841	0.0841	0.1807	0.1807	0.1807
Running (g/mi)	57	0.0842	0.0842	0.0842	0.1831	0.1831	0.1831
Running (g/mi)	58	0.0841	0.0841	0.0841	0.1854	0.1854	0.1854
Running (g/mi)	59	0.0840	0.0840	0.0840	0.1877	0.1877	0.1877
Running (g/mi)	60	0.0839	0.0839	0.0839	0.1898	0.1898	0.1898
Running (g/mi)	61	0.0842	0.0842	0.0842	0.1930	0.1930	0.1930
Running (g/mi)	62	0.0841	0.0841	0.0841	0.1961	0.1961	0.1961
Running (g/mi)	63	0.0845	0.0845	0.0845	0.1991	0.1991	0.1991
Running (g/mi)	64	0.0843	0.0843	0.0843	0.2020	0.2020	0.2020
Running (g/mi)	65	0.0845	0.0845	0.0845	0.2048	0.2048	0.2048

Emission Type	VOC	NOx
Hot Start (g/trip)	0.0770	0.0367
Cold Start (g/trip)	0.4272	0.1552
Hot Soak (g/trip end)	0.202	0

Table 6: 2005 Running, Cold Start, and Hot Soak Average Emissions Factors for "Commuter Vehicle" TERMs
(Mobile 6)

Emission Type	Speed (mph)	Average 2005 Running Emission Factor (g/mi)					
		Arterial	Freeway	Weighted Factor VOC	Arterial	Freeway	Weighted Factor NOx
		VOC		Arterial - 60%, Freeway- 40%	NOx		Arterial - 60%, Freeway- 40%
Running (g/mi)	1	5.1891	5.1910	5.1899	1.6903	1.6903	1.6903
Running (g/mi)	2	5.1910	5.1910	5.1910	1.6903	1.6903	1.6903
Running (g/mi)	3	4.0337	4.0336	4.0337	1.6054	1.6054	1.6054
Running (g/mi)	4	2.5867	2.5867	2.5867	1.4991	1.4991	1.4991
Running (g/mi)	5	1.7185	1.7184	1.7185	1.4353	1.4352	1.4353
Running (g/mi)	6	1.4099	1.3944	1.4037	1.3281	1.2660	1.3033
Running (g/mi)	7	1.1896	1.1630	1.1790	1.2511	1.1449	1.2086
Running (g/mi)	8	1.0241	0.9893	1.0102	1.1936	1.0543	1.1379
Running (g/mi)	9	0.8957	0.8544	0.8792	1.1488	0.9838	1.0828
Running (g/mi)	10	0.7927	0.7463	0.7741	1.1132	0.9273	1.0388
Running (g/mi)	11	0.7287	0.6795	0.7090	1.0592	0.8617	0.9802
Running (g/mi)	12	0.6753	0.6240	0.6548	1.0143	0.8068	0.9313
Running (g/mi)	13	0.6302	0.5772	0.6090	0.9762	0.7604	0.8899
Running (g/mi)	14	0.5914	0.5370	0.5696	0.9435	0.7207	0.8544
Running (g/mi)	15	0.5577	0.5017	0.5353	0.9155	0.6864	0.8239
Running (g/mi)	16	0.5262	0.4774	0.5067	0.8901	0.6880	0.8093
Running (g/mi)	17	0.4983	0.4561	0.4814	0.8678	0.6896	0.7965
Running (g/mi)	18	0.4736	0.4373	0.4591	0.8478	0.6910	0.7851
Running (g/mi)	19	0.4514	0.4203	0.4390	0.8300	0.6923	0.7749
Running (g/mi)	20	0.4314	0.4048	0.4208	0.8140	0.6933	0.7657
Running (g/mi)	21	0.4152	0.3929	0.4063	0.7994	0.6937	0.7571
Running (g/mi)	22	0.4004	0.3821	0.3931	0.7859	0.6942	0.7492
Running (g/mi)	23	0.3870	0.3723	0.3811	0.7737	0.6943	0.7419
Running (g/mi)	24	0.3747	0.3629	0.3700	0.7623	0.6946	0.7352
Running (g/mi)	25	0.3635	0.3545	0.3599	0.7519	0.6949	0.7291
Running (g/mi)	26	0.3539	0.3467	0.3510	0.7422	0.6948	0.7232
Running (g/mi)	27	0.3446	0.3392	0.3424	0.7333	0.6947	0.7179
Running (g/mi)	28	0.3367	0.3323	0.3349	0.7248	0.6947	0.7128
Running (g/mi)	29	0.3289	0.3258	0.3277	0.7169	0.6946	0.7080
Running (g/mi)	30	0.3214	0.3198	0.3208	0.7098	0.6945	0.7037
Running (g/mi)	31	0.3145	0.3131	0.3139	0.7048	0.6929	0.7000
Running (g/mi)	32	0.3079	0.3069	0.3075	0.7003	0.6917	0.6969
Running (g/mi)	33	0.3015	0.3007	0.3012	0.6958	0.6903	0.6936
Running (g/mi)	34	0.2956	0.2951	0.2954	0.6919	0.6892	0.6908
Running (g/mi)	35	0.2901	0.2901	0.2901	0.6881	0.6881	0.6881
Running (g/mi)	36	0.2861	0.2861	0.2861	0.6908	0.6908	0.6908
Running (g/mi)	37	0.2819	0.2819	0.2819	0.6930	0.6930	0.6930
Running (g/mi)	38	0.2784	0.2784	0.2784	0.6953	0.6953	0.6953
Running (g/mi)	39	0.2749	0.2749	0.2749	0.6975	0.6975	0.6975
Running (g/mi)	40	0.2717	0.2717	0.2717	0.6995	0.6995	0.6995
Running (g/mi)	41	0.2683	0.2683	0.2683	0.7030	0.7030	0.7030
Running (g/mi)	42	0.2654	0.2654	0.2654	0.7067	0.7067	0.7067
Running (g/mi)	43	0.2623	0.2623	0.2623	0.7100	0.7100	0.7100
Running (g/mi)	44	0.2594	0.2594	0.2594	0.7132	0.7132	0.7132
Running (g/mi)	45	0.2566	0.2566	0.2566	0.7161	0.7161	0.7161
Running (g/mi)	46	0.2536	0.2536	0.2536	0.7199	0.7199	0.7199
Running (g/mi)	47	0.2506	0.2506	0.2506	0.7235	0.7235	0.7235
Running (g/mi)	48	0.2478	0.2478	0.2478	0.7270	0.7270	0.7270
Running (g/mi)	49	0.2452	0.2452	0.2452	0.7305	0.7305	0.7305
Running (g/mi)	50	0.2428	0.2428	0.2428	0.7334	0.7334	0.7334
Running (g/mi)	51	0.2400	0.2400	0.2400	0.7378	0.7378	0.7378
Running (g/mi)	52	0.2377	0.2377	0.2377	0.7416	0.7416	0.7416
Running (g/mi)	53	0.2353	0.2353	0.2353	0.7454	0.7454	0.7454
Running (g/mi)	54	0.2329	0.2329	0.2329	0.7488	0.7488	0.7488
Running (g/mi)	55	0.2308	0.2308	0.2308	0.7525	0.7525	0.7525
Running (g/mi)	56	0.2293	0.2293	0.2293	0.7568	0.7568	0.7568
Running (g/mi)	57	0.2279	0.2279	0.2279	0.7608	0.7608	0.7608
Running (g/mi)	58	0.2263	0.2263	0.2263	0.7648	0.7648	0.7648
Running (g/mi)	59	0.2248	0.2248	0.2248	0.7684	0.7684	0.7684
Running (g/mi)	60	0.2237	0.2237	0.2237	0.7722	0.7722	0.7722
Running (g/mi)	61	0.2224	0.2224	0.2224	0.7765	0.7765	0.7765
Running (g/mi)	62	0.2214	0.2214	0.2214	0.7809	0.7809	0.7809
Running (g/mi)	63	0.2204	0.2204	0.2204	0.7850	0.7850	0.7850
Running (g/mi)	64	0.2194	0.2194	0.2194	0.7889	0.7889	0.7889
Running (g/mi)	65	0.2183	0.2183	0.2183	0.7928	0.7928	0.7928

Emission Type	VOC	NOx
Hot Start (g/trip)	0.2736	0.2132
Cold Start (g/trip)	1.6358	0.9905
Hot Soak Loss (g/trip end)	0.7096	

Table 7: 2015 Running, Cold Start, and Hot Soak Average Emissons Factors for "Commuter Vehicle" TERMs
(Mobile 6)

Average 2015 Emission Factors (gm/mi)							
Emission Type	Speed (mph)	Arterial	Freeway	Weighted Factor VOC	Arterial	Freeway	Weighted Factor NOx
		VOC		Arterial - 60% Freeway 40%	NOx		Arterial - 60% Freeway 40%
Running (g/mi)	1	1.8905	1.8905	1.8905	0.5405	0.5405	0.5405
Running (g/mi)	2	1.8905	1.8905	1.8905	0.5405	0.5405	0.5405
Running (g/mi)	3	1.4828	1.4827	1.4828	0.5137	0.5137	0.5137
Running (g/mi)	4	0.9733	0.9733	0.9733	0.4798	0.4798	0.4798
Running (g/mi)	5	0.6677	0.6677	0.6677	0.4598	0.4597	0.4598
Running (g/mi)	6	0.5530	0.5459	0.5502	0.4256	0.4058	0.4177
Running (g/mi)	7	0.4709	0.4592	0.4662	0.4013	0.3672	0.3877
Running (g/mi)	8	0.4097	0.3943	0.4035	0.3831	0.3382	0.3651
Running (g/mi)	9	0.3622	0.3437	0.3548	0.3691	0.3158	0.3478
Running (g/mi)	10	0.3237	0.3027	0.3153	0.3576	0.2976	0.3336
Running (g/mi)	11	0.2983	0.2761	0.2894	0.3406	0.2769	0.3151
Running (g/mi)	12	0.2769	0.2538	0.2677	0.3263	0.2596	0.2996
Running (g/mi)	13	0.2588	0.2349	0.2492	0.3143	0.2450	0.2866
Running (g/mi)	14	0.2431	0.2185	0.2333	0.3038	0.2323	0.2752
Running (g/mi)	15	0.2299	0.2045	0.2197	0.2950	0.2214	0.2656
Running (g/mi)	16	0.2164	0.1943	0.2076	0.2872	0.2220	0.2611
Running (g/mi)	17	0.2048	0.1854	0.1970	0.2800	0.2228	0.2571
Running (g/mi)	18	0.1943	0.1773	0.1875	0.2738	0.2233	0.2536
Running (g/mi)	19	0.1851	0.1703	0.1792	0.2683	0.2238	0.2505
Running (g/mi)	20	0.1764	0.1638	0.1714	0.2632	0.2243	0.2476
Running (g/mi)	21	0.1700	0.1593	0.1657	0.2587	0.2247	0.2451
Running (g/mi)	22	0.1644	0.1552	0.1607	0.2543	0.2248	0.2425
Running (g/mi)	23	0.1588	0.1514	0.1558	0.2505	0.2249	0.2403
Running (g/mi)	24	0.1540	0.1478	0.1515	0.2471	0.2253	0.2384
Running (g/mi)	25	0.1494	0.1447	0.1475	0.2438	0.2255	0.2365
Running (g/mi)	26	0.1454	0.1413	0.1438	0.2409	0.2255	0.2347
Running (g/mi)	27	0.1418	0.1385	0.1405	0.2379	0.2256	0.2330
Running (g/mi)	28	0.1381	0.1356	0.1371	0.2355	0.2257	0.2316
Running (g/mi)	29	0.1349	0.1330	0.1341	0.2332	0.2258	0.2302
Running (g/mi)	30	0.1319	0.1307	0.1314	0.2308	0.2258	0.2288
Running (g/mi)	31	0.1290	0.1282	0.1287	0.2292	0.2254	0.2277
Running (g/mi)	32	0.1265	0.1257	0.1262	0.2278	0.2250	0.2267
Running (g/mi)	33	0.1240	0.1234	0.1238	0.2266	0.2247	0.2258
Running (g/mi)	34	0.1216	0.1214	0.1215	0.2253	0.2245	0.2250
Running (g/mi)	35	0.1192	0.1192	0.1192	0.2241	0.2241	0.2241
Running (g/mi)	36	0.1177	0.1177	0.1177	0.2250	0.2250	0.2250
Running (g/mi)	37	0.1164	0.1164	0.1164	0.2257	0.2257	0.2257
Running (g/mi)	38	0.1151	0.1151	0.1151	0.2266	0.2266	0.2266
Running (g/mi)	39	0.1138	0.1138	0.1138	0.2274	0.2274	0.2274
Running (g/mi)	40	0.1124	0.1124	0.1124	0.2281	0.2281	0.2281
Running (g/mi)	41	0.1112	0.1112	0.1112	0.2293	0.2293	0.2293
Running (g/mi)	42	0.1099	0.1099	0.1099	0.2304	0.2304	0.2304
Running (g/mi)	43	0.1089	0.1089	0.1089	0.2314	0.2314	0.2314
Running (g/mi)	44	0.1077	0.1077	0.1077	0.2325	0.2325	0.2325
Running (g/mi)	45	0.1069	0.1069	0.1069	0.2336	0.2336	0.2336
Running (g/mi)	46	0.1058	0.1058	0.1058	0.2349	0.2349	0.2349
Running (g/mi)	47	0.1047	0.1047	0.1047	0.2362	0.2362	0.2362
Running (g/mi)	48	0.1037	0.1037	0.1037	0.2373	0.2373	0.2373
Running (g/mi)	49	0.1027	0.1027	0.1027	0.2383	0.2383	0.2383
Running (g/mi)	50	0.1021	0.1021	0.1021	0.2394	0.2394	0.2394
Running (g/mi)	51	0.1014	0.1014	0.1014	0.2408	0.2408	0.2408
Running (g/mi)	52	0.1008	0.1008	0.1008	0.2421	0.2421	0.2421
Running (g/mi)	53	0.1000	0.1000	0.1000	0.2436	0.2436	0.2436
Running (g/mi)	54	0.0993	0.0993	0.0993	0.2447	0.2447	0.2447
Running (g/mi)	55	0.0988	0.0988	0.0988	0.2458	0.2458	0.2458
Running (g/mi)	56	0.0988	0.0988	0.0988	0.2473	0.2473	0.2473
Running (g/mi)	57	0.0988	0.0988	0.0988	0.2486	0.2486	0.2486
Running (g/mi)	58	0.0986	0.0986	0.0986	0.2499	0.2499	0.2499
Running (g/mi)	59	0.0987	0.0987	0.0987	0.2513	0.2513	0.2513
Running (g/mi)	60	0.0983	0.0983	0.0983	0.2524	0.2524	0.2524
Running (g/mi)	61	0.0985	0.0985	0.0985	0.2540	0.2540	0.2540
Running (g/mi)	62	0.0985	0.0985	0.0985	0.2553	0.2553	0.2553
Running (g/mi)	63	0.0986	0.0986	0.0986	0.2568	0.2568	0.2568
Running (g/mi)	64	0.0985	0.0985	0.0985	0.2582	0.2582	0.2582
Running (g/mi)	65	0.0986	0.0986	0.0986	0.2592	0.2592	0.2592

Emission Type	VOC	NOx
Hot Start (g/trip)	0.1172	0.0854
Cold Start (g/trip)	0.6682	0.3823
Hot Soak Loss (g/trip end)	0.3425	0.0000

Table 8: 2025 Running, Cold Start, and Hot Soak Average Emissons Factors for "Commuter Vehicle" TERMs
(Mobile 6)

Average 2030 Emission Factors (gm/mi)							
Emission Type	Speed (mph)	Arterial	Freeway	Weighted Factor VOC	Arterial	Freeway	Weighted Factor NOx
		VOC		Arterial - 60% Freeway 40%	NOx		Arterial - 60% Freeway 40%
Running (g/mi)	1	1.5513	1.5513	1.5513	0.3429	0.3429	0.3429
Running (g/mi)	2	1.5513	1.5513	1.5513	0.3429	0.3429	0.3429
Running (g/mi)	3	1.2175	1.2175	1.2175	0.3258	0.3257	0.3258
Running (g/mi)	4	0.7998	0.7998	0.7998	0.3040	0.3040	0.3040
Running (g/mi)	5	0.5492	0.5492	0.5492	0.2910	0.2910	0.2910
Running (g/mi)	6	0.4554	0.4500	0.4532	0.2690	0.2558	0.2637
Running (g/mi)	7	0.3884	0.3787	0.3845	0.2530	0.2307	0.2441
Running (g/mi)	8	0.3381	0.3256	0.3331	0.2413	0.2118	0.2295
Running (g/mi)	9	0.2989	0.2840	0.2929	0.2321	0.1973	0.2182
Running (g/mi)	10	0.2674	0.2509	0.2608	0.2245	0.1854	0.2089
Running (g/mi)	11	0.2464	0.2293	0.2396	0.2136	0.1720	0.1970
Running (g/mi)	12	0.2287	0.2105	0.2214	0.2043	0.1605	0.1868
Running (g/mi)	13	0.2139	0.1949	0.2063	0.1967	0.1510	0.1784
Running (g/mi)	14	0.2013	0.1816	0.1934	0.1898	0.1428	0.1710
Running (g/mi)	15	0.1899	0.1699	0.1819	0.1840	0.1358	0.1647
Running (g/mi)	16	0.1789	0.1613	0.1719	0.1790	0.1363	0.1619
Running (g/mi)	17	0.1691	0.1536	0.1629	0.1742	0.1368	0.1592
Running (g/mi)	18	0.1602	0.1468	0.1548	0.1702	0.1373	0.1570
Running (g/mi)	19	0.1521	0.1406	0.1475	0.1667	0.1376	0.1551
Running (g/mi)	20	0.1453	0.1350	0.1412	0.1634	0.1379	0.1532
Running (g/mi)	21	0.1398	0.1312	0.1364	0.1605	0.1383	0.1516
Running (g/mi)	22	0.1352	0.1278	0.1322	0.1577	0.1383	0.1499
Running (g/mi)	23	0.1306	0.1246	0.1282	0.1553	0.1386	0.1486
Running (g/mi)	24	0.1267	0.1217	0.1247	0.1529	0.1386	0.1472
Running (g/mi)	25	0.1230	0.1189	0.1214	0.1509	0.1388	0.1461
Running (g/mi)	26	0.1196	0.1163	0.1183	0.1490	0.1388	0.1449
Running (g/mi)	27	0.1166	0.1136	0.1154	0.1472	0.1389	0.1439
Running (g/mi)	28	0.1136	0.1115	0.1128	0.1455	0.1391	0.1429
Running (g/mi)	29	0.1108	0.1091	0.1101	0.1439	0.1393	0.1421
Running (g/mi)	30	0.1083	0.1072	0.1079	0.1426	0.1393	0.1413
Running (g/mi)	31	0.1059	0.1050	0.1055	0.1416	0.1388	0.1405
Running (g/mi)	32	0.1037	0.1030	0.1034	0.1406	0.1386	0.1398
Running (g/mi)	33	0.1016	0.1012	0.1014	0.1396	0.1384	0.1391
Running (g/mi)	34	0.0995	0.0994	0.0995	0.1388	0.1383	0.1386
Running (g/mi)	35	0.0978	0.0978	0.0978	0.1380	0.1380	0.1380
Running (g/mi)	36	0.0963	0.0963	0.0963	0.1386	0.1386	0.1386
Running (g/mi)	37	0.0953	0.0953	0.0953	0.1393	0.1393	0.1393
Running (g/mi)	38	0.0939	0.0939	0.0939	0.1396	0.1396	0.1396
Running (g/mi)	39	0.0929	0.0929	0.0929	0.1403	0.1403	0.1403
Running (g/mi)	40	0.0917	0.0917	0.0917	0.1408	0.1408	0.1408
Running (g/mi)	41	0.0907	0.0907	0.0907	0.1416	0.1416	0.1416
Running (g/mi)	42	0.0896	0.0896	0.0896	0.1423	0.1423	0.1423
Running (g/mi)	43	0.0888	0.0888	0.0888	0.1431	0.1431	0.1431
Running (g/mi)	44	0.0876	0.0876	0.0876	0.1438	0.1438	0.1438
Running (g/mi)	45	0.0868	0.0868	0.0868	0.1445	0.1445	0.1445
Running (g/mi)	46	0.0859	0.0859	0.0859	0.1453	0.1453	0.1453
Running (g/mi)	47	0.0853	0.0853	0.0853	0.1461	0.1461	0.1461
Running (g/mi)	48	0.0846	0.0846	0.0846	0.1468	0.1468	0.1468
Running (g/mi)	49	0.0836	0.0836	0.0836	0.1478	0.1478	0.1478
Running (g/mi)	50	0.0830	0.0830	0.0830	0.1485	0.1485	0.1485
Running (g/mi)	51	0.0823	0.0823	0.0823	0.1493	0.1493	0.1493
Running (g/mi)	52	0.0821	0.0821	0.0821	0.1503	0.1503	0.1503
Running (g/mi)	53	0.0815	0.0815	0.0815	0.1511	0.1511	0.1511
Running (g/mi)	54	0.0812	0.0812	0.0812	0.1519	0.1519	0.1519
Running (g/mi)	55	0.0805	0.0805	0.0805	0.1528	0.1528	0.1528
Running (g/mi)	56	0.0806	0.0806	0.0806	0.1538	0.1538	0.1538
Running (g/mi)	57	0.0805	0.0805	0.0805	0.1547	0.1547	0.1547
Running (g/mi)	58	0.0808	0.0808	0.0808	0.1555	0.1555	0.1555
Running (g/mi)	59	0.0808	0.0808	0.0808	0.1563	0.1563	0.1563
Running (g/mi)	60	0.0808	0.0808	0.0808	0.1572	0.1572	0.1572
Running (g/mi)	61	0.0810	0.0810	0.0810	0.1582	0.1582	0.1582
Running (g/mi)	62	0.0810	0.0810	0.0810	0.1591	0.1591	0.1591
Running (g/mi)	63	0.0813	0.0813	0.0813	0.1600	0.1600	0.1600
Running (g/mi)	64	0.0813	0.0813	0.0813	0.1608	0.1608	0.1608
Running (g/mi)	65	0.0815	0.0815	0.0815	0.1617	0.1617	0.1617

Emission Type	VOC	NOx
Hot Start (g/trip)	0.0879	0.0449
Cold Start (g/trip)	0.4902	0.1929
Hot Soak Loss (g/trip end)	0.1982	0.0000

Table 9: 2030 Running, Cold Start, and Hot Soak Average Emissons Factors for "Commuter Vehicle" TERMs (Mobile 6)

Average 2030 Emission Factors (gm/mi)							
Emission Type	Speed (mph)	Arterial	Freeway	Weighted Factor VOC	Arterial	Freeway	Weighted Factor NOx
		VOC		Arterial - 60% Freeway 40%	NOx		Arterial - 60% Freeway 40%
Running (g/mi)	1	1.5376	1.5376	1.5376	0.3283	0.3283	0.3283
Running (g/mi)	2	1.5376	1.5376	1.5376	0.3283	0.3283	0.3283
Running (g/mi)	3	1.2062	1.2062	1.2062	0.3117	0.3117	0.3117
Running (g/mi)	4	0.7917	0.7917	0.7917	0.2910	0.2910	0.2910
Running (g/mi)	5	0.5431	0.5431	0.5431	0.2788	0.2788	0.2788
Running (g/mi)	6	0.4501	0.4448	0.4480	0.2573	0.2448	0.2523
Running (g/mi)	7	0.3836	0.3745	0.3800	0.2420	0.2206	0.2334
Running (g/mi)	8	0.3338	0.3219	0.3290	0.2306	0.2025	0.2194
Running (g/mi)	9	0.2950	0.2810	0.2894	0.2219	0.1883	0.2085
Running (g/mi)	10	0.2641	0.2480	0.2577	0.2146	0.1772	0.1996
Running (g/mi)	11	0.2435	0.2265	0.2367	0.2041	0.1642	0.1881
Running (g/mi)	12	0.2260	0.2081	0.2188	0.1952	0.1534	0.1785
Running (g/mi)	13	0.2113	0.1929	0.2039	0.1878	0.1441	0.1703
Running (g/mi)	14	0.1988	0.1796	0.1911	0.1813	0.1363	0.1633
Running (g/mi)	15	0.1877	0.1681	0.1799	0.1757	0.1295	0.1572
Running (g/mi)	16	0.1768	0.1594	0.1698	0.1707	0.1298	0.1543
Running (g/mi)	17	0.1671	0.1520	0.1611	0.1665	0.1305	0.1521
Running (g/mi)	18	0.1579	0.1451	0.1528	0.1625	0.1308	0.1498
Running (g/mi)	19	0.1504	0.1390	0.1458	0.1590	0.1311	0.1478
Running (g/mi)	20	0.1432	0.1336	0.1394	0.1559	0.1316	0.1462
Running (g/mi)	21	0.1382	0.1296	0.1348	0.1530	0.1318	0.1445
Running (g/mi)	22	0.1334	0.1262	0.1305	0.1503	0.1318	0.1429
Running (g/mi)	23	0.1290	0.1229	0.1266	0.1481	0.1319	0.1416
Running (g/mi)	24	0.1251	0.1202	0.1231	0.1461	0.1321	0.1405
Running (g/mi)	25	0.1213	0.1174	0.1197	0.1441	0.1324	0.1394
Running (g/mi)	26	0.1181	0.1149	0.1168	0.1422	0.1324	0.1383
Running (g/mi)	27	0.1150	0.1123	0.1139	0.1403	0.1324	0.1371
Running (g/mi)	28	0.1122	0.1100	0.1113	0.1388	0.1325	0.1363
Running (g/mi)	29	0.1094	0.1076	0.1087	0.1372	0.1325	0.1353
Running (g/mi)	30	0.1069	0.1059	0.1065	0.1358	0.1327	0.1346
Running (g/mi)	31	0.1044	0.1037	0.1041	0.1348	0.1324	0.1338
Running (g/mi)	32	0.1023	0.1016	0.1020	0.1339	0.1321	0.1332
Running (g/mi)	33	0.1001	0.0998	0.1000	0.1331	0.1318	0.1326
Running (g/mi)	34	0.0982	0.0979	0.0981	0.1323	0.1318	0.1321
Running (g/mi)	35	0.0963	0.0963	0.0963	0.1314	0.1314	0.1314
Running (g/mi)	36	0.0950	0.0950	0.0950	0.1321	0.1321	0.1321
Running (g/mi)	37	0.0938	0.0938	0.0938	0.1328	0.1328	0.1328
Running (g/mi)	38	0.0926	0.0926	0.0926	0.1333	0.1333	0.1333
Running (g/mi)	39	0.0915	0.0915	0.0915	0.1338	0.1338	0.1338
Running (g/mi)	40	0.0905	0.0905	0.0905	0.1343	0.1343	0.1343
Running (g/mi)	41	0.0893	0.0893	0.0893	0.1349	0.1349	0.1349
Running (g/mi)	42	0.0882	0.0882	0.0882	0.1358	0.1358	0.1358
Running (g/mi)	43	0.0873	0.0873	0.0873	0.1364	0.1364	0.1364
Running (g/mi)	44	0.0864	0.0864	0.0864	0.1371	0.1371	0.1371
Running (g/mi)	45	0.0853	0.0853	0.0853	0.1378	0.1378	0.1378
Running (g/mi)	46	0.0846	0.0846	0.0846	0.1387	0.1387	0.1387
Running (g/mi)	47	0.0838	0.0838	0.0838	0.1394	0.1394	0.1394
Running (g/mi)	48	0.0832	0.0832	0.0832	0.1403	0.1403	0.1403
Running (g/mi)	49	0.0823	0.0823	0.0823	0.1408	0.1408	0.1408
Running (g/mi)	50	0.0817	0.0817	0.0817	0.1417	0.1417	0.1417
Running (g/mi)	51	0.0811	0.0811	0.0811	0.1427	0.1427	0.1427
Running (g/mi)	52	0.0807	0.0807	0.0807	0.1436	0.1436	0.1436
Running (g/mi)	53	0.0803	0.0803	0.0803	0.1443	0.1443	0.1443
Running (g/mi)	54	0.0798	0.0798	0.0798	0.1451	0.1451	0.1451
Running (g/mi)	55	0.0793	0.0793	0.0793	0.1458	0.1458	0.1458
Running (g/mi)	56	0.0794	0.0794	0.0794	0.1468	0.1468	0.1468
Running (g/mi)	57	0.0793	0.0793	0.0793	0.1478	0.1478	0.1478
Running (g/mi)	58	0.0795	0.0795	0.0795	0.1486	0.1486	0.1486
Running (g/mi)	59	0.0794	0.0794	0.0794	0.1494	0.1494	0.1494
Running (g/mi)	60	0.0795	0.0795	0.0795	0.1503	0.1503	0.1503
Running (g/mi)	61	0.0797	0.0797	0.0797	0.1512	0.1512	0.1512
Running (g/mi)	62	0.0797	0.0797	0.0797	0.1522	0.1522	0.1522
Running (g/mi)	63	0.0800	0.0800	0.0800	0.1530	0.1530	0.1530
Running (g/mi)	64	0.0800	0.0800	0.0800	0.1538	0.1538	0.1538
Running (g/mi)	65	0.0801	0.0801	0.0801	0.1547	0.1547	0.1547

Emission Type	VOC	NOx
Hot Start (g/trip)	0.0852	0.0405
Cold Start (g/trip)	0.4718	0.1714
Hot Soak Loss (g/trip end)	0.1992	0

Table 10: Regional Diesel Bus Emission Factors (2005)

		Diesel Bus Emission Factors (grams/mile)			
	Speed	School Bus		Transit Bus	
Road Type	(mph)	VOC	NOx	VOC	NOx
Arterial/Freeway	1	2.0046	19.3472	1.6804	28.3360
Arterial/Freeway	2	2.0046	19.3472	1.6804	28.3360
Arterial/Freeway	3	1.9235	18.6849	1.6125	27.3633
Arterial/Freeway	4	1.8223	17.8571	1.5276	26.1474
Arterial/Freeway	5	1.7615	17.3604	1.4766	25.4179
Arterial/Freeway	6	1.6353	16.3583	1.3708	23.9462
Arterial/Freeway	7	1.5452	15.6425	1.2953	22.8950
Arterial/Freeway	8	1.4775	15.1057	1.2386	22.1065
Arterial/Freeway	9	1.4250	14.6881	1.1945	21.4933
Arterial/Freeway	10	1.3829	14.3541	1.1593	21.0028
Arterial/Freeway	11	1.3084	13.7936	1.0968	20.1796
Arterial/Freeway	12	1.2463	13.3265	1.0448	19.4936
Arterial/Freeway	13	1.1938	12.9313	1.0008	18.9131
Arterial/Freeway	14	1.1488	12.5925	0.9630	18.4156
Arterial/Freeway	15	1.1098	12.2990	0.9303	17.9844
Arterial/Freeway	16	1.0600	11.9550	0.8885	17.4793
Arterial/Freeway	17	1.0160	11.6516	0.8517	17.0336
Arterial/Freeway	18	0.9769	11.3818	0.8189	16.6374
Arterial/Freeway	19	0.9419	11.1405	0.7896	16.2830
Arterial/Freeway	20	0.9104	10.9233	0.7632	15.9640
Arterial/Freeway	21	0.8755	10.7174	0.7339	15.6617
Arterial/Freeway	22	0.8437	10.5303	0.7072	15.3869
Arterial/Freeway	23	0.8146	10.3595	0.6829	15.1359
Arterial/Freeway	24	0.7880	10.2028	0.6606	14.9059
Arterial/Freeway	25	0.7635	10.0588	0.6400	14.6943
Arterial/Freeway	26	0.7384	9.9543	0.6190	14.5409
Arterial/Freeway	27	0.7151	9.8575	0.5994	14.3988
Arterial/Freeway	28	0.6935	9.7677	0.5813	14.2668
Arterial/Freeway	29	0.6733	9.6841	0.5644	14.1440
Arterial/Freeway	30	0.6545	9.6060	0.5487	14.0293
Arterial/Freeway	31	0.6363	9.5854	0.5334	13.9991
Arterial/Freeway	32	0.6191	9.5661	0.5190	13.9708
Arterial/Freeway	33	0.6030	9.5480	0.5055	13.9442
Arterial/Freeway	34	0.5879	9.5310	0.4928	13.9192
Arterial/Freeway	35	0.5736	9.5149	0.4808	13.8956
Arterial/Freeway	36	0.5603	9.5728	0.4697	13.9807
Arterial/Freeway	37	0.5478	9.6276	0.4592	14.0611
Arterial/Freeway	38	0.5359	9.6796	0.4492	14.1374
Arterial/Freeway	39	0.5246	9.7288	0.4397	14.2097
Arterial/Freeway	40	0.5138	9.7756	0.4308	14.2785
Arterial/Freeway	41	0.5043	9.9163	0.4228	14.4851
Arterial/Freeway	42	0.4953	10.0503	0.4152	14.6819
Arterial/Freeway	43	0.4867	10.1781	0.4080	14.8696
Arterial/Freeway	44	0.4784	10.3000	0.4011	15.0487
Arterial/Freeway	45	0.4706	10.4166	0.3945	15.2198
Arterial/Freeway	46	0.4640	10.6542	0.3890	15.5689
Arterial/Freeway	47	0.4578	10.8818	0.3837	15.9031
Arterial/Freeway	48	0.4518	11.0999	0.3787	16.2233
Arterial/Freeway	49	0.4460	11.3090	0.3739	16.5305
Arterial/Freeway	50	0.4405	11.5098	0.3693	16.8254
Arterial/Freeway	51	0.4364	11.8710	0.3658	17.3559
Arterial/Freeway	52	0.4325	12.2184	0.3625	17.8661
Arterial/Freeway	53	0.4287	12.5526	0.3594	18.3569
Arterial/Freeway	54	0.4251	12.8744	0.3563	18.8296
Arterial/Freeway	55	0.4215	13.1846	0.3534	19.2851
Arterial/Freeway	56	0.4196	13.7135	0.3517	20.0620
Arterial/Freeway	57	0.4177	14.2239	0.3501	20.8116
Arterial/Freeway	58	0.4159	14.7167	0.3486	21.5353
Arterial/Freeway	59	0.4141	15.1928	0.3471	22.2345
Arterial/Freeway	60	0.4124	15.6530	0.3457	22.9104
Arterial/Freeway	61	0.4124	16.4208	0.3457	24.0380
Arterial/Freeway	62	0.4124	17.1637	0.3457	25.1291
Arterial/Freeway	63	0.4124	17.8831	0.3457	26.1856
Arterial/Freeway	64	0.4124	18.5800	0.3457	27.2091
Arterial/Freeway	65	0.4124	19.2554	0.3457	28.2011
Ramp	34.6	0.5792	9.7966	0.4855	14.3879
Local	12.9	1.2140	13.0666	1.0176	19.1118

Also for use in the emissions reduction calculations are average weighted speed by time period for 2005, shown in Table 11 below. The 24 hour average weighted speed for 2005 is 41 miles per hour and would be used for TERMs affecting traffic stream. For commute vehicle TERMs, 40 mph peak period average speed will be used. Please express reductions of VOC and NOX for all years in both kilograms per day and tons per day using a conversion factor of .0011 (# of kg reduced X .0011 = # of tons reduced).

Table 11: Average Weighted Speed by Time Period

Time	2005
12-1	48
1-2	49
2-3	49
3-4	49
4-5	48
5-6	45
6-7	41
7-8	38
8-9	39
9-10	41
10-11	43
11-12	42
12-1 PM	40
1-2 PM	42
2-3 PM	42
3-4 PM	41
4-5 PM	40
5-6 PM	39
6-7 PM	40
7-8 PM	42
8-9 PM	43
9-10 PM	44
10-11 PM	45
11-12 MID	45
24 Hour Avg	41

Table 12: Mobile 6 Vehicle Classifications

Number	*Abbreviation*	*Description*
1	LDGV	Light-Duty Gasoline Vehicles (Passenger Cars)
2	LDGT1	Light-Duty Gasoline Trucks 1 (0-6,000 lbs. GVWR, 0-3,750 lbs. LVW)
3	LDGT2	Light-Duty Gasoline Trucks 2 (0-6,000 lbs. GVWR, 3,751-5,750 lbs. LVW)
4	LDGT3	Light-Duty Gasoline Trucks 3 (6,001-8,500 lbs. GVWR, 0-5,750 lbs. ALVW)
5	LDGT4	Light-Duty Gasoline Trucks 4 (6,001-8,500 lbs. GVWR, 5,751 lbs. and greater ALVW)
6	HDGV2b	Class 2b Heavy-Duty Gasoline Vehicles (8,501-10,000 lbs. GVWR)
7	HDGV3	Class 3 Heavy-Duty Gasoline Vehicles (10,001-14,000 lbs. GVWR)
8	HDGV4	Class 4 Heavy-Duty Gasoline Vehicles (14,001-16,000 lbs. GVWR)
9	HDGV5	Class 5 Heavy-Duty Gasoline Vehicles (16,001-19,500 lbs. GVWR)
10	HDGV6	Class 6 Heavy-Duty Gasoline Vehicles (19,501-26,000 lbs. GVWR)
11	HDGV7	Class 7 Heavy-Duty Gasoline Vehicles (26,001-33,000 lbs. GVWR)
12	HDGV8a	Class 8a Heavy-Duty Gasoline Vehicles (33,001-60,000 lbs. GVWR)
13	HDGV8b	Class 8b Heavy-Duty Gasoline Vehicles (>60,000 lbs. GVWR)
14	LDDV	Light-Duty Diesel Vehicles (Passenger Cars)
15	LDDT12	Light-Duty Diesel Trucks 1and 2 (0-6,000 lbs. GVWR)
16	HDDV2b	Class 2b Heavy-Duty Diesel Vehicles (8,501-10,000 lbs. GVWR)
17	HDDV3	Class 3 Heavy-Duty Diesel Vehicles (10,001-14,000 lbs. GVWR)
18	HDDV4	Class 4 Heavy-Duty Diesel Vehicles (14,001-16,000 lbs. GVWR)
19	HDDV5	Class 5 Heavy-Duty Diesel Vehicles (16,001-19,500 lbs. GVWR)
20	HDDV6	Class 6 Heavy-Duty Diesel Vehicles (19,501-26,000 lbs. GVWR)
21	HDDV7	Class 7 Heavy-Duty Diesel Vehicles (26,001-33,000 lbs. GVWR)
22	HDDV8a	Class 8a Heavy-Duty Diesel Vehicles (33,001-60,000 lbs. GVWR)
23	HDDV8b	Class 8b Heavy-Duty Diesel Vehicles (>60,000 lbs. GVWR)
24	MC	Motorcycles (Gasoline)
25	HDGB	Gasoline Buses (School, Transit and Urban)
26	HDDBT	Diesel Transit and Urban Buses
27	HDDBS	Diesel School Buses
28	LDDT34	Light-Duty Diesel Trucks 3 and 4 (6,001-8,500 lbs. GVWR)

COST EFFECTIVENESS ESTIMATION PROCEDURES

Consistency between programming agencies in assumptions and methodology for effectiveness estimations is critical for meaningful comparison of different projects around the region. Therefore, please use the following guidelines when calculating the cost effectiveness of your TERM projects. When determining the cost effectiveness, capital costs, operating costs, and revenues should be considered. Projects should be expressed in dollars per ton of reduction for both VOC and NOX. Please use the following series of formulas to compute cost effectiveness:

A. Total Project Cost = Capital Costs + Operating Costs - (Revenues + Resale Value) (if significant)

B. Cost Per Day = $\frac{\text{Total Project Cost}}{\text{Benefit Days Per Year X Lifespan}}$

C. Cost Per Ton = Cost Per Day / Tons VOC or NOX Reduced Per Day

Where:

Benefit Days Per Year = 250 for projects mostly related to work travel (i.e., commuter lots, ridesharing)

365 for projects relating to all travel (e.g. roadway signal systems)

Lifespan[1] = 30 years for park and ride lot (construction)
100years for park and ride lot land (right-of-way)
20 years for roadways
30 years for bridges
12 years for roadway signal systems
20 years for rail signalization
35 years for structures (i.e., garages)
12 years for buses
35 years for railcars
30 years for locomotives
10 years for sidewalks

[1] These lifespan values were provided by various transit and highway agencies and consultants. If lifespan values necessary for the cost/benefit calculation of any TERM projects are not provided, please contact Daivamani Sivasailam at (202) 962-3226.

EXAMPLE OF A COMMUTING VEHICLE TRIP TERM ANALYSIS

Construction of 1300 additional Parking Spaces at Grosvenor Metro Garage

(example of "Commuting Vehicle Trips" TERM analysis)

Description: 1,300 parking spaces will be constructed at Grosvenor Metro station. The garages at Metrorail stations are currently experiencing full utilization of all existing parking capacity on a daily basis.

Analysis Tool: Sketch Planning

Assumptions:

- Montgomery County will build 1,300 additional parking spaces at Grosvenor Metro station to increase capacity at the station. Funding is estimated at $2.117 million dollars.
- New trips generated due to additional parking spaces will be 2/3 of new spaces.
- Average one-way trip length reduced will be 15.5 miles.
- No cold start benefit, as autos will drive to station.
- NOx & VOC estimation using Mobile 6 Emissions factors.

Summary Impacts for 4 Parking Garages at Metrorail Stations (2005):

Daily VT Reduction:	-	VT
Daily VMT Reduction:	26,846	VMT
Daily NOx Reductions:	0.0207	tons/day
Daily VOC Reductions:	0.0080	tons/day

Emission Impacts for (2005):

1,300 additional spaces

Trip length: 15.5 mile x 2 = 31 mi round trip

2/3 new trips = 866 trips

866 x 31 miles = 26,846 VMT

Daily NOx & VOC emission reductions (2005):

$$\text{Cold Start} \quad 0 \times \frac{0.9905 \text{ grs}}{1 \text{ mi}} \times \frac{1 \text{ ton}}{907{,}185 \text{ grs}} = 0.00000 \text{ tons}$$

Running	26,846	x	0.6995 grs / 1 mi	x	1 ton / 907,185	=	0.0207	tons
					Total		0.0207	tons
VOC								
Cold Start	0	x	2.3454 grs / 1 mi	x	1 ton / 907,185 grs	=	0.00000	tons
Running	26,846	x	0.2717 grs / 1 mi	x	1 ton / 907,185	=	0.0080	tons
					Total		0.0080	tons

Cost for garages $2.177 million

Lifespan: 30 years

Cost Effectiveness (2005):

$$\text{NOx} = \frac{\$2.177 \text{ million}}{250 \text{ days} \times 30 \text{ yr} \times 0.0207 \text{ t/d}} = \$14{,}022/\text{ ton}$$

$$\text{VOC} = \frac{\$2.177 \text{ million}}{250 \text{ days} \times 30 \text{ yr} \times 0.008 \text{ t/d}} = \$36{,}283/\text{ ton}$$

APPENDIX B: TRANSPORTATION EMISSION REDUCTION MEASURE (TERM) REPORTING

TERM REPORTING

Federal regulations require the timely implementation of TERMs (CMAQ funded, non-CMAQ funded and NOx mitigation measures). If the implementation of programmed TERMs falls behind schedule, the regulations state "that all State and local agencies with influence over approvals of funding for TERMs [should give] maximum priority to approval or funding of TERMs over other projects within their control". To address these requirements, please provide a brief statement describing the status of each TERM programmed in previous TIPs. This applies to those projects not yet fully implemented and reported as such in the TERM tracking sheet developed as part of the 2003 CLRP and FY 2004-2009 TIP. Include any changes in the scheduling or implementation of these TERMs. Your submissions will be used to update the "TERM Tracking Sheet". For information purposes, the "TERM Tracking Sheet" is attached.

PREVIOUSLY IMPLEMENTED TERMs

TRANSPORTATION EMISSION REDUCTION MEASURES (TIP)

Credited in Air Quality Conformity Analyses (calendar years 1993-2002)

(TRACKING SHEET)

* Project Category: TR - Traffic Stream, C - Commute, H - Heavy Duty Vehicles (Engine Technology), SP- Specific Vehicle Type, TCM - Transportation Control Measures

					IMPLEMENTATION STATUS				ORIGINAL	ACTUAL	TONS/DAY REDUCTION CREDITED								
	CREDIT	TIP				SCALED-	UNDER-		COMPLETION	COMPLETION	2005		2015		2025		2030		Project
	TAKEN	CREDITED	AGENCY	PROJECT	FULL	BACK	WAY	REMOVED	DATE	DATE	VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	Category *
1	X	1994-99 TIP	MDOT	Signal Systems - MD 3, MD 450 to Waugh Chapel	X				1994	1996	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	TR
2	X	1994-99 TIP	MDOT	Signal Systems - MD 450, 56th to MD 564	X				1994	1998	0.003	-0.003	0.0014	-0.0014	0.0012	-0.0008	0.0012	-0.0007	TR
3	X	1994-99 TIP	MDOT	Signal Systems - MD 193, Rhode Island to Hanover	X				1994	1998	0.002	-0.003	0.0009	-0.0014	0.0008	-0.0004	0.0008	-0.0003	TR
4	X	1994-99 TIP	MDOT	Signal Systems - MD 197, S. Laurel to Clubhouse	X				1994	1998	0.002	-0.002	0.0005	-0.0007	0.0000	-0.0004	0.0000	-0.0003	TR
5	X	1994-99 TIP	MDOT	Signal Systems - MD 5, 15th to Metzerott	X				1994	1997	0.002	-0.002	0.0009	-0.0007	0.0008	-0.0004	0.0008	-0.0003	TR
6	X	1994-99 TIP	MDOT	Signal Systems - Marlow Heights to MD 637	X				1994	1998	0.001	-0.002	0.0005	-0.0007	0.0004	-0.0004	0.0004	-0.0003	TR
7		1994-99 TIP	MDOT	Safety and Geometric Improvements				X	1994	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-
8		1994-99 TIP	MDOT	Park & Ride Lot - MD 355/ MD 187				X	1993	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-
9	X	1994-99 TIP	MDOT	Park & Ride Lot - MD 210/ MD 373			X		2000	2003	0.001	0.003	0.0005	0.0013	0.0004	0.0006	0.0004	0.0006	C
11		1994-99 TIP	MDOT	Germantown Garage Parking Exp. (add 1000 spaces)				X		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-
12	X	1994-99 TIP	VDOT	Signal Systems	X				1994	97-00	0.437	-0.322	0.2074	-0.1357	0.1551	-0.0722	0.1525	-0.0655	TR
14	X	1994-99 TIP	VDOT	Ridesharing (Regional & PRTC)			X			ongoing	0.061	0.141	0.0289	0.0672	0.0217	0.0424	0.0213	0.0402	C
15	X	1994-99 TIP	LOUD	VA 28 Corridor Park & Ride Lot (add 100 spaces)	X				1995	1995	0.001	0.003	0.0005	0.0013	0.0004	0.0009	0.0004	0.0009	C
16	X	1994-99 TIP	PRTC	VRE Signalization	X					Summer 97	0.007	0.021	0.0033	0.0099	0.0024	0.0069	0.0023	0.0065	C
17	X	1994-99 TIP	PRTC	VRE Locomotive Purchase (2)	X				1994	1995	0.018	0.048	0.0084	0.0233	0.0063	0.0159	0.0062	0.0151	C
18	X	1994-99 TIP	PRTC	PRTC Feeder Vehicle Purchase	X				1994	1994	0.009	0.017	0.0042	0.0081	0.0031	0.0056	0.0031	0.0053	C
19		1994-99 TIP	PRTC	VRE Woodbridge Parking Expansion (add 500 spaces)				X			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-
20	X	1994-99 TIP	ALEX	King St. Metrorail access improvements			X			n/a	0.002	0.003	0.0009	0.0013	0.0008	0.0009	0.0008	0.0009	C
21	X	1994-99 TIP	WMATA	WMATA Bus Replacement (45 buses)	X				1995	1995	0.017	0.065	0.000	0.000	0.000	0.000	0.0000	0.0000	SP
22		1995-00 TIP	MDOT	Park & Ride Lot - I-70 at Walser Dr. (new, 900+ spaces)				X	1997	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-
23		1995-00 TIP	MDOT	Park & Ride Lot - MD 117/ MD 118 (new, 75 spaces)				X	1996	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-
24		1995-00 TIP	MDOT	Park & Ride Lot - I-270/ MD 80 (add 100 spaces)				X	1996	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-
25	X	1995-00 TIP	MDOT	Park & Ride Lot - Brunswick MARC (add 300 spaces)	X					1999	0.010	0.029	0.0047	0.0143	0.0031	0.0090	0.0031	0.0290	C
26	X	1995-00 TIP	MDOT	Signal Systems - MD 202, 57th Ave. to Fire House Rd.	X				1995	1996							0.0000	0.0000	TR
27	X	1995-00 TIP	MDOT	Signal Systems - MD 4, Forestville Rd. to Shadyside Dr.	X				1995	1998							0.0000	0.0000	TR
28	X	1995-00 TIP	MDOT	Signal Systems - US 1, Ritz Way to Murkirk Rd.	X				1995	1997							0.0000	0.0000	TR
29	X	1995-00 TIP	MDOT	Signal Systems - MD 193, Hanover Pkwy to Prospect Hill Rd.	X				1995	1996							0.0000	0.0000	TR
30	X	1995-00 TIP	MDOT	Signal Systems - MD 212, Cherry Hill Rd. to Old Gunpdr. Rd.	X				1995	1996							0.0000	0.0000	TR
31	X	1995-00 TIP	MDOT	Signal Systems - MD 198, Van Dusen Rd. to US 1	X				1995	1998							0.0000	0.0000	TR
32		1995-00 TIP	MDOT	Signal Systems - MD 450, MD 197 to Race Track Rd.	X				1995	2000									TR
33		1995-00 TIP	MDOT	Signal Systems - MD 450, MD 564 to Carter Ave.				X	1995	n/a							n/a	n/a	-
34		1995-00 TIP	MDOT	Signal Systems - MD 450, US 1 Alt. to MD 202			X		1995	n/a							0.0000	0.0000	TR
35		1995-00 TIP	MDOT	Signal Systems - MD 458, MD 414 to Walker Mill Rd.				X	1995	n/a							n/a	n/a	-
36	X	1995-00 TIP	MDOT	Signal Systems - MD 214, MD 193 to Campus Way	X				1996	1996							0.0000	0.0000	TR
37		1995-00 TIP	MDOT	Signal Systems - MD 223, Steed Rd. to Dangerfield Rd.				X	1996	n/a							n/a	n/a	TR
38	X	1995-00 TIP	MDOT	Signal Systems - MD 85 Executive Way to MD 355			X		1996	n/a							0.0000	0.0000	TR
39	X	1995-00 TIP	MDOT	Signal Systems - MD 355 ,I-70 ramps to Grove Rd.			X		1996	n/a							0.0000	0.0000	TR
40	X	1995-00 TIP	MDOT	Signal Systems - US 301, Excalibur Rd. to Governor Bridge	X				1996	1996							0.0000	0.0000	TR
41	X	1995-00 TIP	MDOT	Signal Systems - US 301, MD 382 to Rosaryville Rd.	X				1996	1996							0.0000	0.0000	TR
42		1995-00 TIP	MDOT	Signal Systems - MD 650, Sheridan St. to Metzerott Rd.				X	1996	n/a							n/a	n/a	-
43		1995-00 TIP	MDOT	Signal Systems - MD 410, MD 212, to Taylor Ave.				X	1996	n/a							n/a	n/a	-
44		1995-00 TIP	MDOT	Signal Systems - MD 410, 62nd Ave. to Riverdale Rd.			X		1996	n/a							0.0000	0.0000	TR
45	X	1995-00 TIP	MDOT	Signal Systems - MD 202, Campus Way to Whitehouse Rd.	X				1996	n/a							0.0000	0.0000	TR
46	X	1995-00 TIP	MDOT	Signal Systems - TOTAL CREDITED PROJECTS	X				see above	see above	0.01838	-0.02119	0.0089	-0.0083	0.00643	-0.003	0.0063	-0.003	TR
47		1995-00 TIP	MDOT	Geometric Improvements				X	1995	n/a	n/a	n/a					n/a	n/a	-
48	X	1995-00 TIP	MDOT	MARC Replacement Coaches			X		1999		0.001	0.003	0.0009	0.0027	0.0012	0.0019	0.0012	0.0018	C (TCM)
49	X	1995-00 TIP	MDOT	MARC Expansion Coaches			X		1999		0.008	0.024	0.0074	0.0242	0.0055	0.0153	0.0054	0.0145	C (TCM)
50	X	1995-00 TIP	VDOT	Park & Ride Facilities - PRTC Public Transit Support - 1 year	X					1995			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	C

PREVIOUSLY IMPLEMENTED TERMs

TRANSPORTATION EMISSION REDUCTION MEASURES (TIP)

Credited in Air Quality Conformity Analyses (calendar years 1993-2002)

(TRACKING SHEET)

* Project Category: TR - Traffic Stream, C - Commute, H - Heavy Duty Vehicles (Engine Technology), SP- Specific Vehicle Type, TCM - Transportation Control Measures

	CREDIT TAKEN	TIP CREDITED	AGENCY	PROJECT	IMPLEMENTATION STATUS				ORIGINAL COMPLETION DATE	ACTUAL COMPLETION DATE	TONS/DAY REDUCTION CREDITED								Project Category *
					FULL	SCALED-BACK	UNDER-WAY	REMOVED			2005		2015		2025		2030		
											VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	
51	X	1995-00 TIP	VDOT	Alexandria Telecommuting Pilot Program			X			2001							0.0000	0.0000	C
52	X	1995-00 TIP	VDOT	Fairfax Co. TDM program expansion - 1 year program			X		2000	2001							0.0000	0.0000	C
53	X	1995-00 TIP	VDOT	Alexandria Bus Access Improvements	X					1998	0.001	0.001	0.0005	0.0004	0.0004	0.0000	0.0004	0.0000	C
54	X	1995-00 TIP	VDOT	City of Fairfax Bus Shelters			X		1999	2001	0.000	0.001	0.000	0.000	0.000	0.000	0.0000	0.0000	C (TCM)
55	X	1995-00 TIP	VDOT	Lorton VRE Access	X					1995	0.005	0.012	0.0023	0.0058	0.0016	0.0037	0.0015	0.0035	C (TCM)
56	X	1995-00 TIP	VDOT	Cherry Hill VRE Access			X			n/a	0.006	0.021	0.0033	0.009	0.00236	0.005	0.0023	0.0047	C (TCM)
57	X	1995-00 TIP	DC	Right Turn on Red			X				0.041	0.050	0.0202	0.022	0.01647	0.011	0.0162	0.0102	TR
58	X	1995-00 TIP	WMATA	Bus Replacement (172 buses)	X				1998	1998							0.0000	0.0000	SP (TCM)
59	X	1995-00 TIP	MCG	Shady Grove West Park and Ride			X		2010		0.0000	0.0000	0.0000	0.0045	0.0000	0.0031	0.0000	0.0030	C
60	X	1995-00 TIP	MCG	White Oak Park and Ride			X		2010		0.0000	0.0000	0.0000	0.0090	0.0000	0.0062	0.0000	0.0059	C
61	X	1995-00 TIP	MCG	Bicycle Facilities			X		FY99		0.003	0.002	0.0014	0.0009	0.00118	0.0006	0.0012	0.0006	C
62	X	1995-00 TIP	MCG	Pedestrian Facilities to Metrorail			X				0.005	0.007	0.0019	0.0031	0.00157	0.0022	0.0015	0.0021	C
63	X	1995-00 TIP	MDOT	MARC Replacement Coaches			X		1999	2000	0.004	0.010	0.0033	0.0099	0.00315	0.0062	0.0031	0.0059	C
64	X	1995-00 TIP	MDOT	MARC Expansion Coaches			X		1999	2000	0.030	0.089	0.0284	0.0636	0.02874	0.0508	0.0283	0.0482	C (TCM)
65	X	1995-00 TIP	VDOT	VRE Park and Ride Expansion - 3800 spaces	X					1999	0.044	0.132	0.0200	0.0618	0.0154	0.0383	0.0151	0.0363	C
66	X	1995-00 TIP	VDOT	Commuter Lots - District Wide			X		varies	varies	0.010	0.028	0.0065	0.0193	0.0063	0.0165	0.0062	0.0157	C
67	X	1995-00 TIP	VDOT	I-66 and Stringfellow Rd. Park and Ride	X				2000	2000 end	0.009	0.017	0.0047	0.009	0.00394	0.0062	0.0039	0.0059	C
68	X	1995-00 TIP	VDOT	Lake Ridge Park and Ride (now called Tacketts Mill lot)	X					1999/2000	0.000	0.009	0	0.0045	0	0.0031	0.0000	0.0030	C
69	X	1995-00 TIP	VDOT	Bicycle Trails and Facilities			X		varies	varies	0.002	0.015	0.0093	0.0076	0.0075	0.0056	0.0074	0.0053	C
70	X	1995-00 TIP	VDOT	Pedestrian Facilities to Metrorail					varies		0.000	0.001	0.0005	0.0009	0.00039	0.0006	0.0004	0.0006	C
71	X	1995-00 TIP	VDOT	I-66 HOV access at Monument Dr.	X					1997	0.009	0.017	0.0047	0.0090	0.0004	0.0062	0.0004	0.0059	C
72		1995-00 TIP	DC	Bicycle Facilities		X					0.022	0.017	0.0116	0.0094	0.00945	0.0069	0.0093	0.0065	C
73	X	1995-00 TIP	REGION	COG Regional Ridesharing Support	X					on-going	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.0000	C
74	X	1995-00 TIP	REGION	M-47 Integrated Ridesharing	X					on-going	0.043	0.090	0.018	0.030	0.014	0.018	0.0139	0.0172	C
75	X	1995-00 TIP	REGION	M-92 Telecommuting Support	X					on-going	0.316	0.744	0.131	0.243	0.105	0.150	0.1037	0.1426	C
76		1996-01 TIP	MDOT	MD 5 / MD 373 Park and Ride				X	1999	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-
77		1996-01 TIP	VDOT	Alexandria Landmark Transit Center					Delayed	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-
78	X	1996-01 TIP	VDOT	Tysons Westpark Transit Center	X					1999	0.001	0.005	0.0005	0.0027	0.0004	0.0019	0.0004	0.0018	C
79	X	1996-01 TIP	VDOT	Fairfax County Bus Shelters (30 shelters with project #85)			X		1999	Summer 2001	0.002	0.003	0.0009	0.0013	0.00079	0.0009	0.0008	0.0009	C
80	X	1996-01 TIP	VDOT	Loudoun County Bus Shelters (4 shelters)		X			2000	Late 2001	0.001	0.003	0.0005	0.0018	0.00039	0.0012	0.0004	0.0012	C
81	X	1996-01 TIP	VDOT	Arlington County Metrocheck Program	X				1997	Continue indefinately	0.002	0.003					0.0004	0.0009	C
82	X	1996-01 TIP	VDOT	Old Dominion Drive Bike Trail			X		2000	2003	0.001	0.001	0.0005	0.0004	0.00039	0.0003	0.0004	0.0003	C
83	X	1996-01 TIP	WMATA	Bus Replacement (see line 58, above)	X					1998	credit taken in line 58, above						n/a	n/a	SP
84		1996-01 TIP	MGC	Stamp Out Bad Bus Stops				X	1999	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-
85	X	1996-01 TIP	VDOT	Fairfax County Bus Shelters (30 shelters with project #79)			X		1999	2001	0.001	0.001	0.0005	0.0013	0.00039	0.0009	0.0004	0.0009	C
86	X	1996-01 TIP	VDOT	Tacketts Mill Park and Ride	X					1996	0.011	0.028	0.0051	0.0143	0.0039	0.0100	0.0039	0.0095	C (TCM)
87	X	1996-01 TIP	VDOT	Reston Bus Replacement	X					1994	0.002	0.009							SP
88	X	1996-01 TIP	VDOT	Construct Left Turn Bays			X			varies	0.003	0.002	0.0014	0.0007	0.0012	0.0004	0.0012	0.0003	TR
90	X	1996-01 TIP	REGION	M-47c Employer Outreach / Guaranteed Ride Home	X					on-going	0.560	1.043	0.2347	0.345	0.1807	0.2095	0.1777	0.1989	C
91	X	1996-01 TIP	REGION	M-70a Bicycle Parking			X		1999		0.006	0.006	0.0047	0.0045	0.00394	0.0031	0.0039	0.0030	C
92	X	STADIUM ANALYSIS		M-92 Telecommuting Support	combined with item #75														C
93	X	1997-02 TIP	PRTC	PRTC Omnilink Bus Service	X					1996	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	C
94	X	1997-02 TIP	MCG	Lake Forest Transit Center	X				1997	1996	0.001	0.003	0.0005	0.0013	0.0004	0.0009	0.0004	0.0009	C (TCM)
95	X	1997-02 TIP	MCG	Germantown Transit Center			X		2004		0.005	0.016	0.0023	0.0085	0.00197	0.0056	0.0019	0.0053	C (TCM)
96	X	1997-02 TIP	MCG	Tulagi Pl. Park and Ride	X				1997	1995	0.001	0.003	0.0005	0.0013	0.0004	0.0009	0.0004	0.0009	C (TCM)
97	X	1997-02 TIP	MDOT	MD 5 Rel./MD 205 Park and Ride Construction	X				1999	1998	0.004	0.013	0.0014	0.0063	0.0012	0.0044	0.0012	0.0041	C (TCM)
98	X	1997-02 TIP	MDOT	I-270 / MD 80 P&R Expansion (2 lots -> 289 + 301 spaces)	X				1996	um 1999/Fall200	0.002	0.010	0.0009	0.0049	0.0008	0.0031	0.0008	0.0030	C (TCM)

PREVIOUSLY IMPLEMENTED TERMs

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					FULL	SCALED-BACK	UNDER-WAY	REMOVED			2005		2015		2025		2030		
											VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	
99	X	1997-02 TIP	MDOT	Hagerstown Telework Center (Wash. MSA Benefits)	X				1997	1997	0.001	0.007	0.0005	0.0031	0.0004	0.0022	0.0004	0.0021	C
100	X	1997-02 TIP	PG	Anacostia Bicycle Trail	X				1999	1998	0.007	0.001	0.0037	0.0004	0.0031	0.0003	0.0031	0.0003	C (TCM)
101	X	1997-02 TIP	MCG	Montgomery County Bus Replacement	X						0.003	0.011					0.0000	0.0000	SP (TCM)
102	X	1997-02 TIP	PG	Prince George's County Bus Replacement	X				1998	1998	0.003	0.009					0.0000	0.0000	SP (TCM)
103	X	1997-02 TIP	PG	Prince George's County Bus Service			X		1998	1998	0.004	0.009	0.0014	0.0040	0.0012	0.0028	0.0012	0.0027	C
104	X	1997-02 TIP	VDOT	I-66 Park and Ride at VA 234 / Portsmouth	X					1996	0.009	0.024	0.0061	0.0179	0.0067	0.0159	0.0066	0.0151	C
105	X	1997-02 TIP	VDOT	Arl. Co. Transit Ridership Develop. Initiative Program	X					1998	0.019	0.039	0.0088	0.0170	0.0071	0.0109	0.0070	0.0103	C
106	X	1997-02 TIP	VDOT	PRTC Employer Commuting Outreach Program	X					on going	0.002	0.000	0.001	0.000	0.001	0.000	0.001	0.000	C
107	X	1997-02 TIP	VDOT	PRTC Multimodal Strategic Marketing Implementation Plan	X					on going	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	C
108	X	1997-02 TIP	MDOT	M-103 Taxicab Replacement in Maryland			X		1999	on-going	0.080	0.268	0.145	0.215	0.123	0.150	0.312	0.481	SP
109	X	1997-02 TIP	REGION	M-70b Employer Outreach for Bicycles	X				1998	on going	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	C
110	X	1997-02 TIP	VDOT	M-77b Vanpool Incentive Programs in Virginia			X		1999	delayed	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	C
111	X	1998-03	WMATA	Bus Replacement (108 buses)	X				1999	1999	0.045	0.162	0.000	0.000	0.000	0.000	0.0000	0.0000	SP
112	X	1998-03 TIP	MCG	Montgomery County Bus Replacement	X						0.008	0.027	0.002	0.007	0.000	0.000	0.0000	0.0000	SP
113	X	1998-03 TIP	PG	Prince George's County Bus Replacement	X				1998	1998	0.001	0.002	0.000	0.000	0.000	0.000	0.0000	0.0000	SP
114	X	1998-03 TIP	FDC	Frederick County Bus Replacement	X						0.001	0.000	0.000	0.000	0.000	0.000	0.0000	0.0000	SP
115	X	1998-03 TIP	FDC	Frederick County Shuttles	X						0.000	0.001	0.0000	0.0004	0.0000	0.0003	0.0000	0.0003	C
116	X	1998-03 TIP	VDOT	PRTC Ridesharing	X					on-going	0.000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	C
117	X	1998-03 TIP	VDOT	Arlington County Four Mile Run Bike Trail			X		1999		0.001	0.001	0.0005	0.0004	0.00039	0.0003	0.0004	0.0003	C
118	X	1998-03 TIP	VDOT	Northern Virginia Turn Bays			X		2000		0.001	0.002	0.0009	0.0007	0.0008	0.0004	0.0008	0.0003	TR
119	X	1998-03 TIP	VDOT	Fairfax City Bus Replacement			X		2001		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	SP
120	X	1998-03 TIP	VDOT	Alternative Fueled Vehicles		X			1999	1998	0.001	0.001	0.001	0.001	0.001	0.001	0.0010	0.0010	H
121	X	1998-03 TIP	VDOT	WMATA Bus Replacement (252 buses)	X				2001	2001	0.106	0.386	0.090	0.342	0.000	0.000	0.0000	0.0000	SP
122	X	97 & 98 TIP	REGION	M-101a Mass Marketing Campagin (Consumer)						ongoing	0.119	0.212	0.102	0.159	0.098	0.107	0.0752	0.0807	C
123	X	1999-04 TIP	MDOT	Various Park and Ride Lots(I-270/MD124, 450 & I-170/MD-75, 54 spac	X				2001/1999	2001	0.007	0.031	0.0047	0.0188	0.00394	0.0143	0.0039	0.0136	C
124	X	1999-04 TIP	MDOT	Signal Systems (197/MD-198, MD-382 TO US-301,US301)	x				2000	2002	0.011	-0.003	0.0061	-0.0021	0.00803	-0.002	0.0079	-0.0014	TR
125	X	1999-04 TIP	VDOT	Transit Center at 7 Corners					2002		0.001	0.002	0.0005	0.0009	0.00039	0.0006	0.0004	0.0006	C
126	X	1999-04 TIP	VDOT	Falls Church Clean Diesel Bus Service					2000		0.004	0.005	0.000	0.000	0.000	0.000	0.0000	0.0000	SP
127	X	1999-04 TIP	VDOT	VA 234 Bike Trail					2001		0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.0000	C
128	X	1999-04 TIP	VDOT	PRTC Ridesharing	X				on-going	on-going	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.0000	C
129		2000-05 TIP	MDOT	MD 202, MD 85, US 301 Signal Systemization				X	2001		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-
130	X	1996-01 TIP	VDOT	M-14: I-66 Feeder Bus Fare Buy Down	X						0.023	0.047	0.0102	0.0206	0.00827	0.0131	0.0081	0.0124	C
131	X	2000-05 TIP	MDOT	Various park and Ride Lots	x				2002	2003	0.006	0.028	0.0043	0.0175	0.0038	0.0140	0.0038	0.0119	C
132	X	2000-05TIP	MDOT	Signal Systems	X				Varies	on-going	0.003	0.000	0.0012	0.0000	0.0007	0.0000	0.0007	0.0000	TR
133	X	2000-05TIP	VDOT	450 Spaces at Gambrill/Hooes Rds. Park and Ride			X		2002		0.006	0.015	0.0028	0.0069	0.00217	0.0043	0.0021	0.0041	C
134	X	2000-05TIP	VDOT	300 Spaces at Backlick Rd			X		2003		0.005	0.011	0.0021	0.0049	0.00148	0.0031	0.0015	0.0030	C
135	X	2000-05TIP	VDOT	Accotink-Gateway Connector Trail			X		2002		0.006	0.009	0.0028	0.0038	0.00185	0.0021	0.0018	0.0020	C
136	X	2000-05TIP	VDOT	Columbia Pike Trail			X		2000		0.006	0.007	0.0023	0.0029	0.00146	0.0016	0.0014	0.0015	C
137	X	2000-05TIP	VDOT	Lee Highway trail			X		2000		0.003	0.003	0.0012	0.0016	0.00061	0.0008	0.0006	0.0008	C
138	X	2000-05TIP	VDOT	Arlington Bus Shelter Improvements			X		2005		0.001	0.001	0.0005	0.0004	0.00024	0.0002	0.0002	0.0002	C
139	X	2000-05TIP	VDOT	Pentagon Metrostation Improvements	X					n/a	0.007	0.015	0.0033	0.0063	0.00224	0.0035	0.0022	0.0033	C
140	X	2000-05TIP	MDOT	East/West Intersection Improvements			x		2005		0.038	0.021	0.064	0.0327	0.08741	0.0355	0.0859	0.0337	C
141	X	2001-06TIP	Feds	Federal Transit/Ridesharing subsidy	X				on-going		0.094	0.164	0.0386	0.0555	0.02914	0.033	0.0286	0.0313	C
142	X	2002-07TIP	WMATA	100 CNG buses			X		2002		0.000	0.136	0.00	0.136			0.0000	0.0000	SP (TCM)
143	X	2002-07TIP	WMATA	ULSD with CRT filters			X		on-going		0.210	0.000	0.43	0.000	0.43	0.000	0.4300	0.0000	H (TCM)
144	X	2003-08 TIP	DC	Replace 23 Taxicabs with CNG cabs					2005		0.0177	0.031	-	-	-	-	-	-	H
145	X	2003-08 TIP	DC	D.C.Incident Response & TrafficManagement System					2005		0.0254	0.075	-	0.034	-	0.019	-	0.0168	TR
146	X	2003-08 TIP	DC	Bicycle Lane in D. C. (35 Mile) *					2005		0.0154	0.015	0.01	0.005	0.00	0.003	0.0046	0.0029	C (TCM)

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					FULL	SCALED-BACK	UNDER-WAY	REMOVED			2005		2015		2025		2030		
											VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	
147	X	2003-08 TIP	DC	Bicycle Racks in D. C. (500) *					2005		0.0021	0.002	0.00	0.001	0.00	0.000	0.0006	0.0003	C (TCM)
148	X	2003-08 TIP	DC	External Bicycle Racks on WMATA Buses in D. C. (600) *					2005		0.0031	0.006	0.00	0.002	0.00	0.001	0.0010	0.0011	C (TCM)
149	X	2003-08 TIP	DC	CNG Rental Cars (18) *					2005		0.00003	0.0002	-	-	-	-	-	-	SP
150	X	2003-08 TIP	DC	Sidewalks in D.C. ($ 5 million)					2005		0.0578	0.101	0.02	0.033	0.02	0.020	0.0182	0.0192	C
151	X	2003-08 TIP	DC	CNG Refuse Haulers (2) *					2005		0.0001	0.002	0.00	0.002	-	-	-	-	H (TCM)
152	X	2003-08 TIP	DC	Circulator /Feeder Bus Routes					2005		0.0211	0.036	0.01	0.012	0.01	0.007	0.0066	0.0069	C
153	X	2003-08 TIP	MDOT	Commuter Tax Credit			x		2005	n/a	0.1262	0.2219	0.05	0.074	0.04		0.0398		C
155		2003-08 TIP	MDOT	Employer Vanpool Program (WWB)				x	2005		0.0030	0.0075	0.00	0.002	0.00				C
156	X	2003-08 TIP	MDOT	Green Line Link			x		2005	n/a	0.0041	0.0085	0.00	0.003	0.00	0.002	0.0013	0.0016	C
157	X	2003-08 TIP	MDOT	Park & Ride Lots - Southern Maryland *			x		2005	2003	0.0080	0.0197	0.00	0.006	0.00	0.004	0.0026	0.0038	C
158	X	2003-08 TIP	MDOT	Prince George's County- Bus Exp			x		2005	n/a	0.0578	0.1191	0.02	0.039	0.02	0.024	0.0186	0.0228	C
159	X	2003-08 TIP	MDOT	MTA - Bus Service Expansion			x		2005	n/a	0.0131	0.0285	0.01	0.009	0.00	0.006	0.0042	0.0054	C
160	X	2003-08 TIP	MDOT	Ride- On - Super Discount			x		2005	n/a	0.0015	0.0026	0.00	0.001	0.00	0.001	0.0005	0.0005	C
161	X	2003-08 TIP	Regional	Regional Traveler Information Systems					2005		0.1596	0.9730	0.08	0.445	0.07	0.242	0.0686	0.2195	TR
162	X	2003-08 TIP	MDOT	Universal Transportation Access (MD + WMATA) *D37			x		2005	n/a	0.0259	0.0452	0.01	0.015	0.01	0.009	0.0082	0.0086	C
163	X	2003-08 TIP	MCG	Construction of 1300 additional Parking Spaces at Grosvenor Metro Garage					2005		0.0074	0.0189	0.00	0.006	0.00	0.004	0.0025	0.0036	C (TCM)
164	X	2003-08 TIP	MCG	Bethesda Shuttle Bus Services					2005		0.0050	0.0087	0.00	0.003	0.00	0.002	0.0016	0.0016	C
165	X	2003-08 TIP	MCG	External Bicycle Racks on Ride-On Buses in Montgomery County					2005		0.0010	0.0017	0.00	0.001	0.00	0.000	0.0003	0.0003	C
166	X	2003-08 TIP	MCG	New CNG Powered Light Duty Vehicle fleet in the County					2005		0.00002	0.0001	-	-	-	0.000	-	-	SP
167	X	2003-08 TIP	MCG	Free Bus Service on Selected Routes on I-270					2005		0.0017	0.0030	0.00	0.001	0.00	0.001	0.0005	0.0006	C
168	X	2003-08 TIP	MCG	Annual Sidewalk Program					2005		0.0275	0.0480	0.01	0.016	0.01	0.010	0.0087	0.0091	C
169	X	2003-08 TIP	MDOT	Bethesda Breeze/International Express Metrobus			x		2005	n/a	0.0060	0.0097	0.003	0.003	0.002	0.002	0.0019	0.0018	C
170	X	2003-08 TIP	MDOT	Bethesda-8, Silver Spring Downtown Dasher and Prince Georges Co. Shuttles at 3 PNR lot			x		2005	n/a	0.0142	0.0189	0.006	0.006	0.004	0.004	0.0043	0.0036	C
171	X	2003-08 TIP	MDOT	Proposed Transportation Management District in Montgomery County (Rockville and Gaithersburg)			x		2005	n/a	0.0093	0.0142	0.004	0.005	0.003	0.003	0.0029	0.0027	C
172	X	2003-08 TIP	MDOT	Sidewalks (Bikes/Pedestrian) at / near Rail Stations	x				2005	2002	0.0150	0.0267	0.006	0.009	0.005	0.005	0.0047	0.0051	C
173	X	2003-08 TIP	MDOT	Neighborhood Sidewalks Improvements (Bike/Pedestrian)			x		2005	n/a	0.0052	0.0030	0.002	0.001	0.002	0.001	0.0015	0.0005	C
174	X	2003-08 TIP	MDOT	Neighborhood Conservation Program - Neighborhood Sidewalks Improvements (Bikes/Pedestrian)			x		2005	n/a	0.0046	0.0026	0.002	0.001	0.001	0.001	0.0013	0.0005	C
175	X	2003-08 TIP	MDOT	Maryland bus Transit Service Expansion			x		2005	n/a	0.0228	0.0586	0.009	0.019	0.008	0.012	0.0076	0.0112	C
176	X	2003-08 TIP	VDOT	Universal Transportation Access Program					2005		0.0019	0.0034	0.0008	0.001	0.00	0.001	0.0006	0.0006	C
177	X	2003-08 TIP	VDOT	Interactive Rideshare & Kiosk Initiative					2005		0.0006	0.0013	0.0003	0.000	0.00	0.000	0.0002	0.0002	C
178	X	2003-08 TIP	VDOT	Mobile Commuter Stores					2005		0.0035	0.0071	0.0014	0.002	0.00	0.001	0.0011	0.0014	C
179	X	2003-08 TIP	VDOT	Telework Incentive Program					2005		0.0012	0.0022	0.0005	0.001	0.00	0.000	0.0004	0.0004	C
180	X	2003-08 TIP	VDOT	Commuter Choice					2005		0.0015	0.0025	0.0007	0.001	0.00	0.001	0.0005	0.0005	C
181	X	2003-08 TIP	VDOT	Employer Shuttle Services					2005		0.0184	0.0301	0.0077	0.010	0.01	0.006	0.0057	0.0057	C
183	X	2003-08 TIP	VDOT	Park-and-Ride Lots					2005		0.0175	0.0382	0.0073	0.013	0.01	0.008	0.0057	0.0073	C
184	X	2003-08 TIP	VDOT	Van Start / Van Save					2005		0.0022	0.0047	0.0009	0.002	0.00	0.001	0.0007	0.0009	C
185	X	2003-08 TIP	VDOT	Metro Shuttle Bus					2005		0.0019	0.0047	0.0008	0.002	0.00	0.001	0.0006	0.0009	C
186	X	2003-08 TIP	VDOT	VRE Early (PM) Train Service					2005		0.0133	0.0277	0.0056	0.009	0.00	0.006	0.0043	0.0053	C
187	X	2003-08 TIP	VDOT	VRE Mid-Day Train Service					2005		0.0025	0.0053	0.0011	0.002	0.00	0.001	0.0008	0.0010	C
188	X	2003-08 TIP	VDOT	PRTC Express Bus Service					2005		0.0007	0.0015	0.0003	0.000	0.00	0.000	0.0002	0.0003	C
190	X	2003-08 TIP	VDOT	Employer Vanpool Program (VA)					2005		0.0015	0.0034	0.0006		0.00		0.0000		C
191	X	2003-08 TIP	VDOT	Town of Leesburg P&R Lot					2005		0.0031	0.0071	0.0013	0.002	0.00	0.001	0.0010	0.0014	C
192	X	2003-08 TIP	VDOT	District-wide P&R Lots					2005		0.0182	0.0406	0.0076	0.013	0.01	0.008	0.0059	0.0078	C
193	X	2003-08 TIP	VDOT	Additional Parking at 4 Metro stations					2005		0.0235	0.0604	0.0097	0.020	0.01	0.012	0.0078	0.0116	C

PREVIOUSLY IMPLEMENTED TERMs

TRANSPORTATION EMISSION REDUCTION MEASURES (TIP)

Credited in Air Quality Conformity Analyses (calendar years 1993-2002)

(TRACKING SHEET)

* Project Category: TR - Traffic Stream, C - Commute, H - Heavy Duty Vehicles (Engine Technology), SP- Specific Vehicle Type, TCM - Transportation Control Measures

					IMPLEMENTATION STATUS				ORIGINAL	ACTUAL	TONS/DAY REDUCTION CREDITED								
	CREDIT	TIP				SCALED-	UNDER-		COMPLETION	COMPLETION	2005		2015		2025		2030		Project
	TAKEN	CREDITED	AGENCY	PROJECT	FULL	BACK	WAY	REMOVED	DATE	DATE	VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	Category *
194	X	2003-08 TIP	VDOT	Loudoun County Transit Service					2005		0.0022	0.0037	0.0009	0.001	0.00	0.001	0.0007	0.0007	C
195		2003-08 TIP	VDOT	VDOT - Travel Management System	Credit Taken in line 161						-	-	-	-	-	-			C
196	X	2003-08 TIP	WMATA	64 CNG Buses (Purchased in 2001)					2005		0.0021	0.0870	0.0021	0.087	-	-	-	-	SP (TCM)
197	X	2003-08 TIP	WMATA	250 CNG Buses (To be purchased in 2002)					2005		0.0083	0.3400	0.0083	0.340	-	-	-	-	SP
198	X	2003-08 TIP	WMATA	100 Engine Replacement (58 MY 1992&42 1993 MY buses)					2005		0.0230	0.1258	0.0230	0.126	-	-	-	-	SP
199	X	2003-08 TIP	WMATA	Car Sharing Program					2005		0.0013	0.0033	0.0005	0.001	0.0004	0.001	0.0004	0.0006	C
200	X	2003-08 TIP	WMATA	Bikes Racks on WMATA Buses in VA (372 Bike Racks)					2005		0.0020	0.0035	0.0008	0.001	0.0006	0.001	0.0006	0.0007	C (TCM)
202		2003-08 TIP	MDOT	Fleet Replacement (state auto fleet, gas to hybrid, 250 vehicles)				x	2005		0.0055	0.013	0.0055	0.013		-	-	-	SP
203	X	2003-08 TIP	MDOT	Replace 55 Montgomery County 10 yr. old buses w/ new CNG buses			x		2005			0.286		0.286					SP
204		2003-08 TIP	MDOT	Neighborhood Bus Shuttle (5 circulator routes)				x	2005		0.0121	0.0221	0.0051	0.007	0.00	0.004	0.0038	0.0042	C
205	X	2003-08 TIP	MDOT	New Surface Parking at Transit Centers (500 spaces)			x		2005		0.0042	0.0108	0.0017	0.004	0.00	0.002	0.0014	0.0021	C
206	X	2003-08 TIP	MDOT	Additional Bike Lockers at Metro-Stations			x		2005		0.0213	0.0379	0.0090	0.013	0.01	0.008	0.0067	0.0072	C
207	X	2003-08 TIP	MDOT	Bike Facilities at PnR Lots or other similar location			x		2005		0.0150	0.0300	0.0063	0.010	0.00	0.006	0.0048	0.0057	C
208	X	2003-08 TIP	MDOT	CNG Fueling Stations			x		2005		0.1270	0.1170		-				-	SP
209		2003-08 TIP	MDOT	Gas cap replacements (ROP Credit)				x	2005		N/A	N/A		-		-		-	SP
210		2003-08 TIP	MDOT	Gas can turnover (ROP Credit)				x	2005		N/A	N/A		-		-		-	SP
211	X	2003-08 TIP	MDOT	External Bicycle Racks on WMATA Buses (486 MD buses)	x				2005	2002	0.0023	0.0040	0.0009	0.001	0.001	0.001	0.0007	0.0008	C (TCM)
212	X	2003-08 TIP	MDOT	Bike \ Pedestrian Trail - Anacostia River Walk					2005	n/a	0.0009	0.0008	0.0004	0.000	0.000	0.000	0.0003	0.0002	C
213		2003-08 TIP	MDOT	Transit Prioritization - Queue Jumps				x	2005		0.0050	0.0068	0.0021	0.002	0.002	0.001	0.0015	0.0013	C
214	X	2003-08 TIP	MDOT	Commuter Choice Benefit/Tax Credit - Marketing Expansion			x		2005	n/a	0.0881	0.1559	0.0370	0.052	0.028	0.031	0.0278	0.0297	C
215	X	2003-08 TIP	MDOT	Improvements to Pedestrian Access in TOD areas (4 locations)			x		2005	n/a	0.0096	0.0158	0.0040	0.005	0.003	0.003	0.0030	0.0030	C
216	X	2003-08 TIP	MDOT	Telecommuting Expansion			x		2005	n/a	0.1041	0.2192	0.0435	0.072	0.034	0.044	0.0336	0.0419	C
217	X	2003-08 TIP	MDOT	Replace older Diesel Engine in Public Sector vehicles			x		2005	n/a	0.0237	0.130	0.0237	0.130		-			H
218	X	2003-08 TIP	VDOT	MV-92 Telecommuting Program - Expanded [1]					2005		0.1112	0.2341	0.05	0.077	0.036	0.047	0.0359	0.0447	C
219	X	2003-08 TIP	VDOT	MV-123 Employer Outreach for Public Sector Employees [1]					2005		0.0247	0.0430	0.01	0.014	0.008	0.009	0.0078	0.0082	C
220	X	2003-08 TIP	REGION	Signal System Optimization					2005		0.674	0.272	0.3447	0.1244	0.29446	0.0676	0.2896	0.0613	TR
				Total (Excluding Removed Projects)							4.697	8.558	2.633	4.168	2.130	1.669	2.270	1.909	
				Projects completed before to 2000							0.691	0.217	0.332	0.144	0.251	0.119	0.247	0.136	
				Projects completed in 2000 or after 2000							**4.006**	**8.341**	**2.301**	**4.024**	**1.879**	**1.550**	**2.024**	**1.773**	

TRANSPORTATION EMISSION REDUCTION MEASURES (CLRP Projects Only)

Credited in Air Quality Conformity Analyses (calendar years 1993-2000)
(TRACKING SHEET)

Project Category: TR - Traffic Stream, C - Commute, H - Engine Technology (Heavy Dudy Vehicles), SP- Specific Vehicle Type

	CREDIT TAKEN	TIP CREDITED	AGENCY	PROJECT	IMPLEMENTATION STATUS				PROJECTED COMPLETION DATE	ACTUAL COMPLETION DATE	TONS/DAY REDUCTION CREDITED						Project Category
					FULL	SCALED-BACK	UNDER-WAY	REMOVED			2015		2025		2030		
											VOC	NOX	VOC	NOX	VOC	NOX	
221	X	1995-00 TIP	REGION	M-24 Speed Limit Adherence							0.1129	0.8376	0.1285	0.5905	0.0495	0.1828	TR
222		1996-01 TIP	MGC	Rock Spring Park Pedestrian Amenities				X			0.0010	0.0040	n/a	n/a	n/a	n/a	-
223	X	1996-01 TIP	MGC	Olney Transit Center Park and Ride							0.0009	0.0036	0.0008	0.0025	0.0003	0.0007	C
224	X	1996-01 TIP	MGC	Damascus Park and Ride							0.0005	0.0018	0.0004	0.0012	0.0001	0.0003	C
225	X	1996-01 TIP	DC	M-103 Taxicab Replacement									0.3490	0.6000	0.3490	0.6000	H
226	X	STADIUM ANALYSIS		Taxicab Replacement									0.1560	0.2400	0.1560	0.2400	H
227	X	1997-02 TIP	MDOT	Shady Grove West Transit Center Park and Ride							0.0000	0.0045	0.0000	0.0031	0.0000	0.0009	C
228	X	1997-02 TIP	MGC	Olney Transit Center Park and Ride									0.0008	0.0025	0.0003	0.0007	C
229	X	1997-02 TIP	MGC	White Oak Park and Ride							0.0000	0.0090	0.0000	0.0062	0.0000	0.0017	C
230	X	1997-02 TIP	MGC	Damascus Park and Ride									0.0004	0.0009	0.0001	0.0003	C
231	X	1997-02 TIP	MGC	Four Corners Transit Center							0.0000	0.0004	0.0000	0.0003	0.0000	0.0001	C
232		1997-02 TIP	MGC	Burtonsville Transit Center				X					n/a	n/a	n/a	n/a	-
233	X	1997-02 TIP	MGC	Silver Spring Transit Access										0.0006		0.0002	C
234	X	1997-02 TIP	MGC	Shady Grove Parking Construction							0.0023	0.0085	0.0020	0.0059	0.0007	0.0017	C

PLAN TOTAL	0.117	0.865	0.638	1.454	0.556	1.029

GRAND TOTAL (program past 2000 + plan)	2.417	4.889	2.517	3.004	2.580	2.802

DEFINITIONS:

CREDIT TAKEN (X means emissions reduction credits taken):

TIP - Emissions credits are taken for projects being implemented, according to the progress reporting schedules provided by the implementing agencies (contained in Appendix L). No credit has been taken for projects in which only some components of the measure have been implemented. (The status of these projects will be reassessed next year).

CLRP - Credit is taken for each of these elements of the CLRP, according to the schedule provided by the implementing agency.

IMPLEMENTATION STATUS:

FULL = project is completed as planned at the time of analysis.

SCALED BACK = project is completed, but at a different level than assumed at the time of analysis (i.e., purchased 50 buses instead of 100)

UNDERWAY = project is not complete, but is close enough that credit may be taken (i.e., under construction, NOT just out for bid)

REMOVED = project no longer expected to be implemented or constructed

COMPLETION DATE:

PROJECTED = project completion date originally expected (i.e., at time of emissions analysis)

ACTUAL = actual year project was open for use, or expected to be open for use if under construction

**** Reflects instances where emissions reductions previously credited are no longer appropriate to the indicated forecast year, due to schedule slippage.

Delayed - Project Delayed