

Item #6

**NATIONAL CAPITAL REGION
TRANSPORTATION PLANNING BOARD**

FY 2016

**UNIFIED PLANNING WORK PROGRAM
FOR TRANSPORTATION PLANNING
FOR THE
WASHINGTON METROPOLITAN REGION**

DRAFT

January 30, 2015

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I. INTRODUCTION

Purpose

The **FY 2016 Unified Planning Work Program (UPWP) for Transportation Planning for the Washington Metropolitan Region** incorporates in one document all federally assisted state, regional, and local transportation planning activities proposed to be undertaken in the region from July 1, 2015 through June 30, 2016. The UPWP provides a mechanism for the coordination of transportation planning activities in the region, and is required as a basis and condition for all federal funding assistance for transportation planning by the joint planning regulations of the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA).

This work program describes all transportation planning activities utilizing federal funding, including Title I Section 112 metropolitan planning funds, Title III Section 5303 metropolitan planning funds, and Federal Aviation Administration Continuing Airport System Planning (CASP) funds. It identifies state and local matching dollars for these federal planning programs, as well as other closely related planning projects utilizing state and local funds.

Planning Requirements

The planning activities outlined in this work program respond to a variety of regulatory requirements. The Safe, Accountable, Flexible, and Efficient Transportation Equity Act - A Legacy for Users (SAFETEA-LU) of 2005 defines the structure of the metropolitan planning process. On February 14, 2007, the FHWA and FTA issued final regulations regarding metropolitan planning in response to SAFETEA-LU. The Moving Ahead for Progress in the 21st Century (MAP-21) Act, which became law on July 6, 2012, made some important modifications to the metropolitan planning process, primarily requiring metropolitan planning organizations (MPOs) to establish and use a performance-based approach to transportation decision making and development of transportation plans. This work program has been developed to comply with the MAP-21 requirements regarding metropolitan planning essentially as presented in the proposed MPO planning rule published June 2, 2014.

On October 15, 2014, the TPB approved the 2014 Financially Constrained Long Range Transportation Plan (CLRP) for the National Capital Region. In January 2015, FHWA and FTA found that the 2014 CLRP and FY 2015-2020 TIP conform to the region's State Implementation Plans. On October 28 and 29, 2014, FHWA and FTA conducted a Certification Review of the metropolitan planning process of the Washington, DC-VA-MD TMA which is the responsibility of the National Capital Region Transportation Planning Board and the Fredericksburg Metropolitan Area Metropolitan Planning Organization. The report on this certification review is anticipated in the Spring 2015.

The Clean Air Act Amendments (CAAA) of 1990 requires that the transportation actions and projects in the CLRP and Transportation Improvement Program (TIP) support the attainment of federal health standards for ozone. The CLRP and TIP have to meet specific requirements as specified by the Environmental Protection Agency (EPA) regulations issued on November 24, 1993, with amendments on August 15, 1997 and supplemental guidance on May 14, 1999, regarding criteria and procedures for determining air quality conformity of

transportation plans, programs and projects funded or approved by the FHWA and FTA. These conformity requirements are also addressed in this document.

Regional Planning Goals

In 1998, the TPB adopted a set of policy goals that have since served to guide its planning work program. These goals are:

- The Washington metropolitan region's transportation system will provide reasonable access at reasonable cost to everyone in the region.
- 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, services and recreation in a walkable environment.
- The Washington metropolitan region's transportation system will give priority to management, performance, maintenance, and safety of all modes and facilities.
- The Washington metropolitan region will use the best available technology to maximize system effectiveness.
- 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.
- The Washington metropolitan region will achieve better inter- jurisdictional coordination of transportation and land use planning.
- The Washington metropolitan region will achieve enhanced funding mechanisms for regional and local transportation system priorities that cannot be implemented with current and forecasted federal, state, and local funding.
- The Washington metropolitan region will support options for international and inter-regional travel and commerce.

Known as the TPB Vision, these goals are broad in scope, and also encompass a variety of strategies and objectives. Together, these goals, strategies, and objectives provide a framework for setting out core principles for regional transportation planning. MAP-21 requires the planning process to consider projects and strategies that address eight planning factors. These eight planning factors are encompassed by the TPB Vision's policy goals and are considered when developing the CLRP. Each planning factor is included in one or more of the TPB Vision goals, objectives and strategies, except for security, which is implicitly addressed in the TPB Vision.

On January 15, 2014, after a three-year process, the TPB approved the Regional Transportation Priorities Plan (RTPP) for the National Capital Region. The Priorities Plan developed a comprehensive set of regional transportation goals and challenges, and then identified three regional priorities that local, state, and regional agencies should consider when developing projects. In FY 2016, the Priorities Plan will influence policy actions, funding strategies and potential projects considered for potential incorporation into the CLRP.

Addressing Changing Planning Priorities

MAP-21 Requirements

MAP-21 calls for metropolitan planning organizations, public transportation providers and states **to establish and use a performance-based approach to transportation decision making to support seven national goals**. The USDOT must establish performance measures related to seven goal areas for the federal-aid highway system. The goal areas include: safety, infrastructure, congestion reduction, system reliability, freight movement and economic vitality, environmental sustainability, and reduced project delivery delays. Additional goal areas for public transportation address transit safety and transit asset management.

Once the performance measures are finalized, the states and public transportation providers then have a year to establish performance targets in support of those measures; and the MPO subsequently has 180 days to establish performance targets coordinated with those of the states and public transportation providers. After these targets are set, the metropolitan transportation plan and the transportation improvement program (TIP) are required to include a description of the performance measures and targets used in assessing the performance of the transportation system. The metropolitan transportation plan will also have to include a system performance report evaluating the condition and performance of the transportation system with respect to the established targets. The TIP is also required to include a description of the anticipated effect of the TIP toward achieving the performance targets set in the plan.

Regional and federal factors that are non-regulatory may evolve from one year to the next, but are nonetheless influential in the planning activities that are conducted and described in this work program. As these factors continue to evolve, the UPWP is adjusted annually to focus on new and emerging priorities. This UPWP builds upon the previous UPWP, and is the result of close cooperation among the transportation agencies in the region. This UPWP was prepared with the involvement of these agencies, acting through the TPB, the TPB Technical Committee and its subcommittees. This UPWP details the planning activities that must be accomplished to address the annual planning requirements such as preparing the TIP and a Congestion Management System. It also describes the tasks required to meet the approval dates for the region's CLRP and the TIPs, and outlines the activities for the subsequent years.

Responsibilities for Transportation Planning

The National Capital Region Transportation Planning Board (TPB) is the organization responsible for conducting the continuing, cooperative, comprehensive (3-C) transportation planning process for the Metropolitan Washington Region in accordance with requirements of MAP-21. The TPB is the official Metropolitan Planning Organization (MPO) for transportation planning for the Washington metropolitan region, designated by the Governors of Maryland and Virginia and the Mayor of the District of Columbia.

The TPB is composed of representatives from the 20 cities and counties, including the District of Columbia, that are members of the Metropolitan Washington Council of

Governments (COG), the two state and the District transportation agencies, the Washington Metropolitan Area Transit Authority (WMATA), the Metropolitan Washington Airports Authority (MWAA), four federal agencies, the General Assemblies of Maryland and Virginia, and private transportation service providers. When matters of particular importance are before the TPB, a special voting procedure may be invoked that weights the votes of local jurisdiction members according to population.

Figure 1 lists the organizations represented on the TPB and its Technical Committees. Figure 2 shows the geographical location of each of the participating local jurisdictions. The TPB also serves as the transportation policy committee of COG. This relationship serves to ensure that transportation planning is integrated with comprehensive metropolitan planning and development, and is responsive to the needs of the local governments in the area.

Policy coordination of regional highway, transit, bicycle, pedestrian and intermodal planning is the responsibility of the TPB. This coordinated planning is supported by the three departments of transportation (DOTs), FTA, FHWA, and the member governments of COG. The TPB coordinates, reviews, and approves work programs for all proposed federally assisted technical studies as part of the UPWP. The relationship among land use, environmental and transportation planning for the area is established through the continuing coordinated land-use, environmental and transportation planning work programs of COG and TPB. Policy coordination of land use and transportation planning is the responsibility of COG, which formed the Region Forward Coalition in 2010 to foster collaboration in these areas, and the Transportation Planning Board. COG's regional land use cooperative forecasts are consistent with the adopted regional Long Range Transportation Plan.

The chairman of the TPB and the state transportation directors are members of the Metropolitan Washington Air Quality Committee (MWAQC), which was formed under the authority of the governors of Maryland and Virginia and the mayor of the District of Columbia to recommend the region's air quality plans. These recommendations are forwarded to the governors and mayor for inclusion in the State Implementation Plans (SIPs) they submit to EPA.

In the Washington Metropolitan region, the roles and responsibilities involving the TPB, the three state DOTs, the local government transportation agencies, WMATA, and the local government public transportation operators for cooperatively carrying out state transportation planning and programming have been established over several years. As required under the final planning regulations, the TPB, the state DOTs and the public transportation operators have documented their transportation planning roles and responsibilities in the Washington Metropolitan Region in a Memorandum of Understanding (MOU) that was executed by all parties on January 16, 2008. The MOU is included in the Appendix and the responsibilities for the primary planning and programming activities are indicated in Figure 3.

Included in the Appendix is the 2004 agreement between the TPB and the Fredericksburg Area MPO (FAMPO) in Virginia in which FAMPO committed to be responsible for meeting the TMA responsibilities for the transportation planning and programming requirements within the Metropolitan Washington Urbanized Area portion of Stafford County and producing the required planning documents on the TPB's current planning cycle.

Each year, the TPB Call for Projects document is transmitted to FAMPO requesting new and updated information on the projects located in the portion of Stafford County in the Washington DC TMA to be included in the update of the CLRP. FAMPO is also requested updated information on the Congestion Management System (CMS) for this portion of Stafford County. FAMPO transmits this information to TPB on the schedule included in the TPB Call for Projects document.

FY 2016 Regional Planning Priorities

Efforts will continue to address establishing performance measures and targets in coordination with the three state DOTs, WMATA and the local government public transportation operators in accordance with the new MAP-21 planning regulations and performance management requirements for MPOs. With the completion in January 2014 of the three-year process to develop the RTPP, the focus will turn to assessing what policy actions, funding strategies and potential projects are proposed for inclusion in the CLRP.

Efforts will continue to improve the coordination between land use and transportation planning. The TPB public participation process and technical planning procedures will also continue to be strengthened. In addition to these activities directly involving the TPB, a number of corridor studies and other planning studies and programs are underway throughout the region (see Figure 4).

Figure 1

ORGANIZATIONS REPRESENTED ON THE TPB AND/OR ITS TECHNICAL COMMITTEES

VIRGINIA

Arlington County	Northern Virginia Regional Commission
Fairfax County	Northern Virginia Transportation Commission
Loudoun County	Virginia Department of Transportation
Fauquier County	Virginia Department of Rail and Public Transportation
Prince William County	Virginia Department of Aviation
City of Alexandria	Virginia General Assembly
City of Fairfax	Potomac and Rappahannock Transportation Commission
City of Falls Church	
City of Manassas	
City of Manassas Park	
Northern Virginia Transportation Authority	

MARYLAND

Frederick County	City of Greenbelt
Montgomery County	City of Rockville
Prince George's County	City of Takoma Park
Charles County	The Maryland-National Capital Park and Planning Commission
City of Bowie	Maryland Department of Transportation
City of College Park	Maryland General Assembly
City of Frederick	
City of Gaithersburg	

DISTRICT OF COLUMBIA

D.C. Council
D.C. Department of Transportation
D.C. Office of Planning

REGIONAL, FEDERAL AND PRIVATE SECTOR

Washington Metropolitan Area Transit Authority
Private Transportation Service Providers
Metropolitan Washington Airports Authority
Federal Highway Administration
Federal Transit Administration
National Capital Planning Commission
National Park Service

Figure 2
Membership of the
National Capital Region
Transportation Planning Board

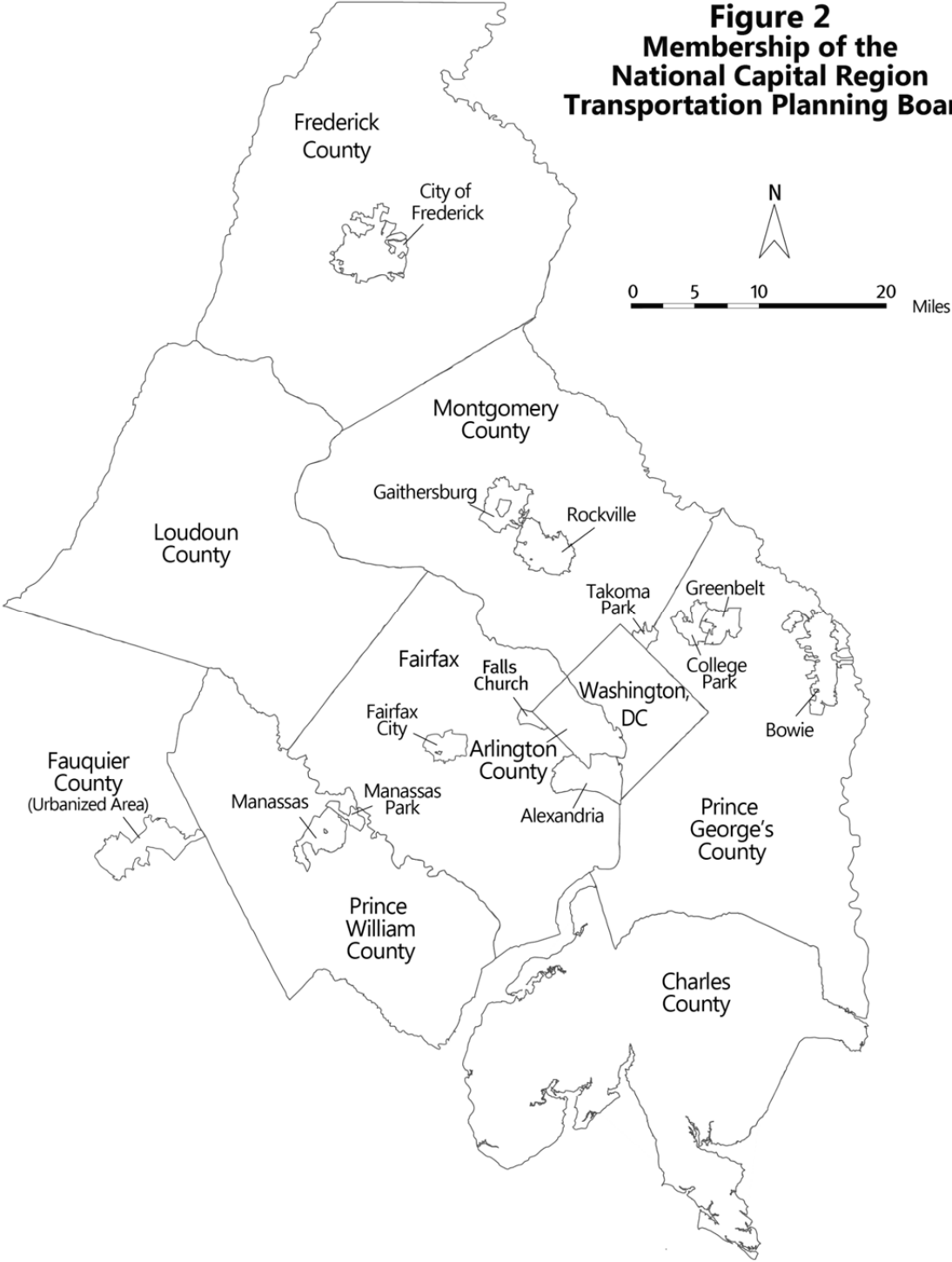


Figure 3

TRANSPORTATION PLANNING AND PROGRAMMING RESPONSIBILITIES

RESPONSIBILITY	AGENCIES
UPWP Development	TPB, DOTs, WMATA, Local Gov'ts
Planning Certification	TPB, DOTs
Performance-based Planning	TPB, DOTs, WMATA, Public Transportation Providers
CLRP Development	
Transportation/Land-Use Planning Plan Inputs/Update	TPB, MDPC, Local Gov'ts DOTs, WMATA, Local Gov'ts, NVTA, PRTC, FAMPO
Project Selection	TPB, DOTs, WMATA, and Local Gov'ts
Air Quality Conformity	TPB, FAMPO
Financial Plan	TPB, DOTs, WMATA, Local Gov'ts
Congestion Management Process	TPB, DOTs, Local Gov'ts, FAMPO
Safety Element	TPB, DOTs, Local Gov'ts,
Participation Plan	TPB
Freight Plan	TPB, DOTs, Local Gov'ts.
TIP Development	
TIP Inputs	DOTs, WMATA, Local Gov'ts, NVTA, PRTC,
Project Selection	TPB, DOTs, WMATA
Air Quality Conformity	TPB, FAMPO
Financial Plan	TPB, DOTs, WMATA, Local Govt., NVTA, PRTC
Human Service Transportation Coordination Planning	TPB, WMATA, human services agencies
Private Enterprise Participation	TPB, WMATA, Local Gov'ts, NVTC/PRTC
Public Involvement Plan	TPB
Projects Fed Funding	TPB, DOTs, WMATA
Air Quality 2010 Attainment Plan	MWAQC, TPB, DOTs
CO ₂ Mobile Emissions Reduction	WMATA, state AQ agencies
Climate Change Adaptation	TPB, DOTs, WMATA, Local Gov'ts
Corridor Studies	DOTs, WMATA, TPB
Travel Demand Forecasting	TPB
Travel Monitoring	TPB, DOTs, WMATA, Local Gov'ts

Figure 4**TRANSPORTATION PLANNING STUDIES WITHIN THE WASHINGTON METROPOLITAN AREA 2015**

Name	Primary Agencies	Schedule	Products
Regional			
Update of Constrained Long-Range Plan	TPB, state DOTs, WMATA, local govts.	2015	CLRP
Station Area Plans (multiple stations)	WMATA	on-going	Plans
Station Access Studies (multiple stations)	WMATA	on-going	Plans
Priority Corridor Dev. Plans (multiple corridors)	WMATA	on-going	Plans
Bus Service Eval. Studies	WMATA	on-going	Studies
Connect Greater Washington System Plan	WMATA	2015	Report
2040 Regional Transit System Implementation Plan	WMATA	2016	Report
Policy Alternatives to the 2040 RTSP Build Network	WMATA	2015	Report
LRT/ Streetcar Interoperability	WMATA	on-going	Report
Metrobus Passenger Survey	WMATA/MWCOG	2015	Dataset, Report
Late-Night Bus Service	WMATA	2015	Report
Silver Spring Capacity Study	WMATA	2015	Report
Farragut West – Farragut North Passageway Study	WMATA	2015	Report
Metrobus Emerging Corridor Studies	WMATA	ongoing	Report
Metrobus Network Effectiveness Study	WMATA	2015	Report

Figure 4 PLANNING STUDIES 2015 (Continued)

Name	Primary Agencies	Schedule	Products
Metrorail Line Load Application	WMATA	2015	Application
Metro Operating Cost Model Update	WMATA	2015	Application/Model
Metrorail Station Area Strategic Investment Plan	WMATA	2015	Report/Application Model
CLRP Transit Project Impacts on Metro	WMATA	2015	Report
Virginia			
I 66 Tier 2 EIS (Outside the Beltway)	VDOT	2015	FEIS
Significant Projects Ratings Study (HB 599)	VDOT	2014	Ratings Report
Potomac River Crossings Planning Study	VDOT	2014	Demand Report
Buckland Area Study	VDOT	2015	Report
DACPMA Hwy. EA	VDOT	2014	EA Report
Bi County Parkway	VDOT	2014	FEIS
VA Rte. 28 Study	VDOT	2015	Improvement Options
Fairfax County Pkwy Study Phase 1	VDOT	2015	Near-term Operational Improvements
US 1 Multimodal Alternative Analysis Study	VDRPT	FY2015	Recommended NEPA Action Documentation 2014 and environmental work/project development
VRE Extension to Gainesville	VRE	2015	NEPA Document

Figure 4 PLANNING STUDIES 2015 (Continued)

Name	Primary Agencies	Schedule	Products
Columbia Pike Streecar - NEPA	Arlington Co. Fairfax Co.	2015	NEPA
Maryland			
Capital Beltway Study	MDOT, VDOT, Montgomery & Prince George's Counties	On-hold	DEIS
I-270 Multi-Modal Corridor Study - Highway	MDOT/SHA, Montgomery & Frederick Counties	On-hold	FEIS
Corridor Cities Transitway Study	MDOT/MTA	2015	EA/FONSI
Purple Line (Bethesda to Silver Spring/ Silver Spring to New Carrollton)	MDOT/MTA	2014	FEIS
Southern Maryland Transit Study	MDOT/MTA	2015	Report
MD 5 Transportation Study(I-495 to US 301)	MDOT/SHA	2014	DEIS
US 301 Waldorf Study (US 301from T.B. to south of Waldorf)	MDOT/SHA	2014	Feasibility Study
MD 223 Corridor Study (Steed Road to MD 4)	MDOT/SHA	2014	Report
MD 97 Safety Accessibility Study (16th Street to Forest Glen Road)	MDOT/SHA/MTA	2015	Not Determined
MD 97 (BRT) (Glenmont Metro to Montgomery General Hospital – Olney)	MDOT/SHA/MTA	2014	Not Determined
MD 586 Viers Mill BRT	MDOT/SHA/MTA	2015	DEIS
US 301 Planning for Operations Study (US 50 to Potomac River)	MDOT/SHA	2015	Report

Figure 4 PLANNING STUDIES 2015 (Continued)

Name	Primary Agencies	Schedule	Products
I-270 Planning for Operations Study (I-495 To MD 109)	MDOT/SHA	2015	Report
Region-wide Bus on Shoulder Feasibility	MDOT/MTA/SHA WMATA/VDOT/ Counties	2014	Report
MD 28 Corridor Study MD 97 to I-95	MDOT/SHA	2017	Not Determined
Montgomery County BRT Study	MDOT/MTA/SHA	tbd	Not Determined
District of Columbia	14th Street Bridge	FHWA, DDOT,	on-going EIS
Feasibility Study	VDOT		
South Capitol Street (EIS)/AWI	DDOT	on-going	EIS
First Place and Galloway NE Redesign (Fort Totten Metrorail Station)	DDOT/WMATA	on-going	Report/Design
Citywide Travel Demand	DDOT	on-going	Travel Model
Great Streets Program	DDOT	on-going	Design
Managed Lane Study	DDOT	2014	NEPA
DC Streetcar- Anacostia Ext EA and Section 106	DDOT/FTA/FHWA	2014	EA & Sec 106
DC Streetcar - Union Station to Georgetown	DDOT/FTA/FHWA	2014	NEPA
DC Streetcar- Benning Rd Ext Environmental	DDOT/FTA/FHWA	2014	EA
DC Streetcar – M Street Ext Environmental	DDOT/FTA /FHWA	2014	EA
Virginia Avenue Tunnel	CSX/FHWA/DDOT	2014	EIS
Long Bridge Study	DDOT/ FRA	2014	Study

Figure 4 PLANNING STUDIES 2015 (Continued)			
Name	Primary Agencies	Schedule	Products
Long Bridge Environmental	DDOT / FRA	2014	NEPA
C Street N.E. Implementation Study	DDOT	2014	Study
moveDC	DDOT	2014	Plan
DC Streetcar System Plan (2014 Update)	DDOT	2014	Plan
Metropolitan Branch Trail Fort Totten to Eastern Avenue Concept Study	DDOT	2014	Study
Southeast/Southwest Special Events Study	DDOT	2014	Study
State Freight Plan	DDOT	2014	Plan
North South Corridor Study	DDOT	2014	Study

Total Proposed Funding by Federal Source for FY 2016

Proposed federal funding for the transportation planning activities in this UPWP relies upon five sources: FTA Section 5303, FHWA Section 112, FAA Continuous Airport System Planning (CASP), FHWA State Planning and Research (SPR) and special federal funding. The proposed funding amounts (including state and local matching funds) for the TPB work program are shown in Table 1 on page 17.

The new FY 2016 funding level in Table 1 under the "FTA Section 5303" column is assumed to be the same as the FY 2015 level, and new funding under the "FHWA Section 112" column is assumed to be the same as the FY 2015. The total FY 2016 budget for the Basic Program with unobligated funding from FY 2014 is assumed to be the same as the FY 2015 total. The FY 2016 funding levels and budget will be amended in the fall of 2015 after the new federal funding amounts are determined.

TABLE 1
FY 2016 TPB PROPOSED FUNDING BY FEDERAL, STATE AND LOCAL SOURCES
(July 1, 2015 to June 30, 2016)

	FTA SECT 5303 80% FED & 20% STA/ LOC	FHWA SECT 112 80% FED & 20% STA/ LOC	FAA CASP 90% FED & 10% LOC	TOTALS
ALLOTMENTS PROVIDED BY DDOT				
NEW FY 2016	\$ 532,855	\$ 2,150,307		2,683,162
UNOBLIGATED FY 2014	23,993	107,656		131,649
CARRYOVER FY 2015				0
SUBTOTAL	556,848	2,257,963		2,814,811
ALLOTMENTS PROVIDED BY MDOT				
NEW FY 2016	1,277,256	3,610,288		4,887,544
UNOBLIGATED FY 2014	249,550	550,550		800,100
CARRYOVER FY 2015				0
SUBTOTAL	1,526,806	4,160,838		5,687,644
ALLOTMENTS PROVIDED BY VDRPT & VDOT				
NEW FY 2016	1,037,185	2,861,800		3,898,985
UNOBLIGATED FY 2014	72,000	408,145		480,145
CARRYOVER FY 2015				0
SUBTOTAL	1,109,185	3,269,945		4,379,130
TPB BASIC PROGRAM				
TOTAL NEW FY 2016	2,847,296	8,622,395		11,469,691
TOTAL UNOBLIGATED FY 2014	345,543	1,066,351		1,411,894
SUBTOTAL	3,192,839	9,688,746		12,881,585
TOTAL CARRYOVER FY 2015	0	0		0
TOTAL BASIC PROGRAM	3,192,839	9,688,746		12,881,585
GRAND TOTAL	3,192,839	9,688,746	\$232,000	13,113,585

"New FY2016 funds" are newly authorized funds for the FY2016 UPWP

"Unobligated FY2014 funds" are unexpended funds from the completed FY2014 UPWP

"Carryover FY2015 funds" are programmed from the FY2015 UPWP to complete specific work tasks in the FY2016 UPWP

II. PROPOSED FY 2016 TPB WORK PROGRAM AND BUDGET

Program Structure

The TPB is responsible for the federally required planning process, serves as a forum for regional coordination, and provides technical resources for decision-making. This work program presents the work activities that support the TPB responsibilities. This work program comprises seven major activities and follows the structure in the FY 2015 program. These work activities include: (1) Plan Support; (2) Coordination and Programs; (3) Forecasting Applications; (4) Development of Networks/Models; (5) Travel Monitoring; (6) Technical Assistance; and (7) Continuous Airport System Planning. The tasks to be completed under each of the work activities are described in the following sections. The staff of the COG Department of Transportation Planning will carry out these activities, with the assistance of staff in other COG departments and supplementary consultant support.

The work program has been structured to clearly identify the specific work products to be developed, the linkages between them, and the TPB entity responsible for oversight of the products. Figures 5 and 6 on pages 21-22 illustrates the relationship between and among the TPB work activities.

The first major activity, **Plan Support**, includes the preparation and coordination of the policy and planning products necessary for conducting an effective transportation planning process for the region. The UPWP, the transportation improvement program (TIP) and the financially-constrained long-range plan (CLRP) are required by federal law and regulations. A new activity will coordinate the development of measures and targets to be incorporated into performance-based planning for the CLRP and TIP as required in MAP-21.

The second major activity, **Coordination and Programs**, includes related activities such as the regional congestion management process (CMP), safety planning, management, operations and technology, emergency preparedness, freight planning, public transportation planning, and bicycle and pedestrian planning. These activities will support the development of performance measures and targets. Public participation applies to all of the policy products. Human services transportation coordination planning incorporates the MPO role in the new MAP-21 FTA Section 5310 Enhanced Mobility program for elderly persons and persons with disabilities. The Transportation /Land Use Connection (TLC) Program supports the improvement of coordination between land use and transportation planning and incorporates the MPO role in the MAP-21 Transportation Alternatives Program.

The third major activity, **Forecasting Applications**, includes forecasting applications such as air quality conformity and regional studies to provide the substantive inputs for the policy products.

The fourth major activity, **Development of Networks and Models** interacts with **Travel Monitoring**, the fifth major activity. Together, these activities provide empirical travel information from congestion monitoring and survey and analysis activities. Both products and methods activities provide input for the technical products.

The sixth major activity, **Technical Assistance**, activity responds to requests from state and local governments and transit operating agencies for applying TPB methods and data to support corridor, project, and sub-area transportation and land use studies related to regional transportation planning priorities.

Finally, the seventh major activity, **Continuous Airport System Planning (CASP)** utilizes the methods and data work activities for airport and airport-serving facilities in the region.

Work Activity Budgets

The proposed budget levels by funding source, which include FTA and FHWA funds together with state and local match, are shown in Table 2 on page 23. The TPB committee structure is shown in Figure 6 on page 25. The TPB committee or sub-committee responsible for the specific work activities listed in Table 2 are shown under the descriptions for each task starting on page 27. A detailed breakdown of staffing, consultant costs and other budgetary requirements is provided in Table 3 on page 24.

Funding for the TPB Basic Work Program is similar to the FY 2015 level. The FY 2016 UPWP continues and modifies some work activities in the FY 2015 UPWP to address MAP-21 requirements. The structure and content of this work program are summarized as follows:

- **Section 1 - Plan Support**, a new activity will coordinate the development of measures and targets to be incorporated into performance-based planning for the CLRP and TIP as required in MAP-21. The other activities have been conducted on an annual basis in previous years.
- **Section 2 - Coordination Planning**, all of the activities have been conducted on an annual basis in previous years and will address the development of new performance measures and targets required in MAP-21.
- **Section 3 - Forecasting Applications**, under regional studies, transportation support for the COG multi-sector greenhouse gas working group and the development of a regional list of unfunded transportation projects began in FY 2015. The other activities have been conducted on an annual basis in previous years.
- **Section 4 - Development of Networks/Models** and **Section 5 - Travel Monitoring**: all of the activities have been conducted on an annual basis in previous years.
- **Section 6 - Technical Assistance** and **Section 7 - Continuous Airport System Planning (CASP)** are conducted each year.
- **Section 8 - Service/Special Projects**, service work or special technical studies as specified in contracts between the transportation agencies and COG may be included in the UPWP. Services or special projects are authorized and funded separately by the transportation agencies.

Figure 5: Overview of Planning Products and Supporting Activities

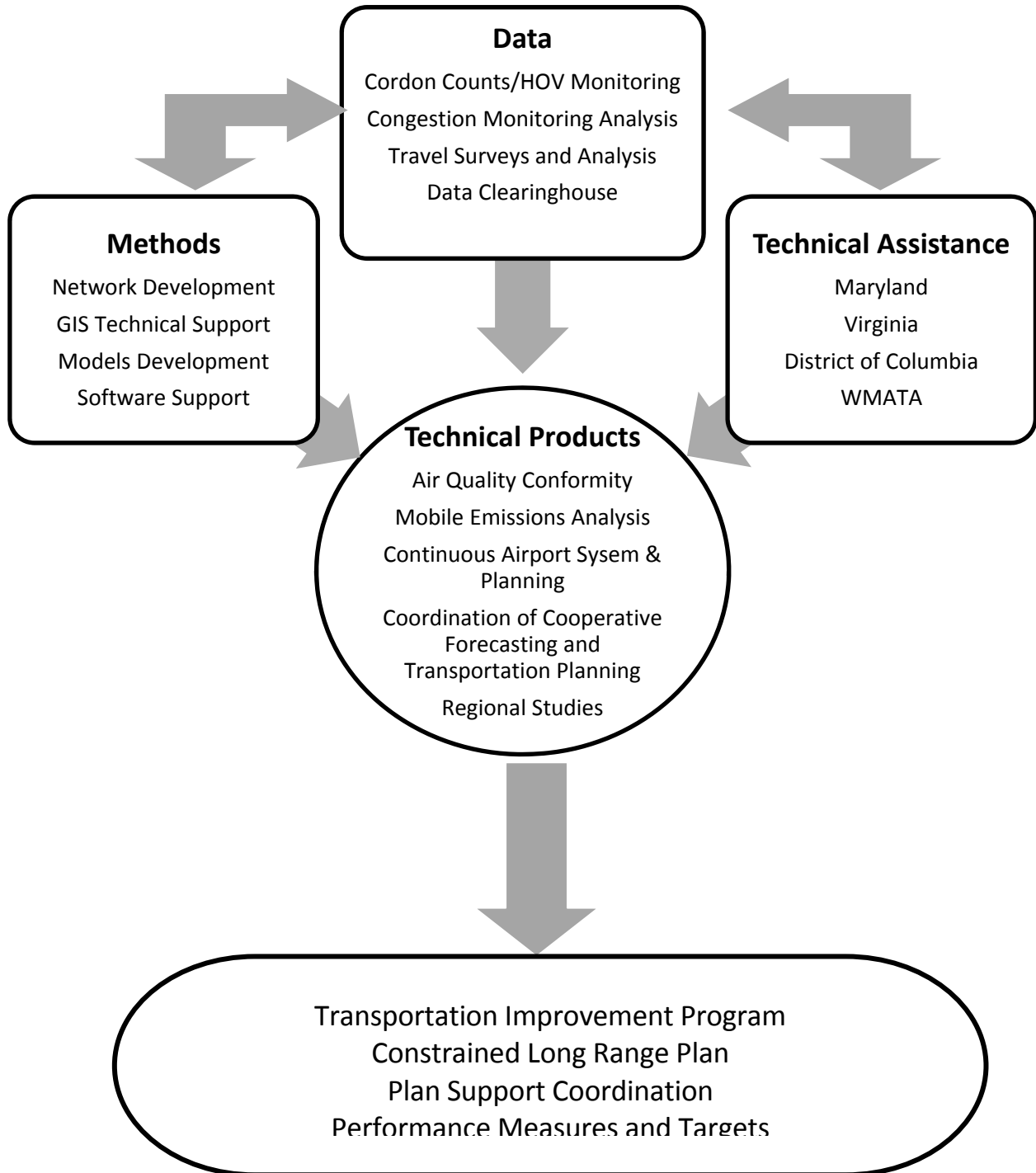


Figure 6: Visual Representation of UPWP Work Activity Relationships

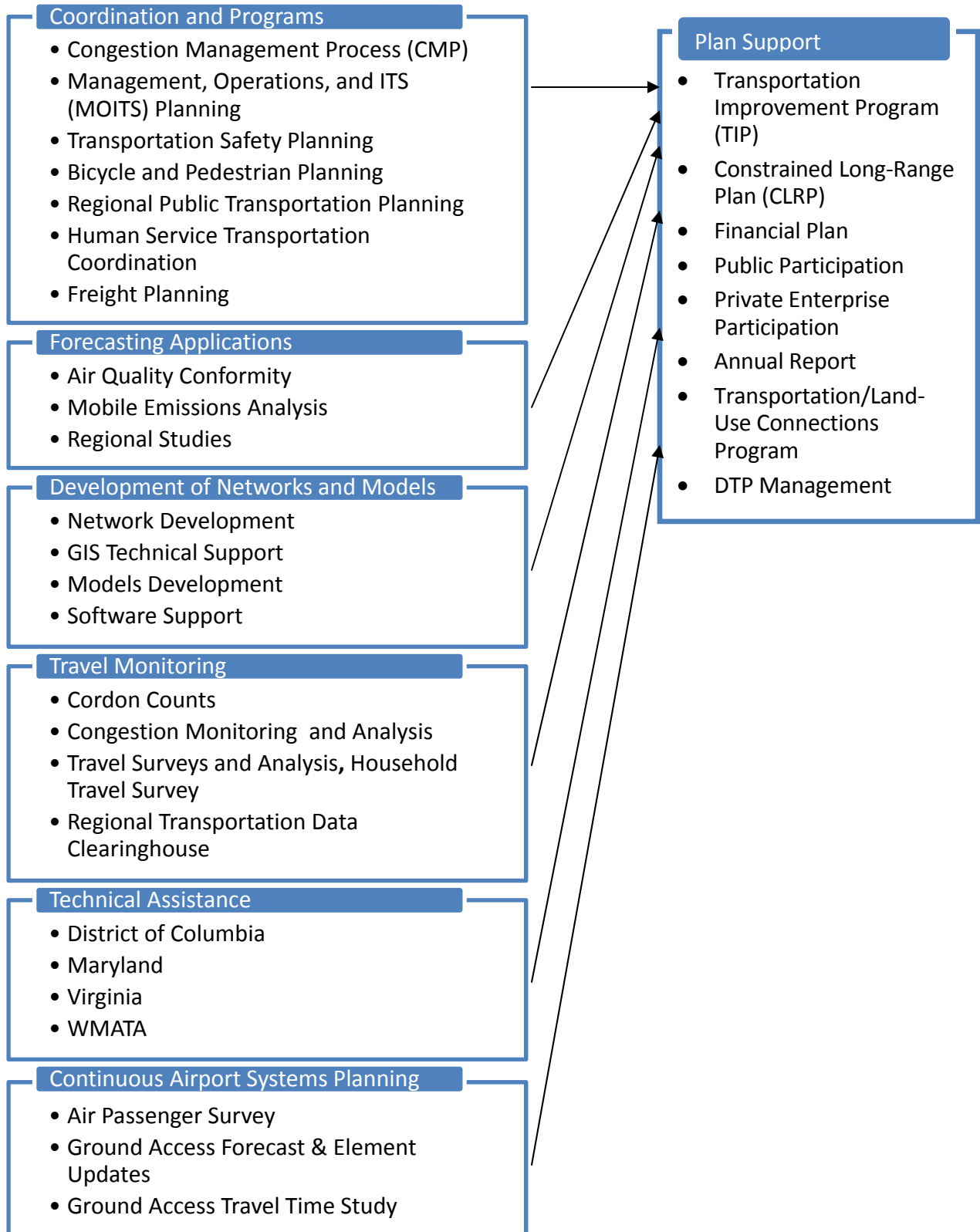
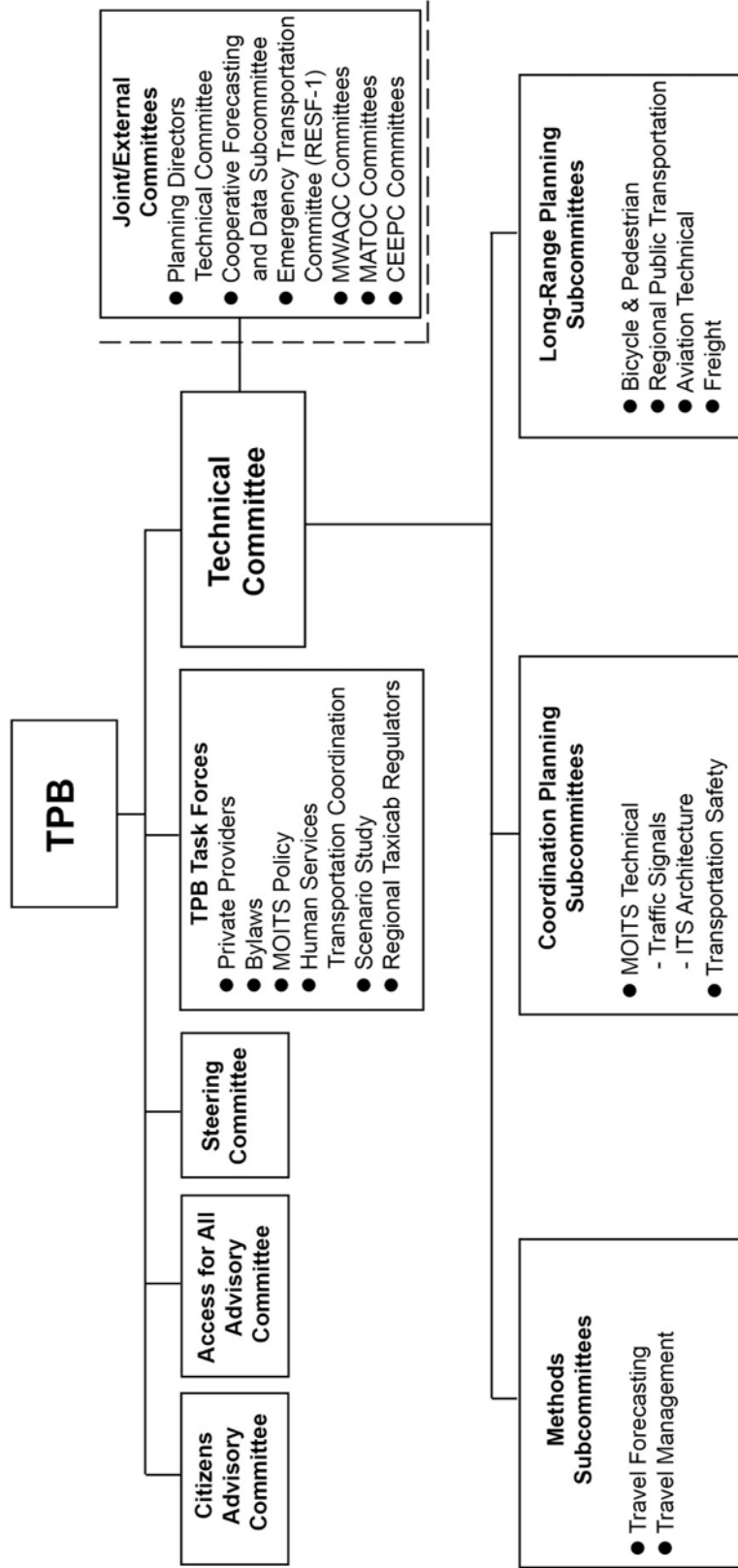


TABLE 2
TPB FY 2016 WORK PROGRAM BY FUNDING SOURCES

WORK ACTIVITY	TOTAL COST	FTA/STATE/ LOCAL	FHWA/STATE/ LOCAL	OTHER FUND
1. PLAN SUPPORT				
A. Unified Planning Work Program (UPWP)	73,550	18,285	55,265	
B. Transp Improvement Program (TIP)	225,300	56,012	169,288	
C. Constrained Long-Range Plan	625,885	155,601	470,284	
D. Financial Plan	65,550	16,296	49,254	
E. Public Participation	466,060	115,867	350,193	
F. Performance-Based Planning for CLRP/TIP	100,000	24,861	75,139	
G. Annual Report	83,350	20,722	62,628	
H. Transportation/Land Use Connection Progr	434,900	108,120	326,780	
I. DTP Management	488,333	121,404	366,929	
Subtotal	2,562,928	637,166	1,925,762	
2. COORDINATION and PROGRAMS				
A. Congestion Management Process (CMP)	213,150	52,991	160,159	
B. Management, Operations, & ITS Planning	354,050	88,020	266,030	
C. Emergency Preparedness Planning	78,400	19,491	58,909	
D. Transportation Safety Planning	130,100	32,344	97,756	
E. Bicycle and Pedestrian Planning	126,250	31,387	94,863	
F. Regional Public Transportation Planning	180,600	44,899	135,701	
G. Human Service Transportation Coordination	142,700	35,476	107,224	
H. Freight Planning	156,050	38,795	117,255	
I. MATOC Program Planning Support	124,850	31,039	93,811	
Subtotal	1,506,150	374,442	1,131,708	
3. FORECASTING APPLICATIONS				
A. Air Quality Conformity	590,500	146,803	443,697	
B. Mobile Emissions Analysis	714,500	177,631	536,869	
C. Regional Studies	587,200	145,983	441,217	
D. Coord Coop Forecasting & Transp Planning	839,400	208,682	630,718	
Subtotal	2,731,600	679,100	2,052,500	
4. DEVELOPMENT OF NETWORKS/MODELS				
A. Network Development	800,800	199,086	601,714	
B. GIS Technical Support	571,000	141,956	429,044	
C. Models Development	1,214,500	301,935	912,565	
D. Software Support	186,200	46,291	139,909	
Subtotal	2,772,500	689,268	2,083,232	
5. TRAVEL MONITORING				
A. Traffic Counts	261,000	64,887	196,113	
B. Congestion Monitoring and Analysis	364,100	90,518	273,582	
C. Travel Surveys and Analysis				
Household Travel Survey	1,034,800	257,260	777,540	
D. Regional Trans Data Clearinghouse	330,700	82,215	248,485	
Subtotal	1,990,600	494,881	1,495,719	
Core Program Total (1 to 5)	11,563,778	2,874,857	8,688,921	
6. TECHNICAL ASSISTANCE				
A. District of Columbia	268,316	34,422	233,894	
B. Maryland	488,754	62,702	426,052	
C. Virginia	389,899	50,020	339,879	
D. WMATA	170,838	170,838		
Subtotal	1,317,807	317,982	999,825	
Total, Basic Program	12,881,585	3,192,839	9,688,746	
7. CONTINUOUS AIRPORT SYSTEM PLANNING				
A. Update Ground Access Forecasts - Ph 1	40,000			40,000
B. Ground Access Element Update - Ph 2	82,000			82,000
C. Process 2013 Air Passenger Survey - Ph 2	110,000			110,000
Subtotal	232,000			232,000
GRAND TOTAL	13,113,585	3,192,839	9,688,746	232,000

Table 3 goes here

Figure 7
TPB Committee Structure



III. MAJOR WORK ACTIVITIES

1. PLAN SUPPORT

A. THE UNIFIED PLANNING WORK PROGRAM (UPWP)

The Unified Planning Work Program (UPWP) for the Metropolitan Washington Region describes all transportation planning activities utilizing federal funding, including Title I Section 134 metropolitan planning funds, Title III Section 8 metropolitan planning funds, and Federal Aviation Administration Continuing Airport System Planning (CASP) funds. The UPWP identifies state and local matching dollars for these federal planning programs, as well as other closely related planning projects utilizing state and local funds.

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Clean Air Act Amendments of 1990 (CAAA) created a number of planning requirements. The Safe, Accountable, Flexible, and Efficient Transportation Equity Act - A Legacy for Users (SAFETEA-LU), which became law on August 11, 2005, reaffirmed the structure of the metropolitan planning process, and increased federal financial support for it. On February 14, 2007, FHWA and FTA issued the final regulations regarding metropolitan planning in response to SAFETEA-LU. The Moving Ahead for Progress in the 21st Century (MAP-21) Act, which became law on July 6, 2012, made some important modifications to the metropolitan planning process, primarily requiring metropolitan planning organizations (MPOs) to establish and use a performance-based approach to transportation decision making and development of transportation plans. This work program has been developed to comply with the MAP-21 requirements regarding metropolitan planning essentially as presented in the proposed MPO planning rule published June 2, 2014. After the FHWA and FTA regulations on MPO planning are final, the activities will be reviewed to identify revisions that may be necessary to comply with them.

In 1994, the TPB developed and adopted the first financially-constrained Long Range Transportation Plan for the National Capital Region (CLRP). In July 1997, the first three-year update of the CLRP was approved by the TPB, the second update was approved in October 2000, and the third update was approved in December 2003. The fourth update was approved in October 2006. In November 2010, the TPB approved the fifth update and on October 15, 2014, the sixth update was approved.

The Environmental Protection Agency (EPA) issued regulations on November 24, 1993, followed with a succession of guidance documents, and on July 1, 2004 published the 8-hour ozone standard conformity guidance, which taken together provide criteria and procedures for determining air quality conformity of transportation plans, programs and projects funded or approved by the FHWA and FTA. These conformity requirements are addressed in this document. Under these regulations, the State Implementation Plans (SIP) for improving air quality for the region must be adopted by the states and submitted to EPA by specified dates.

The FY 2016 UPWP defined by this document details the planning activities to be accomplished between July 2015 and June 2016 to address the annual planning requirements such as preparing the Transportation Improvement Program, federal

environmental justice requirements, and Air Quality Conformity. It describes the tasks required to meet approval dates for the region's SIPs, and outlines the activities for the subsequent years.

In addition, this document describes the integration of program activities and responsibilities of the TPB Technical Committee and its subcommittees for various aspects of the work program. It provides an overview of the regional planning priorities and describes the major transportation planning and air quality planning studies being conducted throughout the region over the next two years.

During FY 2016, certain amendments may be necessary to reflect changes in planning priorities and inclusion of new planning projects. Under this task, Department of Transportation Planning (DTP) staff will identify and detail such amendments for consideration by the TPB as appropriate during the year.

In the second half of FY 2016, staff will prepare the FY 2017 UPWP. The document will incorporate suggestions from the federal funding agencies, state transportation agencies, transit operating agencies, local governments participating in TPB, and the public through the TPB's public involvement process. The new UPWP will be presented in outline to the TPB Technical Committee and the TPB in January 2016, as a draft to the Technical Committee in February and as a final document for adoption by the Technical Committee and the TPB in March 2016. The approved UPWP will be distributed to the TPB and the Technical Committee, and made available to the public on the TPB web site.

This task will also include the preparation of monthly progress reports for each of the state agencies administering the planning funding, and the preparation of all necessary federal grant submission materials.

Oversight:	Technical Committee
Cost Estimate:	\$73,550
Products:	UPWP for FY 2017, amendments to FY 2016 UPWP, monthly progress reports and state invoice information, federal grant materials
Schedule:	Draft: February 2016 Final: March 2016

B. THE TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

The Transportation Improvement Program (TIP) for the Metropolitan Washington Area is a six year program of highway, transit, bicycle and pedestrian, congestion mitigation/air quality, safety and transportation enhancement projects. The TIP will be updated every two years and amended as necessary between updates. Up-to-date information on project amendments and modifications in the TIP is available in the on-line TIP database. A printed TIP document will be produced every two years. The TIP must be approved by the TPB and the governors of Maryland and Virginia and the mayor of the District of Columbia, and is required as a condition for all federal funding

assistance for transportation improvements within the Washington Metropolitan Statistical Area.

TIP documentation describes major projects from the previous TIP that have been implemented and identifies significant delays in the implementation of major projects. The Program Development Process and Project Development Process sections of the TIP explain the TPB's actions during the project selection process, including:

- Reviewing project inputs for consistency with the Air Quality Conformity Analysis;
- Producing a financial summary of all funding sources proposed by an agency;
- Reviewing priority project lists developed by the Bicycle and Pedestrian, Freight, and Regional Public Transportation Subcommittees for inclusion on the TIP and;
- Programming TIGER and Section 5310 Enhanced Mobility projects.

Citizens, affected public agencies, representatives of transportation agency employees, private providers of transportation, freight shippers, users of public transit, and all other interested parties will be given an opportunity to review and comment on the FY 2015-2020 TIP and any subsequent amendments to the TIP as described under the TPB's public participation plan which was adopted in updated in September 2014. To facilitate public review, project information from the TIP and CLRP will be made accessible through an online, searchable database. Visual representation of the projects will be enhanced with a GIS system for displaying projects. A summary guide that highlights the funding and projects in the TIP will be prepared and will guide users to the online database.

The database application for submitting TIP project data, CLRP projects, and air quality conformity data will continue to be improved to facilitate reviewing the TIP and CLRP information. Interactive means of sharing the information in the TIP and CLRP such as querying capabilities and specialized maps or graphs will be available.

The TIP Schedule and Project Selection

The 2014 CLRP and the FY 2015-2020 TIP were approved on October 15, 2014. The TIP will be prepared with the assistance of and in cooperation with the transportation implementing agencies in the region, including the state departments of transportation, the District of Columbia Department of Transportation, the National Park Service, the Washington Metropolitan Area Transit Authority (WMATA) and other public transit operators, and local government agencies. Projects included in the TIP will be reviewed for consistency with the policies and facilities delineated in the adopted CLRP for the region. Only projects or phases of projects that have full funding anticipated to be available within the time period contemplated for completion are included in the TIP. A financial plan will be prepared to demonstrate how the TIP can be implemented, and indicate the sources of public, private and innovative funding. This financial plan will be expanded with additional analysis and visual aids such as graphs and charts, online documentation and an accompanying summary brochure for the CLRP and TIP.

During the year administrative modifications and amendments will likely need to be made to the FY 2015-2020 TIP to revise funding information or reflect changes in priorities or the introduction of new project elements. Such modifications and

amendments will follow the procedures adopted by the TPB on January 16, 2008 amended in December 2014.

In November 2014, the TPB issued a call for projects document requesting project submissions for the 2015 CLRP. Amendments to the FY 2015-2020 TIP that accompany updates to the 2014 CLRP will be prepared for review by the TPB Technical Committee, the TPB, and the public between January and September 2015.

In November 2015, the TPB will issue a call for projects document requesting project submissions for the 2016 CLRP. The FY 2017-2022 TIP that will accompany updates to the 2016 CLRP will be prepared for review by the TPB Technical Committee, the TPB, and the public between January and June 2016.

Performance management and the TIP

MAP-21 calls for MPOs, states, and public transportation providers to establish and use a performance-based approach to transportation decision making. The USDOT will establish performance measures and subsequently states and public transportation providers will establish performance targets in support of those measures. The MPO subsequently has 180 days to establish performance targets coordinated with those of the states and public transportation providers. After these targets are set, the CLRP and TIP are required to include a description of the performance measures and targets used in assessing the performance of the transportation system.

A system performance report evaluating the condition and performance of the transportation system with respect to the established targets and the anticipated effect of the TIP toward achieving the performance targets will be developed. The system performance report will also include other performance measures used in assessing the performance of the transportation system. Section 1.F of the UPWP – Performance Based Planning for the CLRP and TIP – will include the preliminary development of performance measures, targets, and a system performance plan for the metropolitan planning area as this MAP-21 requirement is implemented.

Annual Listing of TIP Projects that Have Federal Funding Obligated

TPB must publish or otherwise make available an annual listing of projects, consistent with the categories in the TIP, for which federal funds have been obligated in the preceding year. With the assistance of and in cooperation with the transportation implementing agencies in the region, TPB will prepare a listing of projects for which federal funds have been obligated in FY 2014.

Oversight:	Technical Committee
Cost Estimate:	\$225,300
Products:	Amendments and administrative modifications to the FY 2015-2020 TIP, Updated guide to the TIP
Schedule:	October 2015

C. CONSTRAINED LONG-RANGE TRANSPORTATION PLAN (CLRP)

The financially Constrained Long-Range Plan (CLRP) includes all “regionally significant” highway, transit and High-Occupancy Vehicle (HOV), bicycle and pedestrian projects, and studies that the TPB realistically anticipates can be funded and implemented by 2040. Some of these projects are scheduled for completion in the next few years; others will be completed much later. Each year the plan is updated to include new projects and programs, and analyzed to ensure that it meets federal requirements relating to air quality and funding.

Under SAFETEA-LU, the last four-year update of the CLRP was approved by the TPB on November 17, 2010 and included an expanded financial analysis of transportation revenues expected to be available through 2040. As required by MAP-21, the 2014 CLRP was approved in October 2014. The CLRP is updated annually with amendments that include new projects or adjust the phasing or other aspects of some of the projects or actions in the plan, or change specific projects as new information on them becomes available.

New Performance-Based Approach

MAP-21 calls for MPOs, states, and public transportation providers to establish and use a performance-based approach to transportation decision making. The USDOT will establish performance measures and subsequently states and public transportation providers will establish performance targets in support of those measures. The MPO subsequently has 180 days to establish performance targets coordinated with those of the states and public transportation providers. After these targets are set, the CLRP and TIP are required to include a description of the performance measures and targets used in assessing the performance of the transportation system.

A system performance report evaluating the condition and performance of the transportation system with respect to the established targets will be developed. Once the targets are developed in coordination with the State DOTs and public transportation providers, the CLRP will include the system performance report. The system performance report will also include other performance measures used in assessing the performance of the transportation system. Section 1.F of the UPWP – Performance Based Planning for the CLRP and TIP – will include the preliminary development of performance measures, targets, and a system performance plan for the metropolitan planning area as this MAP-21 requirement is implemented.

Annual Performance Analysis Report

The Transportation Vision, which was adopted by the TPB in October 1998, contains a vision statement, long-range goals, objectives, and strategies to guide transportation planning, decision-making and implementation in the region. It addresses the planning factors in MAP-21. The Vision is the TPB Policy Element of the CLRP. The CLRP website (www.mwcog.org/clrp) describes how the plan performs related to MAP-21 planning factors as reflected by the goals of the TPB Vision. The goals from COG’s Region Forward efforts are reflected in the TPB Vision, which includes a broader set of policy goals for transportation than Region Forward.

The TPB's Regional Transportation Priorities Plan (RTPP), adopted by the TPB in January 2014, identifies near-term, on-going and long term strategies that address the most pressing challenges that the region faces in meeting the TPB's regional Vision goals. The challenges and high-pay off strategies with wide regional support identified in RTPP can inform the identification of new projects and programs for inclusion in future updates to the CLRP.

The TPB carries out the CLRP Performance Analysis each year in conjunction with the annual CLRP update to provide decision-makers and the public with information about how well the transportation investments that are currently planned and funded will meet the region's future transportation needs. The Performance Analysis uses forecasts of future population and job growth patterns along with the system of roadways and transit planned in the CLRP to predict future changes in travel patterns and travel conditions.

- Regional Transportation Priorities Plan (RTPP) and CLRP Comparative Assessment – TPB staff will conduct a qualitative assessment of how well the three overarching priorities identified in the RTPP are being met by the transportation system laid out in the 2015 CLRP.
- An analysis of the 2015 CLRP will detail how well the future transportation system laid out in the plan is expected to meet the needs of area travelers in 2040. In addition to changes in daily travel patterns, the 2015 CLRP Performance Analysis will also examine changes in congestion on area roadways and on the Metro system, as well as changes in the job accessibility by highway and transit.
- The analysis will also include the findings of the Air Quality Conformity Analysis of the 2015 CLRP and a forecast of future greenhouse gas emissions under the plan.

The CLRP will be documented in several ways and public materials will be provided during plan development and after plan approval. The CLRP website will be utilized to document the plan update by describing the development process related planning activities, major projects, performance of the plan and how the public can get involved. The website also makes CLRP-related process and technical documentation readily accessible. The TPB will continue to make the plan information more accessible and visual. Projects in the plan will be accessible through an online database that the public can easily search. Projects will be mapped using GIS where possible and displayed along with project descriptions and in an interactive map. These maps will also be used in printed media, such as the CLRP and TIP summary brochure. The TPB will also continue to improve the quality of public materials about the plan during its development and after approval so that the materials are more useful to a wide variety of audiences, using less technical jargon and more "public friendly" language.

The 2015 CLRP

In October 2014, the TPB issued its "Call for Projects" document which requested new projects programs and strategies, and updated information to be included in the 2015 CLRP. Materials describing the draft 2015 CLRP will be developed in the spring of 2015, including maps and major project descriptions, and analysis from the previous

year's CLRP. The development of the 2015 CLRP will include two opportunities for the public to comment on the Plan and it will be prepared and reviewed between January and September 2015 with approval scheduled for October 2015.

A description of the performance measures and targets under development or to be used in assessing the performance of the transportation system will be drafted. In September 2015, before the TPB approves the 2015 CLRP, a performance analysis of the CLRP to 2040 will be conducted utilizing the established performance measures. The plan will be also be evaluated for disproportionately high and adverse effects on low-income and minority population groups.

The 2016 CLRP

In November 2015, the TPB will issue its "Call for Projects" document for the 2016 CLRP. The "Call for Projects" document will request new projects programs and strategies, and updated information to be included in the 2016 CLRP. The 2016 CLRP will be prepared and reviewed between January and June 2016 with approval expected in October.

Environmental Consultation

During the development of the CLRP the TPB will continue to consult with the federal, state and local agencies responsible for natural resources, wildlife, land management environmental protection, conservation and historic preservation as necessary in the District of Columbia, Maryland and Virginia on potential environmental mitigation activities. To compare the CLRP to natural and historic resources, maps of transportation and historic resources will be updated with the latest available GIS data from the District and the States and forwarded to federal, state and local agencies for comments.

Resiliency

Continue to monitor local, state and national practices in transportation system resiliency, including climate change adaption, for potential applicability to the region.

Oversight:	Technical Committee
Cost Estimate:	\$625,885
Products:	2015 CLRP and documentation, including the RTPP/ CLRP Comparative Assessment and System Performance; Call for Projects for the 2016 CLRP,
Schedule:	October 2015

D. FINANCIAL PLAN

The Financially Constrained Long-Range Transportation Plan (CLRP)

The CLRP must be updated every four years as required by MAP-21. The CLRP is updated annually with amendments that include new projects or adjust the phasing or other aspects of some of the projects or actions in the plan, or change specific projects as new information on them becomes available. The 2014 CLRP was the four-year update of the plan.

As required under MAP-21 and federal planning regulations, both the TIP and the CLRP must have a financial plan that demonstrates how they can be implemented and show the sources of funding expected to be made available to carry them out. The financial analysis for the 2014 CLRP includes federal and state revenue projections, cost estimates for new system expansion projects, and cost estimates for system maintenance and rehabilitation. All revenue and cost estimates are in year of expenditure from 2015 through 2040.

In early 2014, in consultation with state and local DOTs and public transportation operators, an initial financial analysis was conducted to determine estimated revenues reasonably expected to be available for projected expenditures for use in preparing project submissions for the draft 2014 CLRP. By mid- 2014, the financial analysis for the 2014 CLRP which covers 2015 to 2040 will be finalized in consultation with the state and local DOTs and public transportation operators. In spring 2015, the financial analysis for the 2014 CLRP will be reviewed and updated for use in preparing submissions for the 2015 CLRP.

The Transportation Improvement Program

A financial plan for the FY 2015-2020 TIP as amended will be prepared. Since federal funding is apportioned to states, financial summaries for all TIP projects from agencies in the District of Columbia, Maryland and Virginia as well as WMATA and other transit agencies will be prepared. All projects submitted by these agencies will be grouped by the proposed federal funding categories under Surface Transportation (Title I) and Transit (Title III).

The funds programmed in the TIP for each state by federal program category will be compared with the information provided by the states and transit operators on the estimated available Federal and State funds for the program period. The funds programmed in the TIP for each state by federal program category in the first and second years will be compared with the trends of the annual funding programmed in previous TIPs and with the funding reported in the annual listings of TIP projects that have federal funding obligated. Comparisons that indicate significant changes from past trends will be reviewed with the implementing agency to clarify the change. Implementing agencies will ensure that only projects for which construction and operating funds can reasonably be expected to be available will be included in the TIP. In the case of new funding sources, strategies for ensuring their availability will be identified by the implementing agency and included in the TIP. The product will be a financial summary that focuses on the first two years of the six-year period of the TIP, and it will be incorporated as a main section of the TIP for review by the public and approval by the Technical Committee and the TPB. The

TIP will also summarize funding that the implementing agencies have programmed specifically for bicycle and pedestrian projects and identify projects that include bicycle and/or pedestrian accommodations.

Oversight:	Technical Committee
Cost Estimate:	\$65,550
Products:	Update of the financial analysis for 2015 CLRP and FY 2015-2020 TIP
Schedule:	June 2016

E. PUBLIC PARTICIPATION

The Update of the Participation Plan which was approved by the TPB in September 2014 will guide all public involvement activities to support the development of the TIP, the CLRP, the Regional Transportation Priorities Plan, and all other TPB planning activities.

Work activities include:

- Support implementation of the TPB Participation Plan.
- Provide public outreach support for the Regional Transportation Priorities Plan. Through a variety of public outreach activities, citizens will discuss the benefits, desirability and feasibility of potential projects and plan components.
- Develop and conduct workshops or events, as needed, to engage the public and community leaders on key regional transportation issues, including challenges reflected in the CLRP and TIP.
- Ensure that the TPB's website, publications and official documents are timely, thorough and user-friendly.
- Develop new written materials, tools and visualization techniques to better explain to the public how the planning process works at the local, regional and state levels.
- Conduct at least one session of the Community Leadership Institute, a two-day workshop designed to help community activists learn how to get more actively involved in transportation decision making in the Washington region.
- Effectively use technology, including social media and other web-based tools, to spread information about regional transportation planning and engage the public in planning discussions and activities.
- Provide staff support for the TPB Citizens Advisory Committee (CAC), including organizing monthly meetings and outreach sessions, and drafting written materials for

the committee.

- Provide staff support for the TPB Access for All Advisory (AFA) Committee that includes leaders of low-income, minority and disabled community groups.
- Prepare AFA Committee memo to the TPB with comments on the CLRP related to projects, programs, services and issues that are important to community groups, such as providing better transit information for limited English speaking populations, improved transit services for people with disabilities, pedestrian and bike access and safety, and potential impacts of transit-oriented development and gentrification.
- Conduct regular public involvement procedures, including public comment sessions at the beginning of each TPB meeting and official public comment periods prior to the adoption of key TPB documents.
- Complete an evaluation of the public involvement process which began in FY 2015 as recommended during the October 2014 Federal planning certification review. It is anticipated that a consultant will be utilized.

Oversight:	Transportation Planning Board
Cost Estimate:	\$466,060
Products:	TPB Participation Plan with a proactive public involvement process; CAC and AFA Committee Reports, Report on an evaluation of the TPB public involvement process.
Schedule:	On-going, with forums and meetings linked to preparation of CLRP and TIP

F. PERFORMANCE BASED PLANNING FOR THE CLRP AND TIP

MAP-21 requires “a transition to performance-driven, outcome-based approaches” for the federal highway and transit programs. Metropolitan planning organizations, states, and public transportation providers will establish and use a performance-based approach to transportation decision making in planning and programming.

MAP-21 Performance Management

To implement this mandate, rulemakings on performance provisions are being issued by the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA). The proposed Statewide and Metropolitan Planning Rule provides for the implementation of performance management within the planning process. The basic framework of the planning process is largely untouched from previous federal surface transportation reauthorization acts. However, MAP-21 proposes to change the planning process by requiring States, MPOs, and providers of public transportation to select performance

targets and link investment priorities in the TIP and CLRP to the achievement of performance targets.

The proposed performance management framework created by MAP-21 requires coordination between States, MPOs, and public transportation providers. Integration of elements of other performance-based plans into the metropolitan planning process will also be required, including the:

- Congestion Mitigation and Air Quality Improvement (CMAQ) Program Performance Plan,
- Strategic Highway Safety Plan,
- Public Transportation Agency Safety Plan,
- Highway and Transit Asset Management Plans, and
- State Freight Plan.

Once the performance management rulemaking is finalized by USDOT, the states will have a year (anticipated for September 2016) to establish performance targets in support of those measures; and the MPO subsequently has 180 days (anticipated for March 2017) to establish performance targets coordinated with those of the states and public transportation providers. After these targets are set, the CLRP and TIP are required to include a description of the performance measures and targets used in assessing the performance of the transportation system. The CLRP will also include a system performance report evaluating the condition and performance of the transportation system with respect to the established targets. The TIP will also include a description of the anticipated effect of the TIP toward achieving the performance targets set in the CLRP.

Development and Coordination of Performance Management

Once the USDOT has established performance measures for the rulemaking areas, a working group will be established to coordinate the development of regional performance measures and targets for the metropolitan planning area. TPB staff will coordinate with the local DOTs and public transportation providers to evaluate the requirements for data collection, analysis, and reporting. Both the collection of current data and the forecasting of future performance will be evaluated. Following USDOT final rulemaking, the working group will make necessary revisions to the data process used to establish measured performance.

TPB staff will coordinate with DDOT, MDOT and VDOT staff on their setting of the state performance targets in support of measures. States may set different targets for urbanized and rural areas. TPB staff will coordinate with the DOT efforts to ensure consistent state measures that are relevant for the TPB planning area. TPB staff will also coordinate with the DOT staffs to develop the specific performance targets in relation to the applicable performance measures for the TPB planning area. Similarly, TPB staff will coordinate with WMATA, VDRPT, and other public transportation agencies on their setting of performance targets for USDOT established performance measures in transit state of good repair and safety.

TPB staff will coordinate the preparation of a system performance report evaluating the condition and performance of the transportation system with respect to the established targets. The report will include a description of the performance measures and targets used in assessing the performance of the transportation system. Once the targets are developed in coordination with the State DOTs and public transportation providers, the CLRP will include the system performance report and the TIP will include a description of the anticipated effect of the TIP toward achieving the performance targets set in the CLRP.

Oversight:	Transportation Planning Board
Cost Estimate:	\$100,000
Products:	Performance Analysis Report of the CLRP and TIP
Schedule:	Performance Report of the 2015 CLRP: October 2015 MAP-21 Measures: June 2016

G. TPB ANNUAL REPORT AND TPB NEWS

TPB staff annually produces *The Region* magazine, which provides a non-technical review and analysis of transportation issues in the Washington region. Elected officials and citizens are the primary target audience of this magazine, which has an annual circulation of approximately 1,100 and is distributed throughout the year as the TPB's flagship publication.

The TPB News is produced monthly to provide a timely update on the activities of the TPB, including decisions made at the TPB's monthly meeting. The TPB News has a circulation of approximately 1,100 paper copies, and an electronic distribution of approximately 500.

In January 2012, the TPB launched the new TPB Weekly Report, which is a web-based newsletter featuring a short article every week on a single topic of interest in regional transportation. This publication is distributed electronically, including notifications through social media sites, such as Twitter and Facebook.

- The new issue of *The Region* will describe the main activities completed in 2014.
- Produce the monthly newsletter *TPB News*.
- Write and distribute the *TPB Weekly Report*,

Oversight:	Transportation Planning Board
Cost Estimate:	\$83,350

Products: *Region* magazine, *TPB News* and *TPB Weekly Report*

Schedule: June 2016

H. TRANSPORTATION/LAND USE CONNECTION (TLC) PROGRAM

The TLC Program provides support to local governments in the Metropolitan Washington region as they work to improve transportation/ land use coordination at the community level. Through the program, the TPB provides its jurisdictions with consultant-provided, short-term technical assistance to catalyze or enhance planning efforts. Begun as a pilot in November 2006, the program also provides a clearinghouse to document national best practices, as well as local and state experiences with land use and transportation coordination. By the end of FY2013, 62 TLC technical assistance projects will have been completed. These projects cover a range of subjects, including promoting “complete streets” improvements to ensure pedestrian and bicycle access to transit, identifying transportation and public realm improvements to facilitate transit-oriented development, and offering recommended changes in local government policies on issues such as urban road standards or parking policies.

The following activities are proposed for FY 2016:

- Fund at least six technical assistance planning projects at a level between \$20,000 and \$60,000 each. Fund at least one project for between \$80,000 and \$100,000 to perform project design to achieve 30% completion.
- Fund at least one technical assistance project at up to \$80,000 to complete preliminary engineering and conceptual design work, enabling one previous TLC technical assistance planning project or other member jurisdiction planning project to move towards construction-readiness.
- Conduct the selection process for small capital improvement projects using funding suballocated to the Washington metropolitan region through the state DOTs from the new MAP-21 Transportation Alternatives Program (TAP). Coordinate program implementation with the state DOTs.
- Maintain and update the TLC Regional Clearinghouse and website
- Develop tools and activities to facilitate regional learning about TLC issues among TPB member jurisdictions through the Regional Peer Exchange Network. Organize at least one regional meeting to facilitate an exchange of information about lessons learned from past TLC projects.
- Identify recommended implementation action steps in each planning project report, such as further study needs, more stakeholder collaboration, suggested land use or local policy changes, and transportation investment opportunities

and priorities.

- Provide staff support for TLC Technical Assistance Projects to be conducted as part of the MDOT Technical Assistance Program and for other projects where additional funding is provided by state or local agencies.

Oversight:	TPB Technical Committee
Cost Estimate:	\$434,900
Products:	Updated web-based clearinghouse, technical assistance provided by consultant teams to six localities, and implementation toolkit.
Schedule:	Technical assistance: September 2015-June 2016

I. DTP MANAGEMENT

This activity includes all department-wide management activities not attributable to specific project tasks in the DTP work program. Examples include the following:

- Supervision of the preparation, negotiation, and approval of the annual work program and budget, involving the State Transportation Agencies, the Technical Committee, the Steering Committee, and the TPB.
- Day-to-day monitoring of all work program activities and expenditures by task.
- Day-to-day management and allocation of all staff and financial resources to ensure that tasks are completed on schedule and within budget.
- Preparation for and participation in regular meetings of the TPB, the Steering Committee, the Technical Committee, and the State Technical Working Group.
- Attendance at meetings of other agencies whose programs and activities relate to and impact the TPB work program, such as local government departments.
- Response to periodic requests from TPB members, federal agencies, Congressional offices, media, and others for information or data of a general transportation nature.
- Review of transportation proposals of regional importance submitted to TPB through the intergovernmental review process. Where significant regional impacts are likely, staff will obtain Technical Committee and Board review and approval of comments prepared.

In addition to salaries, nominal amounts are utilized for travel related to non-project specific meetings attended by the senior staff, data processing for financial monitoring and analysis, and conferences such as FTA and FHWA seminars on federal regulations and financial management. These activities represent three to four percent of the total amount allocated for DTP Management.

Oversight:	Transportation Planning Board
Cost Estimate:	\$488,333
Products:	Materials for the meetings of the TPB, the Steering Committee, the Technical Committee, and the State Technical Working Group; responses to information requests from elected officials, federal agencies and media; and participation in external meetings related to TPB work program.
Schedule:	Ongoing throughout the year

2. COORDINATION AND PROGRAMS

A. CONGESTION MANAGEMENT PROCESS (CMP)

The regional Congestion Management Process (CMP) is a federally required component of the metropolitan transportation planning process. The CMP is to address the systematic management of traffic congestion and provision of information on transportation system performance. No single occupant vehicle (SOV) capacity expanding project can receive federal funds unless it is part of the regional CMP. The federal MAP-21 legislation continues the requirement for a CMP, with emphasis on congestion data as part of a performance measurement- based metropolitan planning process.

Under this work task, TPB will compile information and perform analyses for major aspects of the regional CMP:

- Undertake activities to address the federal requirement for a regional Congestion Management Process component of the metropolitan transportation planning process. Include information from regional Travel Monitoring programs (see Section 5 of the UPWP) addressing congestion and reliability, as well as information on non-recurring congestion as examined in the Management, Operations, and Intelligent Transportation Systems (MOITS) program (see also Task 2.B.). Identify and assess strategies that address congestion, in coordination with MOITS, the Metropolitan Area Transportation Operations Coordination Program (see also Task 2.I), the Air Quality Conformity program (see also Task 3.A.), and the regional Commuter Connections Program (see www.commuterconnections.org). Analyze transportation systems condition data archives from private sector sources, especially the data archive from the I-95 Corridor Coalition Vehicle Probe Project, and the FHWA's National Performance Management Research Data Set (NPMRDS), as compiled in the Congestion Monitoring and Analysis Task (see also Task 5.B.).
- Support the Vehicle Probe Data Users Group in its role to foster technical and methodological coordination in the application of vehicle probe data by member agencies and jurisdictions, including conducting quarterly Users Group meetings and maintaining support materials on the TPB website.
- Conduct congestion impact data analyses on an as-needed basis, such as for noteworthy incidents, weather, or other events that cause major impacts to the congestion and reliability levels of the region's roadway system.
- Address MAP-21 requirements related to the CMP, including:
 - Analyze data from the above sources to support the “congestion reduction”, “System Reliability” and other relevant National Goals for Performance Management.
 - Report regional congestion performance measures based on the available data, especially for congestion reduction and system reliability.
 - Provide congestion-related information (both recurring congestion and non-recurring congestion/reliability information) and support for Performance-Based Planning for the CLRP/TIP (see also Task 1.F.).

- Compile information and undertake analysis for development on four major aspects of the regional CMP:
 - CMP Components of the Constrained Long-Range Plan (CLRP), portions of the CLRP that specifically address CMP and its subtopics, in the form of interlinked web pages of the on-line CLRP, to be updated in conjunction with major updates of the CLRP;
 - CMP Documentation Form Information addresses federally-required CMP considerations associated with individual major projects, to be included with overall project information submitted by implementing agencies to the annual Call for Projects for the CLRP and Transportation Improvement Program (TIP) (see also Task 1.C), and incorporated into the regional CMP;
 - A CMP Technical Report, published on an as-needed basis, compiling and summarizing the results of monitoring and technical analysis undertaken in support of the regional CMP. A major update of the CMP Technical Report will be produced FY2016 (last published in 2014);
 - National Capital Region Congestion Report, released quarterly on the TPB website, reviewing recent information on congestion and reliability on the region's transportation system and featured CMP strategies, with a "dashboard" of key performance indicators.

Oversight:	Management, Operations, and Intelligent Transportation Systems (MOITS) Technical Subcommittee
Cost Estimate:	\$213,150
Products:	Updated CMP portions of the CLRP; CMP Documentation Form; National Capital Region Congestion Report; FY2016 CMP Technical Report; documentation as necessary supporting MAP-21 requirements of the CMP; Vehicle Probe Data Users Group support materials and website; as-needed congestion studies following major regional events; summaries, outreach materials, and white paper(s) on technical issues as needed
Schedule:	Monthly

B. MANAGEMENT, OPERATIONS, AND INTELLIGENT TRANSPORTATION SYSTEMS (ITS) PLANNING

Regional transportation systems management and operations are vital considerations for metropolitan transportation planning, and have been emphasized in MAP-21. Under this work task, TPB will address these as well as coordination and collaborative enhancement of transportation technology and operations in the region, with a key

focus on non-recurring congestion due to incidents or other day-to-day factors. The MOITS program includes planning activities to support the following major topics:

- MAP-21: Address MAP-21 requirements related to MOITS, including compiling and analyzing data to support the "system reliability" National Goal for Performance Management, and coordinating with member states on system reliability targets.
- Regional Transportation Management: In conjunction with the Metropolitan Area Transportation Operations Coordination (MATOC) Program (see also Task 2.I.); support the MOITS Technical Subcommittee in its long-range planning advisory role for the MATOC Program, including MATOC's focuses on traffic/transit coordination, severe weather operations, and construction zone coordination.
- Data: Facilitate transportation systems usage and condition data from Intelligent Transportation Systems (ITS) sources for application in regional transportation planning, particularly through the MATOC/University of Maryland Regional Integrated Transportation Information System (RITIS).
- Operations in Emergencies: Coordinate planning activities of day-to-day transportation operations with emergency preparedness, in conjunction with the COG Regional Emergency Support Function 1 – Emergency Transportation Committee (see also Task 2.C).
- Traveler Information: Address federal requirements on real-time incident data.
- Congestion Management Process: Analyze technology and operations strategies to address non-recurring congestion aspects of the regional Congestion Management Process (see also Task 2.A).
- Intelligent Transportation Systems (ITS) Architecture: Maintain the regional ITS architecture in accordance with federal law and regulations.
- Traffic Signals: Assist member agencies in the exchange and coordination of interjurisdictional traffic signal operations information and activities; examine traffic signal systems and operations from the regional perspective, including in conjunction with emergency planning needs.
- Multi-modal Coordination: Examination of traffic and transit management interactions in daily operations.
- Climate Change: Monitor local and national practices regarding transportation operational procedures to adapt to climate change effects and provide support for regional climate change mitigation or adaptation planning efforts that relate to transportation technology and operations.
- Monitor local and national developments regarding operations and technology aspects of the emerging field of transportation system resilience.
- MOITS Strategies: Analyze strategies designed to reduce congestion, reduce emissions, and/or better utilize the existing transportation system.
- Monitor local and national developments regarding emerging connected vehicle and automated vehicle technologies.

- Member Agency Activities: Work as needed with the MOITS activities of the state and D.C. departments of transportation, the Washington Metropolitan Area Transit Authority, and other member agencies.
- Coordinate with supra-regional management and operations activities of the Federal Highway Administration, the I-95 Corridor Coalition, and other relevant stakeholders.
- Provide staff support to the MOITS Policy Task Force, MOITS Technical Subcommittee, MOITS Regional ITS Architecture Subcommittee, and MOITS Traffic Signals Subcommittee.

Oversight:	Management, Operations, and Intelligent Transportation Systems (MOITS) Technical Subcommittee
Cost Estimate:	\$354,050
Products:	Agendas, minutes, summaries, outreach materials as needed; white paper(s) on technical issues as needed; revised regional ITS architecture; MOITS input to the CLRP as necessary; review and advice to MOITS planning activities around the region; documentation as necessary supporting MAP-21 requirements of MOITS planning.
Schedule:	Monthly

C. TRANSPORTATION EMERGENCY PREPAREDNESS PLANNING

Under this work task, TPB will provide support and coordination for the transportation sector's role in overall regional emergency preparedness planning, in conjunction with the Metropolitan Washington Council of Governments (COG) Board of Directors, the National Capital Region Emergency Preparedness Council, and other COG public safety committees and efforts. This task is the transportation planning component of a much larger regional emergency preparedness planning program primarily funded outside the UPWP by U.S. Department of Homeland Security and COG local funding. Here specialized needs for transportation sector involvement in Homeland Security-directed preparedness activities will be addressed. Efforts are advised by a Regional Emergency Support Function #1 - Transportation Committee in the COG public safety committee structure, with additional liaison and coordination with the TPB's Management, Operations, and Intelligent Transportation Systems (MOITS) Policy Task Force and MOITS Technical Subcommittee.

MAP-21 requires the metropolitan planning to address the security of the transportation system for motorized and non-motorized users.

Major topics to be addressed under this task include the following:

- Liaison and coordination between emergency management and TPB, MOITS, and other transportation planning and operations activities.
- Planning for the role of transportation as a support agency to emergency management in catastrophic or declared emergencies, including:
 - Emergency coordination and response planning through the emergency management and Homeland Security Urban Area Security Initiative (UASI) processes.
 - Emergency communications, technical interoperability, and capabilities.
 - Public outreach for emergency preparedness.
 - Coordination with regional critical infrastructure protection and related security planning.
 - Emergency preparedness training and exercises.
 - Conformance with U.S. Department of Homeland Security (DHS) directives and requirements.
 - Applications for and management of UASI and other federal Homeland Security funding.

Oversight: Management, Operations, and Intelligent Transportation Systems (MOITS) Technical Subcommittee

Cost Estimate: \$78,400

Products: Agendas, minutes, summaries, outreach materials as needed; white paper(s) on technical issues as needed; regular briefings and reports to TPB and MOITS as necessary; materials responding to DHS and UASI requirements; documentation as necessary supporting MAP-21 requirements of transportation emergency preparedness planning.

Schedule: Monthly

D. TRANSPORTATION SAFETY PLANNING

The Washington metropolitan area is a diverse and rapidly growing region, a major tourist destination, and a gateway for immigrants from all over the world. Growth has meant more people driving more miles and more people walking, especially in inner suburban areas where pedestrians were not common in years past. MAP-21 requires metropolitan planning to increase the safety of the transportation system for motorized and non-motorized users. These and other factors, along with heightened awareness of the safety problem, have demonstrated the need for the regional transportation safety planning program.

Under this work task, TPB will provide opportunities for consideration, coordination, and collaboration planning for safety aspects of the region's transportation systems. Safety planning will be in coordination with the State Strategic Highway Safety Plan efforts of the District of Columbia, Maryland, and Virginia, as well as other state, regional, and local efforts. Coordination will be maintained with the regional Street Smart pedestrian and bicycle safety outreach campaign. Major topics to be addressed in the Transportation Safety Planning task include the following:

- Support of the Transportation Safety Subcommittee
- Safety data compilation and analysis
- Address MAP-21 requirements related to the CMP, including:
 - Compile fatality and injury data to support the “safety” National Goal for Performance Management
 - Provide information on performance measures for safety
 - Coordinate with member states on addressing safety targets
 - Provide safety-related information and support for Performance-Based Planning for the CLRP/TIP (see also Task 1.F).
- Coordination on metropolitan transportation planning aspects of state, regional, and local safety efforts, and with transportation safety stakeholders.
- Coordination with other TPB committees on the integration of safety considerations.
- Maintenance of the safety element of region's long-range transportation plan.

Oversight: Transportation Safety Subcommittee

Cost Estimate: \$130,100

Products: Safety element of the CLRP; summaries, outreach materials, and white paper(s) on technical issues as needed; documentation as necessary supporting MAP-21 requirements of transportation safety planning.

Schedule: Quarterly

E. BICYCLE AND PEDESTRIAN PLANNING

Under this work task, TPB will provide opportunities for consideration, coordination, and collaborative enhancement of planning for pedestrian and bicycle safety, facilities, and activities in the region, advised by its Bicycle and Pedestrian Subcommittee. An updated Regional Bicycle and Pedestrian Plan was completed in FY2015, and provides guidance for continued regional planning activities. Major topics to be addressed include the following:

- Advise the TPB, TPB Technical Committee, and other TPB committees on bicycle and pedestrian considerations in overall regional transportation planning.
- Maintain the Regional Bicycle and Pedestrian Plan and supporting Bicycle and Pedestrian Plan database on the TPB Web site for member agency and public access, including the following:
 - Maintain the improved system developed in FY2015 of on-line mapping and visualization of projects identified in the plan.
 - Compile information toward a biennial report to be delivered in FY2017 on progress on implementing projects from the Regional Bicycle and Pedestrian Plan.
 - Provide the public with information on the status of bicycle and pedestrian facilities planning and construction in the Washington region.
- Monitor regional Complete Streets and Green Streets activities.
- Compile bicycle and pedestrian project recommendations for the Transportation Improvement Program (TIP).
- Work with the Bicycle and Pedestrian Subcommittee to identify regional or long-distance bicycle routes/project needs, including a potential circumferential "bicycle beltway" route or routes.
- Coordinate with the annual "Street Smart" regional pedestrian and bicycle safety public outreach campaign (Street Smart is supported by funding outside the UPWP).
- Advise on the implementation and potential expansion of the regional bikesharing system and associated marketing materials.
- Examine regional bicycle and pedestrian safety issues, their relationship with overall transportation safety, and ensure their consideration in the overall metropolitan transportation planning process, in coordination with task 2.D above.
- Examine bicycle and pedestrian systems usage data needs for bicycle and pedestrian planning, and ensure their consideration in the overall metropolitan transportation planning process.
- Coordinate and host one or more regional bicycle and pedestrian planning or design training, outreach, or professional development opportunities for member agency staffs or other stakeholders, at least one of which will have a primary focus on pedestrian planning.
- Provide staff support to the Bicycle and Pedestrian Subcommittee, supporting the regional forum for coordination and information exchange among member agency bicycle and pedestrian planning staffs and other stakeholders.

Oversight: Regional Bicycle and Pedestrian Subcommittee

Cost Estimate: \$126,250

Products:	Compilation of bicycle and pedestrian facilities for the TIP; maintenance of the regional bicycle and pedestrian plan on the TPB Web Site; two or more regional outreach workshops; Subcommittee minutes, agendas, and supporting materials; white papers or other research and advisory materials as necessary.
Schedule:	Bimonthly

F. PUBLIC TRANSPORTATION PLANNING

This work activity will provide support to the Regional Public Transportation Subcommittee for the coordination of public transportation planning throughout the Washington region, and for incorporating regional public transportation plans into the CLRP and TIP. The Regional Public Transportation Subcommittee is a forum for local and commuter bus, rail transit, and commuter rail operators and other agencies involved in public transportation planning and operation. The Subcommittee focuses on bus planning as well as regional transit issues, such as data sharing and technical projects. The work activity will also support the Private Providers Task Force, and private provider of public transportation involvement will be documented in the TIP. Quarterly meetings of the TPB Regional Taxicab Regulators Task Force will also be supported.

The major topics to be addressed in FY 2016 include the following:

- Evaluate federal rulemaking for the performance provisions of MAP-21, specifically transit safety and transit state of good repair, including changes in the metropolitan planning process in regard to performance-based project programming and planning.
- Provide a forum for discussion of the development of the performance measures and selection of performance targets required under MAP-21, in order to coordinate with relevant providers of public transportation to ensure consistency to the maximum extent practicable.
- Development and publication of an annual report “State of Public Transportation” that will provide useful operations, customer, and financial data on regional public transportation services for TPB and public utilization, including recent accomplishments and upcoming activities in public transportation across the region and a summary of the Subcommittee’s discussions and any recommendations for consideration by the TPB.
- Coordination and evaluation of CLRP and TIP proposals and amendments with regard to public transportation service plan implementation and capital projects for public transportation facilities and runningway improvements.
- Provide technical advice and input regarding regional transportation and land use coordination, including the development of transit assumptions for TPB planning studies.
- Facilitation of technology transfer and information sharing as it relates to regional,

state and local public transportation services, including for Bus Rapid Transit (BRT) and other projects, customer information, and other common issues.

- Coordination with other regional committees regarding public transportation participation in planning and training activities, including but not limited to the Regional Emergency Support Function (RESF) #1 at COG and the MATOC Transit Task Force.
- Coordination with the TPB Management, Operations, and Intelligent Transportation Systems (MOITS) Policy Task Force and MOITS Technical Subcommittee regarding integrated planning for public transportation services and street operations.
- Coordination with the TPB Access for All (AFA) Committee and the Human Services Transportation Coordination Task Force to enhance regional mobility for all populations.

Oversight:	Regional Public Transportation Subcommittee
Cost Estimate:	\$180,600
Products:	Annual report, data compilation, reports on technical issues, and outreach materials
Schedule:	Monthly

G. HUMAN SERVICE TRANSPORTATION COORDINATION

Under Federal regulations, a Coordinated Human Service Transportation Plan is required to guide funding decisions for the Federal Transit Administration (FTA) “Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities” program.

MAP-21 eliminated the Job Access and Reverse Commute (JARC) program and consolidated the New Freedom and the Section 5310 Elderly and Individuals with Disabilities Program into a new program “Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities”. COG was the designated recipient for JARC and New Freedom for the Washington DC-VA-MD Urbanized Area and became the designated recipient of MAP-21’s Enhanced Mobility program in 2013.

In 2014, the TPB approved an update to the Coordinated Plan to respond to the requirements of the Enhanced Mobility program. The previous Coordinated Plan guided funding decision for three FTA programs; two of which COG served as the designated recipient for: the Job Access and Reverse Commute for Low Income Individuals (JARC) and New Freedom Program for Persons with Disabilities.

The TPB established the Human Service Transportation Coordination Task Force (“Task Force”) to develop and help implement the Coordinated Plan which guided for the new

Section 5310 Enhanced Mobility program. The Task Force is comprised of human service and transportation agency representatives from each TPB jurisdiction as well as consumers and private providers. The Task Force establishes priorities for the solicitation of grant applications and assists with outreach.

Proposed work activities include:

- Support the activities of the TPB Human Service Transportation Coordination Task Force which include:
 - Identify priority projects for Enhanced Mobility Funding;
 - Review the Coordinated Plan for any revisions or updates to capture unmet transportation needs for people with disabilities and older adults; and
 - Further the goals in the Coordinated Plan for local and regional mobility management efforts to provide an array of transportation services and options to older adults and people with disabilities;
- Support the solicitation and selection of projects for Section 5310 Enhanced Mobility funding; and
- Coordinate the activities of the Task Force with the TPB Access for All Advisory Committee, the Regional Public Transportation Committee and the Private Providers Task Force.

Oversight: Transportation Planning Board

Cost Estimate: \$142,700

Products: Project Priorities and Recommendations for Enhanced Mobility Funding

Schedule: June 2016

H. FREIGHT PLANNING

Under this work task, TPB will provide opportunities for consideration, coordination, and collaborative enhancement of planning for freight movement, safety, facilities, and activities in the region. An updated Regional Freight Plan was completed in FY2015, and provides guidance for continued regional planning activities. Major topics to be addressed include the following:

- Support the Regional Freight Subcommittee.
- Follow up on the Regional Freight Plan completed in FY2015.
- Maintain the Regional Freight Plan and supporting information on the TPB Web site for member agency and public access.

- Ensure consideration of freight planning issues in overall metropolitan transportation planning, including:
 - Work proactively with the private sector for consideration of private sector freight issues. Identify topics of interest to private sector, often competing trucking and freight stakeholders.
 - Continue following up on recommendations from the Regional Freight Forum held in FY2011.
 - Advise the TPB and other committees in general on regional freight planning considerations for overall metropolitan transportation planning.
 - Coordinate with federal, state, and local freight planning activities.
- Address MAP-21 requirements related to freight planning, including:
 - Analyze available freight movement data for the region including FHWA Freight Analysis Framework total tonnage and total value data for truck, rail, air cargo, and maritime movements in our region; this data may inform freight performance measures.
 - Monitor federal rulemaking on freight performance measures.
 - Coordinate with member states on the establishment of freight targets.
- Complete a set of "Freight Around the Region" outreach materials focusing on individual jurisdictions' freight activities and their links to regional activities.
- Coordinate with TPB travel monitoring and forecasting activities on freight considerations.
- Examine truck safety issues.
- Develop ongoing freight component input to the Constrained Long Range Plan (CLRP).
- Keep abreast of regional, state, and national freight planning issues.
- Undertake data compilation and analysis on freight movement and freight facilities in the region.
- Undertake freight stakeholder outreach with representatives of the freight community, including carriers, shippers, and other stakeholders, to gain their input on regional freight movement, safety and other issues and to gauge their interest in state and MPO planning and programming processes.

Oversight: TPB Freight Subcommittee

Cost Estimate: \$156,050

Products: Data compilation and outreach materials as needed; white paper(s) on technical issues as needed; structured interviews and summarized results; documentation as necessary supporting MAP-21

requirements of freight planning

Schedule: Bimonthly

I. METROPOLITAN AREA TRANSPORTATION OPERATIONS COORDINATION PROGRAM PLANNING

Under this work task, TPB will provide planning support for the Metropolitan Area Transportation Operations Coordination (MATOC) Program, in conjunction with the MATOC Steering Committee, subcommittees, and partner agencies. This task is the metropolitan transportation planning component of a larger set of MATOC Program activities, including operational and implementation activities, funded outside the UPWP. The Metropolitan Area Transportation Operations Coordination (MATOC) Program's mission is to provide situational awareness of transportation operations in the National Capital Region (NCR) through the communication of consistent and reliable information, especially during incidents. MATOC's information sharing is undertaken in large part through the Regional Integrated Transportation Information System (RITIS). RITIS is an automated system that compiles, formats, and shares real-time traffic and transit data among the region's transportation agencies. RITIS was developed on behalf of the region by the Center for Advanced Transportation Technology Laboratory at the University of Maryland. Data provided through RITIS is in daily use by the region's major transportation operations centers.

As a complement to the externally-funded operations activities of MATOC, this UPWP task is to provide ongoing TPB staff planning assistance to the MATOC Program, as a part of the TPB's metropolitan transportation planning activities. Planning activities under this task include:

- Committee Support: Provide administrative support of MATOC Steering Committee and subcommittee meetings, including preparation of agendas and summaries and tracking of action items.
- TPB Reports: Provide regular briefings to the TPB on MATOC Program progress.
- TPB Staff Participation: Provide input and advice to the MATOC committees and working groups, including the MATOC Steering Committee, Information Systems Subcommittee, Operations Subcommittee, Transit Task Force, Severe Weather Working Group, and Construction Coordination Working Group.
- Coordinate as necessary with the Management, Operations, and Intelligent Transportation Systems (MOITS) Technical Subcommittee.
- Outreach: Coordinate the work of MATOC with other organizations, for example, with public safety or emergency management groups and media representatives; prepare articles, presentations and brochures to convey MATOC concepts, plans, and accomplishments. Also coordinate with the COG Regional Emergency Support Function # 1 - Emergency Transportation Committee.

- **Implementation Planning:** Prepare implementation plans describing the work required to reach defined stages of MATOC operating capability, including expert input from MATOC subcommittees.
- **Financial and Legal Analysis:** Support discussion of the identification of funding sources, estimation of funding needs, as well as preparation of legal agreement materials that provide for the long term sustainability of MATOC.
- **Performance Measurement:** Support MATOC committee discussions of assessing progress against MATOC's defined goals and objectives.
- **Risk Management:** Identify and monitor major risks to progress and identify actions to be taken in order to avoid incurring risks or mitigating their consequences.
- **Supporting Materials:** Develop supporting or informational materials for the above activities as necessary.

Oversight:	MATOC Steering Committee; MOITS Technical Subcommittee
Cost Estimate:	\$124,850
Products:	Agendas, minutes, summaries, and outreach materials as needed; white paper(s) on technical issues as needed; regular briefings and reports to the TPB, MATOC committees, and the MOITS Technical Subcommittee.
Schedule:	Monthly

3. FORECASTING APPLICATIONS

A. AIR QUALITY CONFORMITY

The objective of this work activity is to ensure that TPB plans, programs and projects meet air quality requirements. The 1990 Clean Air Act Amendments require that detailed systems level detailed technical analyses are conducted to assess air quality conformity of transportation plans and programs. Procedures and definitions for the analyses were originally issued as EPA regulations in the November 24, 1993 *Federal Register*, and subsequently amended and issued, most recently in a March 2010 EPA publication. In addition, federal guidance has also been published at various times by the EPA, FHWA and FTA.

The 2015 Constrained Long Range Plan (CLRP) and FY2015-20 Transportation Improvement Program (TIP) will address ozone, wintertime carbon monoxide, and fine particles (particulate matter, PM_{2.5}) requirements, including differing geographical boundaries, inventory time periods, and evaluation criteria by pollutant. The schedule for adoption of the updated plan and TIP calls for most of the work to be completed in FY2016. As the Public Comment Period extends beyond the end of FY2015 and into the start of FY2016, it is anticipated that the final stages of the plan development consisting of incorporation of the public comments, development of the final report, adoption by the TPB and subsequent transmittals will take place in October 2015. Upon adoption of the 2015 CLRP, a new Air Quality Conformity cycle will begin for the 2016 CLRP and FY2017-2022 TIP, which will run throughout FY2016.

The interagency and public consultation procedures of TPB are based on the November 24, 1993 EPA regulations, which were adopted by TPB in September 1994 and subsequently amended to reflect additional requirements in August 15, 1997 regulations, which were adopted by TPB in May 1998. These procedures address the preparation of the annual UPWP and TIP and any updates to the regional plan or programs. The procedures involve timely announcement of upcoming TPB activities relating to air quality conformity and distribution of relevant material for consultation purposes.

The FY2016 work program will include the following tasks:

- Completion of conformity analysis of the 2015 CLRP & FY2015-2020 TIP by preparing the final report, which documents procedures, results, and comments and testimony received; in addition, all data files for use in subsequent regional and corridor/subarea planning studies are organized and documented.
- Preparation and execution of a work program for analysis of the 2016 CLRP & FY2017-2022 TIP using the most up-to-date project inputs, planning assumptions, travel demand model, software and emissions factor model (MOVES); preparation of a draft report on the conformity assessment.
- TPB interagency and public consultation procedures; this includes

funding for review and coordination work on the part of COG/DEP staff to reflect involvement by the Metropolitan Washington Air Quality Committee (MWAQC) in the public and interagency consultation process.

- Coordination of project solicitation, documentation, and emissions reduction analysis associated with CMAQ projects. Perform incidental air quality conformity reviews (non-systems level), as required throughout the year.
- Keeping abreast of federal requirements – as they are updated throughout the year – on air quality conformity regulations and as guidance is issued; revision of work program elements as necessary.

Oversight:	Technical Committee in consultation with MWAQC committee
Cost Estimate:	\$590,500
Products:	Final report on 2015 CLRP & FY2015-20 TIP Air Quality Conformity Assessment; Work Program for 2016 CLRP & FY2017-2022 TIP Conformity Assessment
Schedule:	June 2016

B. MOBILE EMISSIONS ANALYSIS

The objective of this work activity is to conduct a broad range of analyses aiming to quantify emissions levels of various pollutants and ensure that TPB plans, programs and projects meet air quality requirements. A component of this work activity is the analysis, assessment and evaluation of the performance of Transportation Emissions Reduction Measures (TERMs) associated with PM2.5 and 8-hour ozone SIPs.

The FY2016 work program will include the following tasks:

- Development of input data for MOVES model runs for the 2015 CLRP & FY2015-20 TIP Air Quality Conformity Assessment, review and evaluation of MODEL outputs. Mobile emissions may also be developed for GHG pollutants using the MOVES model (as deemed necessary) in support of strategic planning scenarios as part of the TPB's Scenario Task Force activities and the COG Board's Climate, Energy, and Environment Policy Committee (CEEPC).
- Execution of sensitivity tests (as necessary) assessing the likely impacts of input data changes in MOVES model runs.

- Measurement of the on road mobile emissions reductions attributable to current and future Transportation Emissions Reductions Measures (TERMs).
- Technical support to the Commuter Connections Program in support of developing implementation plans and evaluating current and future TERMS.
- Development of on road mobile emissions inventories using MOVES2014 as the emissions estimating model and the 2014 VIN database in support of an update of a PM2.5 Maintenance Plan (tentative).
- Funding for the COG Department of Environmental Programs (DEP) in support of its contributions towards provision of data from the state air agencies, and updates on federally-mandated issues related to mobile emissions as part of the annual air quality conformity determinations.
- Response to requests for technical assistance by governmental entities and/or their consultants working on technical analyses or municipal transportation planning.
- Development of presentation material, rendering technical support and attendance of MWAQC and CEEPC meetings, policy discussions and public hearings.
- Monitoring of performance measures development associated with Air Quality as mandated by MAP-21.
- Monitoring of the development of the newest version of MOVES (MOVES2014) by keeping up-to-date on technical issues, release date, grace period, and technical support activities provided by EPA; staff training on MOVES2 2014 may also be necessary.

Oversight:	Technical Committee and Travel Management Subcommittee, in consultation with MWAQC committees
Cost Estimate:	\$714,500
Products:	Reports on TERM evaluation and on greenhouse gas emissions reduction strategies; Updated mobile source emissions inventories / reports as required addressing ozone and PM2.5 standards and climate change requirements
Schedule:	June 2016

C. REGIONAL STUDIES

Transportation Sector Support for the COG Multi-Sector Greenhouse Gas (GHG) Working Group (MSWG)

In January 2015, COG convened the MSWG of senior level professionals from local governments and state agencies representing the energy, environment, transportation and land use sectors. The Working Group is tasked to prepare a draft report, by September 2015, assessing “What We Can Do” in a cost-effective, viable manner to attain the region’s GHG reductions goals.

In spring 2015, the MSWG will identify a set of viable strategies that can be implemented at local, state, regional and national levels to reduce GHG emissions in the energy, environment, transportation and land use sectors. The Working Group with consultant support will:

- address how these actions can achieve co-benefits such as reduced criteria pollutant emissions, reduced transportation congestion and increased energy efficiency;
- quantify the benefits, cost and implementation timeframe for these strategies;
- develop an action plan for the region; and
- explore specific GHG reduction goals, measures, and/or targets, in the four sectors.

In FY 2016, TPB staff will continue activities to support the MSWG and the preparation of the interim (September 2015) and final (January 2016) report on “What We Can Do” to attain the region’s GHG reduction goals.

Follow-on Activities for the Regional List of Unfunded Transportation Projects

In the second-half of FY 2015, TPB staff will develop of a list of transportation projects which could not be included in the CLRP because funding has not been identified. Each member jurisdiction and agency was asked to provide its list of recognized priority transportation projects with cost estimates for inclusion in a regional list. After this project list is described, mapped and summarized, it will be reviewed by the Technical Committee, the CAC and AFA committees, and TPB.

It is anticipated that these reviews will suggest follow-on activities in FY 2016 to examine the impacts and benefits of the unfunded projects to help identify which ones should be advanced for inclusion in future CLRPs. One activity could be to develop a multi-modal set of projects for a regional scenario analysis. Another activity could be to focus on a small set with significant regional benefits and then to identify creative ways to fund them.

Regional Transportation Priorities Plan (RTPP) – Review

In light of the implementation of the MAP-21 performance-based planning requirements, the new assessment of transportation strategies to reduce GHG in the COG report, as well as the experience derived from examining a regional list of the unfunded projects for the CLRP, the RTPP should be reviewed to determine how it should be updated in 2017

to inform the 2018 CLRP, along with the quadrennial financial analysis and annual call for projects. Preparatory work for this review is anticipated to begin in the first half of 2016 (latter half of FY 2016).

Scenario Analysis

Potential outcomes of the MSWG and of the Unfunded Projects List may include requests for regional scenario analysis. At the direction of the TPB, staff would coordinate the development and analysis of scenarios that could incorporate greenhouse gas emissions reduction strategies, currently unfunded projects, or other strategies, policies, and projects, to inform decision-makers and the public.

Other FY 2016 activities include:

- Provision of staff support involving transportation for COG's FY 2016 Region Forward and Economy Forward regional planning and development efforts.
- Preparing project grant applications for promising US DOT grant opportunities, as approved by the TPB.

Oversight: TPB

Cost Estimate: \$587,200

Products: Transportation Sector input for the COG "What We Can Do" to reduce GHG report. Interim - September 2015, Final - January 2016.

Follow-on Activities for the Regional List of Unfunded Transportation Projects

Project grant applications for USDOT grant funding programs as approved by TPB

Schedule: June 2016

D. COORDINATION OF COOPERATIVE FORECASTING AND TRANSPORTATION PLANNING PROCESSES

Under this work activity staff will support the Planning Directors Technical Advisory Committee (PDTAC) and the TPB Technical Committee in the coordination of local, state and federal planning activities and the integration of land use and transportation planning in the region.

The following work activities are proposed for FY 2016:

- Support the Planning Directors Technical Advisory Committee (PDTAC) in the

coordination of local, state and federal planning activities and the integration of land use and transportation planning in the region.

- Analyze changes in regional economic, demographic and housing trends drawing on the results from the Census American Communities Survey (ACS) and from other available federal, state, local data sources.
- Work with members of the Cooperative Forecasting Subcommittee to enhance and improve the quality of small area (TAZ-level) employment data. This effort will involve the tabulation and analysis of state ES-202 employment data files for DC, MD and VA and collaboration with the National Capital Planning Commission (NCPC) and the General Services Administration (GSA) to obtain site specific employment totals for federal employment sites in the region.
- Work with the Cooperative Forecasting Subcommittee and the region's Planning Directors to assess the effects of significant transportation system changes on the Cooperative Forecasting land activity forecasts. Document key land use and transportation assumptions used in making updates to the Cooperative Forecasting land activity forecasts
- Work with members of the Cooperative Forecasting Subcommittee to reconcile initial Round 9.0 Cooperative Forecasts submitted by local jurisdictions with the regional benchmark projections produced by the top-down Cooperative Forecasting regional econometric model that incorporates current national and regional economic growth assumptions by major industry groups.
- Work with the Cooperative Forecasting Subcommittee and the region's Planning Directors to develop Round 9.0 Transportation Analysis Zone (TAZ)-level forecasts once jurisdictional totals are reconciled with the regional econometric model benchmark projections.
- Work with the Cooperative Forecasting Subcommittee and the region's Planning Directors to obtain the COG Board's approval of the draft Round 9.0 Cooperative Forecasts for use in the FY 2016 Constrained Long Range Plan (CLRP) travel demand forecasts and air quality conformity analysis.
- Work with the members of the Cooperative Forecasting Subcommittee, the region's Planning Directors, the Baltimore Metropolitan Council, the Tri-County Council for Southern Maryland, the George Washington Regional Planning Commission and the Planning Directors of Fauquier County- VA, Clarke County- VA and Jefferson County-WV to develop Round 9.0 Cooperative Forecasts by jurisdiction and ensure that they are consistent with the reconciled Round 9.0 Cooperative forecasts developed by COG member jurisdictions.
- Update and maintain Cooperative Forecasting land activity databases that are used as input into TPB travel demand-forecasting model. Prepare Round 9.0 TAZ-level population, household, and employment forecasts for both COG member and non-member jurisdictions in the TPB Modeled Area.

- Analyze and map Round 9.0 growth forecasts for identified COG Activity Centers.
- Respond to public comments on the Round 9.0 forecasts and the Cooperative Forecasting process.
- Develop and publish useful economic, demographic and housing-related information products including the Regional Economic Monitoring Reports (REMS) reports, the annual "Commercial Development Indicators" and economic and demographic data tables to be included in the Region Forward work program.

Oversight: Technical Committee

Estimated Cost: \$839,400

Products: Coordination of Land Use and Transportation Planning in the Region, Reconciliation and Approval of Draft Round 9.0 Cooperative Forecasts, Update of Regional Planning Databases, Analysis of Activity Center Growth Forecasts, Development and Distribution of technical reports and information products.

Schedule: June 2016

4. DEVELOPMENT OF NETWORKS AND MODELS

A. NETWORK DEVELOPMENT

This activity addresses the development of transportation network files which are primary inputs to the regional travel demand model. During FY 2016, TPB staff will continue to develop network files that are compliant with the currently adopted Version 2.3.57 travel demand model (or its successor) to support regional and project planning needs. Staff will continue to develop transportation networks for project planning studies, special scenario studies and long-term models development activities.

The following work activities are proposed:

- Update the TPB's base-year (2015) transit network to reflect the most current service in the Metropolitan Washington Region. Staff will utilize digital data that is available on the web and published schedules.
- Prepare base- and forecast-year highway and transit networks in accordance with the latest CLRP and TIP elements received from state and local agencies. The networks will be prepared in compliance with the Version 2.3.57 travel demand model requirements. Provide guidance in the development of network inputs to other technical staff members in the department.
- Support the development of networks for special regional planning studies (including studies initiated by the multi-sector working group established by MWCOG to identify and evaluate greenhouse gas reduction strategies) and for developmental work that might be required for ongoing Models Development work.
- Continue to support technical refinements in models development, including a multi-year migration in the transit network building software, from TRNBUILD to Public Transport (PT). As part of this work, staff may consider developing a more refined approach for forecasting bus speeds as a function of highway congestion.
- Respond to network-related technical data requests including transit line files, station files, and shape files associated with features of the regional highway or transit network.
- Maintain and refine the TPB's existing ArcGIS-based information system used to facilitate network coding and multi-year network file management.

Oversight: Travel Forecasting Subcommittee

Cost Estimate: \$800,800

Products: A series of highway and transit networks reflecting the latest TIP and Plan, and compliant with the Version 2.3 travel model. Technical documentation will be

furnished.

Schedule: June 2016

B. GIS TECHNICAL SUPPORT

Under this work activity staff will provide Geographic Information System (GIS) data and technical support to users of the COG/TPB GIS for many important TPB planning activities, including Regional Studies, the CLRP, the TIP, Congestion Monitoring and Analysis, Cooperative Forecasting, Regional Transportation Data Clearinghouse, Network and Models Development, and Bicycle Planning.

The following work activities are proposed for FY 2016:

- Provide data and technical support to staff using the COG/TPB GIS for development and distribution of data and information developed by the TPB planning activities, including Regional Studies, the CLRP, the TIP, Congestion Monitoring and Analysis, Cooperative Forecasting, Regional Transportation Data Clearinghouse, Network and Models Development, and Bicycle Planning.
- Provide application support for the creation, design, and maintenance of COG/TPB online web maps, applications, and visualization tools including the CLRP Project Viewer and the Bicycle and Pedestrian Plan Map
- Integrate COG/TPB data products, including web maps, tabular data, and other spatial data with the COG website
- Provide support for GIS-based transportation network management.
- Enhance the COG/TPB GIS Spatial Data Library with updated transportation and non-transportation features as these data become available.
- Add additional transportation attribute data, land use features and imagery data to the COG/TPB GIS Spatial Data Library.
- Update GIS Spatial Data Library documentation, GIS User Guides and technical documentation of various GIS software applications as required.
- Continue to coordinate the regional GIS activities with state DOTs, WMATA, and the local governments through COG's GIS Committee and subcommittees.
- Maintain and update COG/TPB's GIS-related hardware and software.
- Respond to request for COG/TPB GIS metadata, databases, and applications.

Oversight: Technical Committee

Estimated Cost: \$571,000

Products: Updated GIS software, databases, On-line web map applications, User documentation, Support and coordination of COG/TPB GIS activities.

Schedule: June 2016

C. MODELS DEVELOPMENT

The Models Development activity functions to maintain and advance the TPB's travel forecasting methods which support ongoing transportation planning work. Models development activities are formulated around the areas of data collection, short- and long-term models development, research, and maintenance. During FY 2016, staff will continue to support the application and refinement of the currently adopted Version 2.3.57 travel model. Staff will also maintain a consultant-assisted effort to evaluate existing forecasting practices and to provide advice on longer-term improvements. Travel modeling refinements will be drawn from a strategic models development plan that was formulated during FY 2015. All improvements to the regional travel model will be implemented in consultation with the TPB Travel Forecasting Subcommittee (TFS).

The following work activities are proposed:

- Support the application of the Version 2.3.57 travel model for air quality planning work and other planning studies conducted by TPB staff. This will include the update of travel modeling inputs as necessary (external trips and other exogenous trip tables), investigating technical problems that might arise during the course of application, and documenting refinements to the model. Staff will also provide support for local project planning work, including MWCOC's multi-sector study to identify and evaluate greenhouse gas reduction strategies (initiated in FY 2015). Some of this support will be administered through the TPB's technical service accounts.
- Continue the consultant-assisted effort to improve the TPB travel model and to conduct focused research on selected technical aspects of travel modeling in order to keep abreast of best practices.
- Staff will work with local transportation agencies in formulating ways in which the regional travel model might be used to provide performance-based measures as per the new surface transportation authorization legislation (MAP-21).
- Continue the investigation of refinements to the Version 2.3.57 model, drawing from: 1) recommendations compiled from past consultant-generated reviews of the regional travel model and 2) the strategic models development plan that was formulated during FY 2015. These refinements may include activities that were initiated during FY 2014, including an enhanced traffic assignment process, an

improved mode choice model application program, and the use of the Public Transport (PT) transit network program. Staff will also continue to leverage available technology to minimize model computation times as much as possible.

- Continue the effort to use cell probe-based origin-destination data (acquired in FY 2014) as a basis for forecasting non-resident travel.
- Continue the analysis of 2010 Census data and the COG geographically focused household travel survey data that TPB staff has collected during FY 2012, FY 2013 and FY 2014. This will include a comparison of surveyed data against modeled data as a way of assessing model performance and reasonability.
- Keep abreast of new developments in travel demand forecasting, both short-term developments (such as for trip-based, four-step models) and long-term developments (such as ABMs and dynamic traffic assignment). TPB staff will also continue involvement with the Transportation Research Board (TRB), the Travel Modeling Improvement Program (TMIP) and Institute of Transportation Engineers (ITE).
- Staff will keep abreast of hardware and software needs and opportunities, including the potential use of “cloud computing” and the use of versioning software as an efficient way of tracking model code as it evolves with model refinements over time.
- Provide staff support for the TPB Travel Forecasting Subcommittee which is the forum charged with overseeing technical practices and improvements to the TPB travel forecasting process. This will include organizing meetings, preparing regular presentations, and coordinating with internal and external meeting participants on presentation items.
- Respond to model-related data requests from local partner agencies and their consultants.

Oversight: Travel Forecasting Subcommittee
Cost Estimate: \$1,114,500

Products: Updated travel models; documentation of models development activities; and recommendations for continued updating of the travel demand modeling process, where applicable.

Schedule: June 2016

D. SOFTWARE SUPPORT

This work element supports the infrastructure needs of the TPB microcomputer-based travel demand forecasting model and the emissions models used in air quality applications. It consists of software, hardware and knowledge-based maintenance of all the systems needed for successful model runs. Activities performed under this work activity include: (1) development and testing of revisions and upgrades of the software currently in use (2) tests of new software needed for the successful execution of model runs, file management and upkeep, data storage, retrieval and transfer systems etc. (3) training of TPB staff in use of models and adopted systems. Throughout FY2013 staff will closely monitor the performance of all software and hardware systems and it will research and evaluate potential system upgrades through testing and demonstration.

The FY2016 work program will include the following tasks:

- Continued support on executing CUBE / TP+ runs and migration to CUBE / Voyager in running TPB travel demand forecasting applications.
- Continued support on MOVES emissions model runs and supporting software applications.
- Training of DTP staff in various applications of CUBE/ TP+, CUBE / Voyager, MOVES2014 and post-model applications such as integration with TRANSIM (as deemed necessary).
- Monitoring of the performance of DTP desktop and laptop microcomputer hardware and software and make upgrades as appropriate.
- Coordination with the COG Office of Technology Programs and Services (OTPS) staff in this task and in applications under the Microsoft Windows operating system.
- Maintenance of the data storage systems for the back-up, archiving and retrieval of primary regional and project planning data files.
- Support development and execution of applications of micro simulation software as appropriate.

Oversight: TPB Technical Committee

Cost Estimate: \$186,200

Products: Operational travel demand forecasting process plus operational MOVES2010 Models; File transfer, storage and retrieval processes; DTP staff training in CUBE/ TP+, CUBE / Voyager, and MOVES2010 systems; and Microcomputer hardware to support CUBE/ TP+, CUBE / Voyager, MOVES2010, and other operations.

Schedule: June 2016

5. TRAVEL MONITORING

A. CORDON COUNTS

In FY 2016 staff will conduct detailed traffic counts of trip trips at sample of identified counting location on major truck routes throughout the region. Staff will also process, tabulate and analyze the truck count data and prepare a technical report documenting the procedures used and the results of the truck data analysis. This technical report will include information on truck volumes by time of day and vehicle classification.

Oversight:	Freight Planning Subcommittee
Estimated Cost:	\$261,000
Products:	Truck Counts and Technical Report
Schedule:	Truck Counts – Spring 2016 Technical Report – June 2016

B. CONGESTION MONITORING AND ANALYSIS

Congestion Monitoring supplies data for the Congestion Management Process (CMP - Item 2.A.) and Models Development (Item 4.C.). The program monitors congestion on both the freeway and the arterial highway systems, to understand both recurring and non-recurring congestion. Data collection methods include a combination of aerial surveys, field data collection, and/or data procured from private sources. Examples of emerging technologies include probe-based data and Bluetooth-based data. Activities will include:

- Undertake analysis on regional roadway monitoring information as follow-up to the three-part report prepared in FY2015 (on the triennial survey of congestion on the region's freeway system, the FY2015 time-lapsed aerial photography pilot, and associated regional travel trends).
- Compile, review, and format transportation systems condition information from sources including:
 - The data archive from the I-95 Corridor Coalition Vehicle Probe Project (VPP) and associated VPP Suite developed by the University of Maryland Center for Advanced Transportation Technology;
 - The Regional Integrated Transportation Information System (RITIS) of the Metropolitan Area Transportation Operations Coordination in conjunction with (MATOC) Program;
 - The FHWA's National Performance Management Research Data Set (NPMRDS)
 - Private sector sources as available.

- Examine potential new sources of archived operations data.
- Provide data to the products of the Congestion Management Process (see also Task 2.A.)

Oversight: MOITS Technical Subcommittee

Estimated Cost: \$364,100

Product: Transportation systems monitoring data sets and analysis reports from archives, provided for the products of the Congestion Management Process (2.A.) and other regional transportation planning activities; research or white papers as needed; documentation as necessary supporting MAP-21 requirements of congestion monitoring and analysis

Schedule: June 2016

C. TRAVEL SURVEYS AND ANALYSIS

Household Travel Survey

The 2007/2008 Regional Household Travel Survey data has been supplemented in FY 2012-FY 2015 by the collection of household travel survey data in focused geographic subareas throughout the region. In FY 2016, staff will continue to support users of TPB household travel survey data, update user documentation, provide technical assistance to the users of these survey data. Staff will also continue planning for the next region-wide household survey that will begin in 2016 and be conducted over three fiscal years. It is currently estimated that about \$3.0 million in funding will be needed to collect survey data from approximately 10,000-12,000 households in the TPB modeled area.

The following work activities are proposed for FY 2016:

- Provide data, documentation, and technical support to users of 2007/2008 Regional Household Travel Survey and 2011-2015 Geographically-Focused Household Travel Surveys. Update user documentation as required.
- Complete the processing and analysis of data collected in the 2015 Geographically-Focused Household Travel Surveys to support analysis of regional growth and transportation issues of topical interest to the members of the TPB. Prepare information reports on various aspects of daily household and vehicle travel in the region.
- Continue planning for a large sample methodologically enhanced activity-based region-wide household travel survey that will begin in 2016 and continue over three fiscal years. A pre-test and evaluation of the survey methodology to conduct the enhanced activity-based region-wide household survey will be

completed in FY 2016.

Oversight:	Travel Forecasting Subcommittee
Estimated Cost:	\$1,034,800
Product:	Processing and Analysis of Household Travel Survey Analyses, Information Reports and Presentations, Planning for Large Sample Region-wide Household Travel Survey.
Schedule:	June 2016

D. REGIONAL TRANSPORTATION DATA CLEARINGHOUSE

Efficient access to a comprehensive data set containing current and historic data on the characteristics and performance of the region's transportation system is vitally important for transportation planning, air quality analysis, models development, congestion management and project evaluations. Under this work item state will continue to work with local, state, WMATA and other regional agencies to transfer data to and from the Regional Transportation Data Clearinghouse and to update the Data Clearinghouse with updated highway and transit performance data as these data become available.

The following work activities are proposed for FY 2016:

- Update Clearinghouse data files with FY14-15 highway and transit network data.
- Update Clearinghouse traffic volume data with AADT and AAWDT volume estimates, hourly directional traffic volume counts and vehicle classification counts received from state DOTs and participating local jurisdiction agencies.
- Update Clearinghouse transit ridership data with data received from WMATA, PRTC, VRE, MTA and local transit agencies including the Ride-On, The Bus, ART, DASH and the Fairfax Connector.
- Add newly collected and processed freeway and arterial road speed and level of service (LOS) data to the Regional Transportation Data Clearinghouse network.
- Add updated Cooperative Forecasting data to the Clearinghouse by TAZ.
- Update Regional Clearinghouse user manuals and documentation.
- Display Clearinghouse volume, speed and LOS data on a GIS web-based application that utilizes satellite/aerial photography imagery with zooming user interface.
- Distribute Regional Transportation Clearinghouse Data to TPB participating

agencies via GIS web-based applications.

Oversight:	Technical Committee
Estimated Cost:	\$317,900
Product:	Updated Clearinghouse Database and Documentation; Web Interface to Access Clearinghouse Data
Schedule:	June 2016

6. TECHNICAL ASSISTANCE

The TPB work program responds to requests for technical assistance from the state and local governments and transit operating agencies. This activity takes the form of individual technical projects in which the tools, techniques, and databases developed through the TPB program are utilized to support corridor, project, and sub-area transportation and land use studies related to regional transportation planning priorities. The funding level allocated to technical assistance is an agreed upon percentage of the total new FY 2015 funding in the basic work program. The funding level for each state is an agreed upon percentage of the total new FTA and FHWA planning funding passed through each state. The funding level for WMATA is an agreed upon percentage of the total new FTA funding. The specific activities and levels of effort are developed through consultation between the state and WMATA representatives and TPB staff.

UNDER DEVELOPMENT

7. CONTINUOUS AIRPORT SYSTEM PLANNING PROGRAM

The purpose of the CASP program is to provide a regional process that supports the planning, development and operation of airport and airport-serving facilities in a systematic framework for the Washington-Baltimore Air Systems Planning Region, which includes the region's three major commercial airports: Baltimore-Washington International Thurgood Marshall Airport (BWI), Ronald Reagan Washington National Airport (DCA), and Washington Dulles International Airport (IAD). Oversight of the program is the responsibility of the TPB Aviation Technical Subcommittee. Previous UPWP documents have highlighted three projects in the CASP program, but due to reductions in available FAA funding some elements of the program have been consolidated and the program now focuses on two elements per cycle: the regional Air Passenger Survey and subsequent analysis, and either the combined Ground Access Forecast and Ground Access Element Update or the Ground Access Travel Time Update. The survey is conducted in the fall of odd-numbered calendar years, followed by the analysis and reporting and then the Ground Access Forecast and Ground Access Element. The Ground Access Travel Time update is conducted during non-survey (even-numbered) calendar years. The Air Cargo Element Update will be completed in FY2015 and is typically updated every 8-10 years. The elements of the multi-year CASP work program for FY 2016 are as follows:

Process 2015 Air Passenger Survey – Phase 1

The purpose of the APS is to collect information about travel patterns and user characteristics of air passengers using the three major commercial airports and to help determine airport terminal and groundside needs. Data from the air passenger surveys will provide the basis for analysis of major changes in airport use in the region and planning for future airport improvements. Phase 1 of this project conducts the bi-annual fall survey of departing passengers at BWI, DCA, and IAD (survey design, sample generation, and data collection) and results in a final survey database for general analysis. This portion of Phase 1 is funded directly by the Metropolitan Washington Airports Authority (MWAA) and BWI. Analysis of the survey file and issuance of the survey General Findings Report completes Phase 1 and is funded by COG's grant from the Federal Aviation Administration (FAA) that funds all other aspects of the CASP program.

Cost Estimate: \$400,000

Ground Access Travel Time Update

The purpose of the Ground Access Travel Time Study Update is threefold: (1) provide current data on travel times and levels of services for highway and transit access to the region's three commercial airports in support of airport access planning activities; (2) analyze changes in travel conditions and levels of service on principal airport serving roadways and transit facilities; and (3) analyze changes in highway and transit accessibility to airports resulting from recent highway and transit improvements.

Unlike previous updates to the Ground Access Travel Time study that relied on field data collection using GPS-equipped probe vehicles, this update will use data from the I-95

Corridor Coalition Vehicle Probe Project (VPP) (colloquially referred to as “Inrix data” after the data collection company). These data, which COG already uses extensively in congestion monitoring activities, is continuous (24/7/365) and covers most of the regional interstate highways and major arterials. Any portion of a route between a regional activity center and one of the three regional commercial service airports that is identified as desirable for study but is not covered by the VPP data will be considered for field data collection using probe vehicles (consideration of how to best integrate field collected probe vehicle data with VPP must be given). A review of monitored routes and expansion to include more regional activity centers identified in the most recent update from the Region Forward coalition will occur prior to data analysis. The key metric for this update will be the highway Travel Time Index, which is the ratio between free-flow and congested travel times.

Cost Estimate: \$ 50,000

TOTAL CASP COST ESTIMATE: \$450,000

8. SERVICE/SPECIAL PROJECTS

In addition to the TPB basic work program in the UPWP and the Continuous Airport System Planning (CASP) program, service work or special technical studies as specified in contracts between the transportation agencies and COG may be included in the UPWP. Services or special projects are authorized and funded separately by the transportation agencies.

