

UNIFIED PLANNING WORK PROGRAM

DRAFT - FY 2021

Unified Planning Work Program (UPWP) for Transportation Planning for the Washington Metropolitan Region for FY 2021

March 2020

DRAFT



National Capital Region
Transportation Planning Board

DRAFT - UNIFIED PLANNING WORK PROGRAM (UPWP): FY 2021

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ABOUT THE TPB

The National Capital Region Transportation Planning Board (TPB) is the federally designated metropolitan planning organization (MPO) for metropolitan Washington. It is responsible for developing and carrying out a continuing, cooperative, and comprehensive transportation planning process in the metropolitan area. Members of the TPB include representatives of the transportation agencies of the states of Maryland and Virginia and the District of Columbia, 23 local governments, the Washington Metropolitan Area Transit Authority, the Maryland and Virginia General Assemblies, and nonvoting members from the Metropolitan Washington Airports Authority and federal agencies. The TPB is staffed by the Department of Transportation Planning at the Metropolitan Washington Council of Governments (COG).

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I. INTRODUCTION

Purpose

The National Capital Region Transportation Planning Board (TPB) is responsible for the federally required metropolitan transportation 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's responsibilities.

The FY 2021 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, 2020 through June 30, 2021. The UPWP provides a mechanism to coordinate transportation planning activities conducted by the TPB. It 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). The Metropolitan Washington Council of Governments (COG) serves as the administrative agent for the TPB. The TPB is staffed by COG's Department of Transportation Planning. COG provides the administrative functions necessary to meet federal fiduciary and other regulatory requirements to receive FHWA and FTA funds.

This work program describes all transportation planning activities utilizing federal funding, including FHWA metropolitan planning funds (PL Funds) and FTA Section 5303 metropolitan planning funds. The Federal Aviation Administration Continuing Airport System Planning (CASP) program is a separate grant and is included for informational purposes as the TPB is responsible for implementing the grant. 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.

Planning Requirements

The planning activities outlined in this work program respond to a variety of regulatory requirements. On May 27, 2016, the FHWA and FTA jointly published a final rule on **Statewide and Nonmetropolitan Transportation Planning; Metropolitan Transportation Planning**. The planning rule updates federal surface transportation regulations with changes adopted in the Moving Ahead for Progress in the 21st Century Act (MAP-21) and the Fixing America's Surface Transportation (FAST) Act.

MAP-21 introduced and the FAST Act continues implementing performance management requirements through which states and metropolitan planning organizations (MPOs) will "transition to a performance-driven, outcome-based program that provides for a greater level of transparency and accountability, improved project decision-making, and more efficient investment of federal transportation funds." In addition, MAP-21 and the FAST Act included modest modifications to the planning process, policy board composition, participants in the process, and contents of the metropolitan long-range transportation plan. This work program complies with the requirements regarding metropolitan planning.

On October 17, 2018, the TPB approved Visualize 2045, the long-range transportation plan for the National Capital Region, and the FY 2019-2024 Transportation Improvement Program (TIP). In December 2018, FHWA and FTA found that Visualize 2045 and FY 2019-2024 TIP conform to the region's State Implementation Plans.

On October 17, 2018, the TPB, the District of Columbia Department of Transportation (DDOT), the Maryland Department of Transportation (MDOT), and the Virginia Department of Transportation (VDOT) self-certified that the metropolitan transportation planning process being conducted by the TPB is addressing the major issues in the metropolitan planning area and is being carried out in accordance with all applicable federal metropolitan planning requirements as described under 23 CFR 450.336. The Self-Certification Statement is signed by the three state DOTs and the TPB.

The Self Certification Statement can be found here:

https://www.mwcog.org/assets/1/28/Visualize_2045_Self-Cerfication_TPB_10-17-2018_FINAL.pdf

In June 2019, FHWA and FTA jointly certified that the TPB's planning process complies with metropolitan planning regulations and issued a certification report. On April 10-11, 2019, FHWA and FTA conducted a certification review of the metropolitan planning process in the Washington, DC-VA-MD Transportation Management Area (TMA) which is the responsibility of the TPB and the Fredericksburg Area Metropolitan Planning Organization (FAMPO). Improvement and enhancements identified in the report will continue to be integrated into the TPB's ongoing planning process. The next certification review will be conducted in calendar year 2023.

The TPB will continue its rich tradition of coordinating with neighboring MPOs and with those MPOs with which it shares DOTs. The TPB will not only continue to coordinate but will look to enhance all its coordination opportunities. TPB is involved in the statewide MPO planning efforts in both Maryland and Virginia. The TPB participates in the Maryland MPO Roundtable meetings, which occur 4 times a year. The TPB is an active participant and a voting member of the Virginia Association of Metropolitan Planning Organizations (VAMPO). A TPB staff member served as the VAMPO Vice Chair in FY 2020.

THE CLEAN AIR ACT

The Clean Air Act Amendments (CAAA) of 1990 require that the transportation actions and projects in the metropolitan transportation plan (LRP) and Transportation Improvement Program (TIP) support the attainment of federal health standards for ozone. The LRP and TIP must meet specific requirements as specified by the Environmental Protection Agency (EPA) regulations first issued on November 24, 1993, and amended several times, most recently in April 2012, regarding criteria and procedures for determining air quality conformity of transportation plans, programs, and projects funded or approved by FHWA and FTA. These conformity requirements are also addressed in this document.

TITLE VI AND ENVIRONMENTAL JUSTICE: ENSURING NON-DISCRIMINATION

It has been the long-standing policy of both COG and TPB to actively ensure nondiscrimination under Title VI of the Civil Rights Act of 1964. Title VI states that "no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits

of, or be subjected to discrimination under any program or activity receiving federal financial assistance.” Executive Order 12898, issued February 11, 1994, requires that the TPB identify and address, as appropriate, disproportionately high or adverse effects of its programs, policies, and activities on minority populations and low-income populations. While COG, as the TPB’s administrative agent, has the primary responsibility for meeting Title VI requirements, ensuring non-discrimination is an underlying tenet that permeates this work program. The TPB has a two-pronged approach to ensuring nondiscrimination: 1) analysis of the long-range plan for disproportionately high and adverse impacts, and 2) engaging traditionally transportation-disadvantaged populations in the planning process. The specific tasks related to Title VI analysis is under Activity 1: Long-Range Transportation Planning. Engaging transportation disadvantaged-populations, primarily through the Access for All Advisory Committee, is found in Activity 4: Public Participation. COG’s Title VI Plan (including the Language Assistance Plan), the Title VI notice to the public, and complaint procedures can be found at www.mwcog.org/nondiscrimination.

On July 13, 2018, USDOT issued a determination that the COG Title VI Program satisfies the Title VI program requirements. The next triennial Title VI program update is due to FTA on June 1, 2021. The Maryland Department of Transportation (MDOT) also conducted a site visit and approved the Title VI Plan on January 5, 2017.

Federal Requirements for Performance-Based Planning and Programming

MAP-21 and the FAST Act call for metropolitan planning organizations, public transportation providers and states **to establish and use a performance-based approach to transportation decision making**. USDOT has established 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.

FHWA and FTA have completed the issuance of final rulemakings for the performance measures, with deadlines set for target setting and periodic updates. TPB has been and will continue to work with the states and public transportation providers to collect data, make forecasts for performance, and update performance targets in support of those measures; and the TPB subsequently has up to 180 days to update performance targets as required, coordinated with those of the states and public transportation providers. 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 is required 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. The approved plan and TIP are compliant with these requirements.

Regional Planning Goals

In 1998, the TPB adopted the TPB Vision, which outlines a set of policy goals that have since served to guide the TPB's planning work program:

- 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.

These goals are broad in scope, and together with the strategies and objectives that are also outlined in the TPB Vision, provide a framework for setting out core principles for regional transportation planning. TPB Vision's policy goals encompass the ten planning factors required under the planning process of MAP-21 and are considered when developing the metropolitan transportation plan. 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 for inclusion in the CLRP. In FY 2017, the Priorities Plan will influence policy actions, funding strategies, and potential projects considered for incorporation into Visualize 2045.

In 2017, the TPB established the Long-Range Plan Task Force, who engaged in a sketch planning effort to identify initiatives that could help the region achieve these goals. At that time, TPB Members had decided that the previous long-range plan did not show satisfactory performance compared to current conditions, nor did it bring us close enough to reach these regional planning goals. In December 2017 and January 2018, the TPB endorsed seven aspirational initiatives recommended

by the Long-Range Plan Task Force which have potential to significantly improve the performance of the region's transportation system compared to current plans and programs. These seven aspirational initiatives are included in Visualize 2045, calling upon member jurisdictions and agencies to plan for and implement these initiatives that will help bring the region closer to reaching its goals.

Responsibilities for Transportation Planning

The National Capital Region Transportation Planning Board (TPB) is the official metropolitan planning organization (MPO) for the National Capital Region and is responsible for conducting a continuing, cooperative, comprehensive (3-C) metropolitan transportation planning process. The TPB was designated as the region's MPO by the governors of Maryland and Virginia and the mayor of the District of Columbia.

The TPB is composed of representatives from the 24 cities and counties, including the District of Columbia, that are members of the Metropolitan Washington Council of Governments (COG), the three state-level 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 importance are before the TPB, a special voting procedure may be invoked that weights the votes of local jurisdiction members according to population.

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. Figure 1 lists the jurisdictions and organizations represented on the TPB and its technical committees and subcommittees. Figure 2 shows the geographic location of each of the local member jurisdictions.

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 state 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 metropolitan 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 metropolitan Washington, 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 regional transportation planning and programming have been established over several years. As required under planning regulations, the TPB, the state DOTs, and the public transportation operators have documented their transportation planning roles and responsibilities in an agreement that was executed by all parties in April 2018. To meet Performance-Based Planning and Programming provisions, the TPB and individual stakeholders have documented their roles in responsibilities in Letters of Agreement (LOAs) that respond to each required performance area: Highway Safety, Highway and Bridge Condition, and System Performance (Congestion, Freight, and CMAQ). The responsibilities for the primary planning and programming activities are indicated in Figure 3.

With regards to coordination with other MPOs near the TPB's planning area, there are two agreements in place that lay out responsibilities for planning, programming, and air quality conformity analysis. Both agreements can be found in the Appendices. In Virginia, the TPB has an agreement with the Fredericksburg Area MPO (FAMPO) from 2004 in which FAMPO assumes responsibility for meeting the transportation management area (TMA) planning and programming requirements within the Washington, DC-VA-MD Urbanized Area portion of Stafford County and producing the required planning documents for the TPB's current planning cycle. This agreement was reviewed in 2012 by both FAMPO and TPB staff, and it was mutually agreed that no changes were necessary. In the 2019 Federal Certification Review, the Federal Team strongly recommended that , within a year, this agreement be updated to reaffirm and validate the mutually agreed upon roles of each MPO and in consideration of the passage of multi-year federal surface transportation legislation to ensure that ongoing roles and responsibilities are consistent with regional, State and Federal expectations. In Maryland, the TPB formalized an agreement between the TPB, the Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO), and Calvert County, Maryland, regarding the conformity analysis of transportation plans, programs, and projects in Calvert County. Calvert County is in the Washington, DC-MD-VA 8-Hour Ozone Nonattainment area and is also a member of the new Southern Maryland MPO. The agreement between the three parties was signed in January 2016.

A list of transportation planning studies to be conducted within the National Capital Region can be found in Figure 4.

Figure 1: Jurisdictions and Organizations Represented on the TPB and its Technical Committees and Subcommittees

VIRGINIA

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

MARYLAND

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

DISTRICT OF COLUMBIA

District of Columbia Council
District of Columbia Department of Transportation
District of Columbia 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

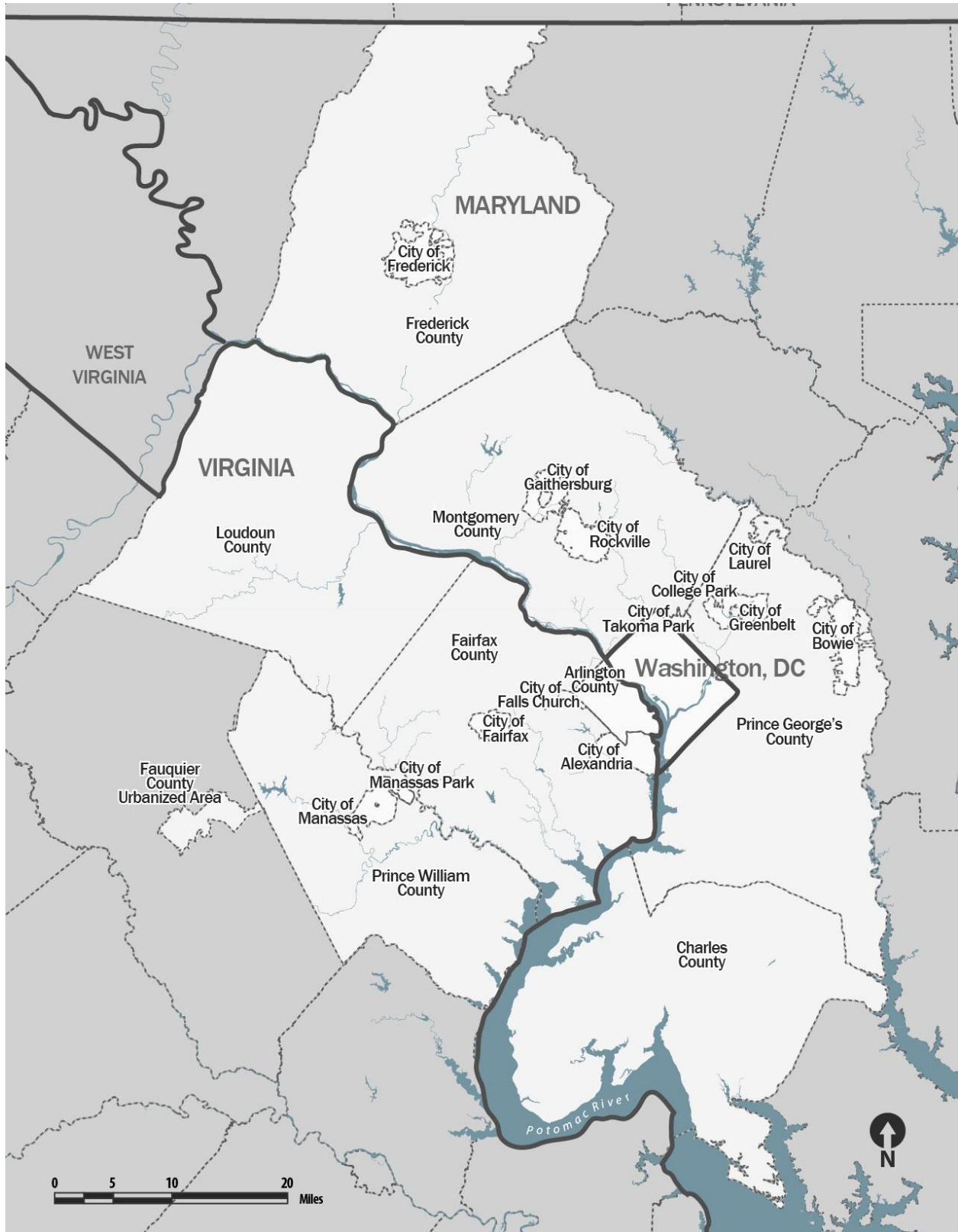


Figure 3: Transportation Planning and Programming Responsibilities

RESPONSIBILITY	AGENCIES
UPWP Development	TPB, DOTs, WMATA, Local Governments
Planning Certification	TPB, DOTs
Performance-Based Planning	TPB, DOTs, WMATA, Public Transportation Providers
Visualize 2045 Development	
Air Quality Conformity	TPB, FAMPO
Congestion Management Process	TPB, DOTs, Local Governments, FAMPO
Environmental Consultation	TPB, DOTs, Local Governments
Financial Element	TPB, DOTs, WMATA, Local Governments
Freight Element	TPB, DOTs, Local Governments
Participation Plan	TPB
Performance Based Planning and Programming	TPB, DOTs, WMATA, Public Transportation Providers
Plan Inputs/Update	DOTs, WMATA, Local Governments, NVTA, PRTC, FAMPO
Project Selection	TPB, DOTs, WMATA, Local Governments
Safety Element	TPB, DOTs, Local Governments
Transportation/Land-Use Planning	TPB, MDPC, Local Governments
TIP Development	
TIP Inputs	DOTs, WMATA, Local Governments, NVTA, PRTC
Air Quality Conformity	TPB, FAMPO
Financial Plan	TPB, DOTs, WMATA, Local Governments, NVTA, PRTC
Human Service Transportation Coordination Planning	TPB, WMATA, Human Service Agencies
Private Enterprise Participation	TPB, WMATA, Local Governments, NVTC, PRTC
Project Selection	TPB, DOTs, WMATA
Projects Federal Funding	TPB, DOTs, WMATA
Public Involvement Plan	TPB
Air Quality 2010 Attainment Plan	MWAQC, TPB, DOTs
CO2 Mobile Emissions Reduction	WMATA, State Air Quality Agencies
Climate Change Adaptation	TPB, DOTs, WMATA, Local Governments
Corridor Studies	DOTs, WMATA, TPB
Travel Demand Forecasting	TPB
Travel Monitoring	TPB, DOTs, WMATA, Local Governments

Figure 4: Transportation Planning Studies within the National Capital Region, 2021

STUDY	PRIMARY AGENCIES	SCHEDULE	PRODUCTS
REGIONAL			
Station Area Plans (multiple stations)	WMATA	On-going	Plans
Station Access Studies (multiple stations)	WMATA	On-going	Plans
Station Capacity Studies	WMATA	On-going	Plans
Bus Service Evaluation Studies	WMATA	On-going	Studies
Bus Network Redesign	WMATA	2020-2021	Plan
Late-Night Mobility Study	WMATA	2020	Study
Red/Yellow Line Terminal Capacity and Operations Analysis	WMATA	2020	Study
Blue/Orange/Silver Corridor Capacity & Reliability Alternatives Analysis	WMATA	2020	NEPA - scoping
Metrorail Fleet Plan	WMATA	2021	Plan
D&G Junction Pocket Track Extension 60% Design	WMATA	2020	Plan
SmarTOD (TOD planning online tool)	WMATA	2020	Model/Data tool
Bicycle and Pedestrian Access Blueprint	WMATA	2020	Plan
Applied Planning Intelligence Data Analysis Support Platform	WMATA	Develop 2020; ongoing	Data tool
Electric Bus Alternatives Assessment	WMATA	2020	Study, NEPA scoping
MARC/VRE D.C. Run-through Latent Demand Study	MWCOG, MDOT MTA, VRE	Ongoing	TBD

Figure 4: Transportation Planning Studies within the National Capital Region, 2021

STUDY	PRIMARY AGENCIES	SCHEDULE	PRODUCTS
MARYLAND			
MD 3 Widening/Upgrade Study (US 50 to MD 32)	MDOT SHA	On-hold	DEIS
MD 5 Transportation Study (I-95/I-495 to US 301)	MDOT SHA	On-hold	DEIS
MD 28/MD 198 Corridor Study (MD 97 to I-95)	MDOT SHA	2020	Plan/Report
MD 97 Montgomery Hills Study (MD 390 to MD 192)	MDOT SHA	2019	CE
MD 223 Corridor Study (Steed Road to MD 4)	MDOT SHA, Prince George's County	2015	Plan/Report
US 15/US 40 Frederick Freeway Study	MDOT SHA	2020	CE
US 301 South Corridor Transportation Study (I-595/US 50 to Potomac River)	MDOT SHA, Charles County	On-hold	TBD
US 301 Waldorf Study (TB to South of Waldorf)	MDOT/SHA, Charles County	On-hold	TBD
TOD Planning for the Purple Line Project	UMD/MDOT MTA	2022	TBD

Figure 4: Transportation Planning Studies within the National Capital Region, 2021

STUDY	PRIMARY AGENCIES	SCHEDULE	PRODUCTS
DISTRICT OF COLUMBIA			
DC Streetcar – Benning Rd Ext Environmental	DDOT, FTA, FHWA	2020	EA
Benning Rd Reconstruction & Streetcar	DDOT	2020	Design
Florida Avenue NE Study	DDOT	2020	Design
East End Bike Lane Study	DDOT	2020	Design
New York Avenue Streetscape and Trail	DDOT	2020	Study
20 th & 21 st Streets NW Protected Bike Lanes	DDOT	2020	Design
Pennsylvania Avenue West of the White House	DDOT	2020	Design
K Street Transitway	DDOT	2020	Design
Long Term Safety & Geometric Improvements	DDOT	2020	Study
Decongestion Pricing Study	DCST/DDOT	2020	Study
Connecticut Avenue Multimodal	DDOT	2020	Study
moveDC	DDOT	2020	Plan
Bus Priority Plan	DDOT	2020	Plan
DC Circulator Sustainability Plan	DDOT	2020	Plan
DC Circulator South Capitol Street Facility Improvement	DDOT	2020	Design
DC Circulator Transit Development Plan Update	DDOT	2020	Plan

Figure 4: Transportation Planning Studies within the National Capital Region, 2021

STUDY	PRIMARY AGENCIES	SCHEDULE	PRODUCTS
VIRGINIA			
Route 28 Corridor Environmental Documentation	Prince William County / VDOT	Ongoing	EA/FONSI
I-495 NEXT Express Lanes Extension to GWMP in vicinity of the American Legion Bridge	VDOT	2019	NEPA Study/EA/FONSI
Arlington Master Transportation Plan Bike Element Update	Arlington County		Plan
Rosslyn Street Network Study	Arlington County		Study
Courthouse Square Shared Streets Study	Arlington County		Study
Wilson Blvd. Road Diet Follow-up Study	Arlington County	On hold	Study
Public Open Spaces Master Plan	Arlington County		Plan
Arlington General Land Use Plan Amendment Study	Arlington County		Study
Four Mile Run Valley Area Study	Arlington County		Study
Lee Highway Corridor Study	Arlington County		Study
Rollins Ford Road Study	VDOT/Prince William County	2019	Study
SMART Scale Project Evaluations (Round 4)	VDOT	Ongoing	Ratings
Route 28/Dulles Toll Road/Dulles Greenway Traffic Operations & Safety Study	VDOT	Ongoing	Study
SafeTrack	WMATA	2019	Study
I-95 Corridor Improvement Study	VDOT	Ongoing	Study

Figure 4: Transportation Planning Studies within the National Capital Region, 2021

STUDY	PRIMARY AGENCIES	SCHEDULE	PRODUCTS
STARS Route 50 Corridor Improvement Study - From Route 120 (Glebe Road) to Route 6622 (Filmore Street)	VDOT	2019	Report
STARS Old Bridge Road/Prince William Co. Pkwy	VDOT	Ongoing	Report
STARS Prince William County Pkwy/Minnieville Road	VDOT	Ongoing	Report
STARS Route 50 Fairfax County - From Route 2338 (Jaguar Trail) to Route 613 (Wilson Blvd)	VDOT	Ongoing	Report
STARS Centerville Road from Fairfax/Prince William County Line to Blooms Quarry Road Operational Improvements Study	VDOT	Ongoing	Report
Shreve Road Safety and Operational Study	VDOT	2021	Report
Route 1/Russell Road Interchange Study	VDOT	2021	Report
Fairfax County Parkway/Franconia - Springfield Parkway - Alternatives Analysis & Long-Term Planning Study	Fairfax County/VDOT	2020	Study
I-66 Outside the Beltway Transit/TDM Plan Update	DRPT	2019	Plan
I-495/American Legion Bride Transit/TDM Study	DRPT	2020	Plan

FY 2020 Accomplishments

In FY 2020, the TPB completed the following activities:

- *FY 2021 UPWP approved March 18, 2020*
- *FY 2021 – 2024 Transportation Improvement Program (TIP), approved March 18, 2020*
- *Initiated 2022 update to Visualize 2045*
- *2020 Public Participation Plan*
- *Transit Access Focus Areas Study (Station Access, Resolution R10-2019)*
- *National Capital Regional Trail Network (Resolution R10-2019)*
- *2019 State of Public Transportation Report*
- *Congestion Management Technical Report*
- *Big Data in Regional Travel and Mobility Analyses, anticipated June 2020*
- *VRE-MARC Run through Service Study, anticipated April 2020*
- *2019 Regional Air Passenger Survey, October 2019*
- *Performance Based Planning and Programming*
 - *Highway Safety Targets set December 2019*
 - *Transit Asset Management targets set February 2020*
- *Safety Study*
- *Regional Curbside Management Forum, May 2020*
- *Data Processing for the 2017-2018 Regional Travel Survey, anticipated June 2020*
- *Completion of the 7-Day Panel Survey on Household Travel, November 2019*
- *Round 9.1a Cooperative Forecast technical update for Air Quality Conformity Analysis, including updating employment definition adjustment factors, July 2019*
- *Land Use and Transportation Planning coordination for development of regional housing targets in support of Aspirational Initiatives, September 2019*
- *Land Use and Transportation Planning coordination for identifying and carrying out activities supportive of transit-oriented communities, ongoing through June 2020*
- *Regional Connected/Autonomous Vehicles Forums, March, May, and June 2020*
- *Regional Micromobility/E-Scooter Forums, December 2019 and June 2020*
- *Regional Traffic Incident Management Training Workshop, June 2020*
- *Network development*
 - *Developed travel demand forecasting model inputs (transportation networks, land use and other input files) for conducting the air quality conformity analysis*
 - *Developed a way to incorporate street names in transportation networks used by the regional travel demand forecasting model.*
 - *“Year 2017 Jurisdictional Weekday VMT Summaries.” Memorandum, August 29, 2019.*
 - *“MPO Survey of Network Management Practices.” Memorandum, January 6, 2020.*
- *Model development*
 - *Recalibrated the regional travel demand forecasting model to improve the model’s treatment of commuter rail travel and the handling of external travel in trip distribution.*
 - *Started three-year consultant assistance project to develop the TPB’s next-generation travel demand model, known as the Gen3 Model.*
- *Mobile emissions planning activities*

- *Conducted the air quality conformity analysis of the FY 2021-2024 Transportation Improvement Plan (TIP) and the 2020 amendment of the regional long-range transportation plan, Visualize 2045.*
- *Developed Ozone On-Road Mobile Emissions Inventories. Prepared for the 2015 Ozone National Ambient Air Quality Standards 2017 Base Year for the Washington, DC-MD-VA Non-Attainment Area.*
- *Greenhouse Gas Emissions Inventories for the 2018 GHG Inventory Update Project*
- *Greenhouse Gas Emissions Inventories for the 2030 Climate Action Plan*
- *Technical assistance to state DOTs and regional transit agencies as part of the UPWP Technical Assistance program.*

DRAFT

FY 2021 Regional Planning Priorities

In March 2015, USDOT issued **planning emphasis areas** for MPOs to consider in Unified Planning Work Programs. The three areas are 1) MAP-21 implementation: Transition to performance-based planning and programming; 2) Regional coordination of transportation planning beyond traditional boundaries; and 3) Ladders of Opportunity. This section provides a summary of how the work activities in this UPWP addresses these three priority areas.

PERFORMANCE-BASED PROGRAMMING AND PLANNING

An overview of performance-based planning and programming was provided earlier in this Introduction. Performance-based planning and programming is an articulated priority of the TPB as demonstrated in Activity 3: Performance-Based Planning and Programming in this UPWP. Ongoing processes have been established to address performance measures and targets in coordination with the three state DOTs, WMATA, and the local government public transportation operators in accordance with the federal planning regulations and performance management requirements for MPOs.

As included in the Metropolitan Planning Agreement (3C Agreement) approved by the Transportation Planning Board on April 18, 2018, in accordance with the latest federal metropolitan planning requirements as adopted in the FAST Act, the TPB's TIP includes a description of how the investments in the TIP make progress toward achievement of the targets in the Plan.

The TIP includes funding under the Highway Safety Improvement Program for priority HSIP projects as programmed by the three states. Examples of HSIP programmed projects include impact attenuators, guardrails, upgrading traffic signal devices, work zone safety reviews, and improved signs and markings. The three states have processes for inclusion of safety-related projects as identified in their Strategic Highway Safety Plans and other state plans and documents. Safety improvements are also included within projects funded with non-HSIP funds and through other state and federal sources, such as the Transportation Alternatives Program Block Grants, including Safe Routes to School grants, and CMAQ and maintenance projects, all of which will provide benefits that contribute to improved safety performance. Thus, the funding and the program of projects in the TIP will enable the TPB to achieve the region's safety performance targets.

The TIP includes funding from multiple FTA sources for projects that support Transit Asset Management. Examples of these projects include rural and urban capital assistance programs; rolling stock acquisition, maintenance, and overhauls; bus fleet rehabilitation and replacement; track and rail yard maintenance and improvements; and maintenance of passenger facilities. Each of the three states and WMATA have adopted Transit Asset management plans which are included in their respective STIPs. Transit Asset Management category projects are also supported by non-FTA sources such as state and local funding, WMATA Insurance Proceeds, and flexible CMAQ and STP funding. The funding and the program of projects in the TIP will enable the TPB to achieve the region's transit asset management performance targets.

PROMOTE VISUALIZE 2045 ASPIRATIONAL INITIATIVES

In December 2017 and January 2018, the TPB endorsed seven aspirational initiatives recommended by the Long-Range Plan Task Force with the potential to significantly improve the performance of the region's transportation system. These seven aspirational initiatives are included in Visualize 2045 as the aspirational element, calling upon member jurisdictions and agencies to plan for and implement these initiatives that will help bring the region closer to reaching its goals. To support implementation of these initiatives, TPB staff have met with TPB member jurisdictions and transit agencies to discuss the projects, programs, and policies that the members are advancing that align with the aspirational initiatives, and how TPB can support its members in doing so. TPB staff also worked on follow-up to TPB Resolution R10-2019 which directed staff to conduct activities related to the implementation of three of the aspirational initiatives:

- Improve walk and bike access to transit – Staff developed and refined a network analysis to identify walksheds around high-capacity transit stations. Staff have shared with various committees the online 'walksheds analysis' tool that can be used by anyone in the region. Staff is conducting outreach to technical staff at the local jurisdictions.
- Complete the National Capital Regional Trail Network – Staff implemented a work program for expanding the regional trail network to cover the entire TPB region, as a network.
- Provide more telecommuting and other options for commuting – Commuter Connections Program launched the Incentrip app on August 28, 2020. Staff also conducted other TDM related activities.

COG staff (who are not explicitly TPB staff) worked on activities to address another of the seven initiatives— "Bring jobs and housing closer together." The Housing Initiative has been underway to identify how to work together as a region to build 100,000 more housing units over the next decade in the region's Activity Centers. Resolution R10-2019 also encouraged regional coordination activities, led by TPB partners, to promote implementation of the initiatives "Expand bus rapid transit (BRT) regionwide," and "Expand the express highway network." COG staff made recommendations to the COG board regarding three regional housing targets. In September, the COG Board voted unanimously to endorse the three housing targets.

REGIONAL COORDINATION BEYOND TRADITIONAL BOUNDARIES

As a multi-state MPO, the TPB fully embraces the need for regional cooperation and coordination across state and agency boundaries. Each work activity in this UPWP reflects regional coordination between jurisdictions and agencies in Virginia, Maryland, and the District of Columbia, notably in developing performance measures and targets, the unfunded regional priority projects, MATOC, congestion management, safety, public transportation, and freight. The TPB coordinates with MPOs near its planning area, such as FAMPO, the Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO), and the Baltimore Regional Transportation Board (BRTB). With regards to air quality conformity analysis, transportation projects and land use forecasts from these other MPOs are reflected in the technical analysis. Formal agreements on the coordination and consultation processes for transportation planning exist with FAMPO and C-SMMPO, as described above under "Responsibilities for Transportation Planning."

The TPB is involved in the statewide MPO planning efforts in both Maryland and Virginia. The TPB participates in the Maryland MPO Roundtable meetings, which occur 4 times a year. The

Commonwealth of Virginia General Assembly established the Virginia Association of Metropolitan Planning Organizations (VAMPO) effective July 1, 2009, through House Joint Resolution No. 756 to provide education, information and opportunities for cooperation among Virginia's Metropolitan Planning Organizations and among state, federal and community officials. The TPB is an active participant and a voting member of VAMPO. VAMPO's mission is "Moving Virginia forward by enhancing, promoting, and supporting the regional transportation planning process of the Commonwealth's MPOs." A TPB staff member currently serves as the Vice Chairman of VAMPO.

The TPB's Transportation/Land-Use Connections (TLC) program continues to improve the coordination between land use and transportation planning in the region. The Public Transportation Subcommittee plays a key role in fostering cooperation and coordination among the many public transit providers in the region. COG has been designated by the governors of Maryland and Virginia and the mayor of the District of Columbia to coordinate with the state DOTs in the development of an agency to oversee Metrorail safety, as required under MAP-21.

SUPPORTING TRANSPORTATION EQUITY IN THE REGION

The TPB has identified connectivity gaps in accessing essential services for older adults, people with disabilities, and those with low incomes in its Coordinated Human Service Transportation Plan, adopted by the TPB in December 2018. These unmet transportation needs are used to develop priorities for FTA's Enhanced Mobility of Seniors and Individuals with Disabilities grant program. COG serves as the designated recipient for this program in the Washington DC-VA-MD Urbanized Area and the TPB solicits and selects the projects, which provide key access to essential services such as health care, education, employment, and recreation.

In FY 2016, an expanded analysis of the long-range transportation plan identified potentially vulnerable populations, called Equity Emphasis Areas. The TPB's efforts to develop a list of unfunded regional priority projects includes the consideration of infrastructure needs that improve connectivity to essential services for traditionally disadvantaged populations. The TPB's Bicycle and Pedestrian plan identifies improvements and policies to encourage more walking and biking. The Access for All Advisory Committee provides input to the TPB on projects, programs, and services that are important to low-income individuals, minority communities, and persons with disabilities.

Federal Metropolitan Planning Provisions

The **Statewide and Nonmetropolitan Transportation Planning; Metropolitan Transportation Planning** Rule was issued on May 27, 2016. The planning rule updates federal surface transportation regulations with changes adopted in the MAP-21 and the FAST Act. For MPOs, such as the TPB, the most significant change is the performance-based planning and programming requirements which must be adopted by May 27, 2018 and included in all subsequent TIPs and long-range plans. This UPWP will provide for an ongoing review of the metropolitan planning provisions and USDOT guidance with a consideration of what additional work activities may be called for. The TPB must respond to any guidance on how MPOs should implement the provisions. As new USDOT planning regulations or guidance are released, the UPWP will integrate such new work activities. The TPB will work with the state DOTs, public transit providers and other stakeholders to identify any specific changes or amendments that will be necessary to address them.

II. PROPOSED FY 2021 TPB WORK PROGRAM AND BUDGET

Program Structure

The TPB is responsible for the federally required metropolitan transportation 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. The tasks to be completed under each of the 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 identifies the major work products to be developed, the linkages between them, and the TPB entity responsible for oversight of the products. The next several pages provide revenue and expenditure tables, and a series of figures which illustrate the relationship between and among the TPB work activities. The order of the tasks is deliberate with the federal regulatory requirements identified most prominently followed by the subsequent tasks providing support for elements of those requirements.

1. LONG-RANGE TRANSPORTATION PLANNING

The first major activity, **Long-Range Transportation Planning**, includes activities related to Visualize 2045, activities to maintain federal compliance, and activities to implement policy board directed activities. Visualize 2045 identifies all regionally significant transportation investments planned through 2045 and provides detailed analysis to help decision makers and the public “visualize” the region’s future under current plans. Visualize 2045 was approved in October 2018, and strategic implementation including a focus on the aspirational element is underway. Additional analysis to support and enhance plan components and other federal requirements will be undertaken as necessary. Work will also continue to plan for the 2022 quadrennial update of the plan.

2. TRANSPORTATION IMPROVEMENT PROGRAM

The second major activity, the **Transportation Improvement Program (TIP)**, provides support to update, amend, modify, and enhance the TPB’s TIP. In FY 2019, TPB procured a consultant to develop a new iTIP Database which provides a complete upgrade and overhaul to the project database information system. In FY 2021, we will continue to develop and transition to a new long-range plan, TIP project, and conformity record database, including a GIS database.

3. PLANNING ELEMENTS

The third major element, **Planning Elements**, considers the following aspects of metropolitan transportation planning, and their support of regional long-range transportation plan and program development, in conjunction with federal FAST and MAP-21 requirements:

- Performance-Based Planning and Programming;
- Regional congestion management process (CMP);
- Systems performance, operations, and technology (SPOT) planning;

- Transportation emergency preparedness planning;
- Transportation safety planning;
- Bicycle and pedestrian planning;
- Regional public transportation planning;
- Freight planning; and
- Planning support for the Metropolitan Area Transportation Operations Coordination (MATOC) Program.

A key objective is to provide opportunities for regional consideration, coordination, and collaborative enhancement of planning for each of these elements. Also included for all elements will be outreach to members, stakeholders, and subject matter experts, to gather information to advise future planning and committee activities.

4. PUBLIC PARTICIPATION

The fourth major activity, **Public Participation**, includes all public involvement activities; outreach activities to low-income, older adults, minorities, and persons with disabilities; and communication activities to support of the development of the metropolitan transportation plan, TIP, and all other TPB activities.

5. TRAVEL FORECASTING

The fifth major activity, **Travel Forecasting**, is designed to develop, maintain, support, and improve the TPB's travel demand forecasting methods. Methods can range from tactical models, such as the TPB's regional travel demand forecasting model, to strategic models, such as sketch and scenario planning models. This work activity includes preparing the inputs, such as transportation networks, to the regional travel demand model and also developmental work, both to improve the production-use travel model and also to develop the next-generation travel model, known as the Gen3 Model, which is to be developed during a three-year period, from FY 20 through FY 23.

6. MOBILE EMISSIONS PLANNING

The sixth major activity, **Mobile Emissions Planning**, consists of maintaining and applying the adopted, production-use TPB travel demand model and EPA Motor Vehicle Emissions Simulator (MOVES) model to forecast air pollution emitted by on-road motor vehicles. This activity includes the technical air quality conformity analysis of the long-range transportation plan and TIP as well as related technical work supporting state environmental planning activities.

7. TRAVEL MONITORING AND DATA PROGRAMS

The seventh major activity, **Travel Monitoring and Data Programs**, provides empirical travel information from traffic counts, high occupancy vehicle (HOV) monitoring, regional travel surveys and other travel trend analysis activities. This activity includes GIS technical support for all planning activities across the department and maintaining the Regional Transportation Data Clearinghouse.

8. SCENARIO PLANNING AND SOCIOECONOMIC FORECASTING

The eighth major activity, **Scenario Planning and Socioeconomic Forecasting**, includes activities to develop the tools necessary for conducting scenario planning analysis. This activity also entails coordinating local, state, and federal planning activities to integrate land use and transportation planning in the region.

9. MOBILITY AND ENHANCEMENT PROGRAMS

The TPB solicits and selects projects for three programs. The ninth major activity, **Mobility and Enhancement Programs**, captures the efforts involved in soliciting and selecting projects for the FTA “Section 5310: Enhanced Mobility of Seniors and Individuals with Disabilities” program, the FHWA Transportation Alternatives Set-Aside Program (TAP), and the TPB’s Transportation Land-Use Connections Program (TLC).

10. TPB MANAGEMENT AND SUPPORT

The tenth major activity, **TPB Management and Support**, includes the staff and administrative management to provide support for the meetings of TPB, its committees and special work groups, and developing and administering the annual UPWP.

11. TECHNICAL ASSISTANCE PROGRAM

The eleventh major activity, **Technical Assistance Program**, 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.

CONTINUOUS AIRPORT SYSTEM PLANNING (CASP)

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

Work Activity Budgets

Funding for the TPB Basic Work Program is similar to the FY 2020 level. The proposed budget levels for the 11 activities by funding source, which include FTA and FHWA funds together with state and local match, are shown in Table 1 on the next page. The proposed expenditures for each of these 11 tasks are identified in Table 2. A detailed breakdown of staffing, consultant costs, and other budgetary requirements is provided in Table 3. The TPB committee structure is shown in Figure 6. The TPB committee or sub-committee responsible for the activities listed in Figure 5 are shown under the descriptions for each task in Section III. Figure 7 illustrates the relationship between and among the TPB work activities.

Table 1: Revenue - FY 2021 TPB Proposed Funding by Federal, State, and Local Sources
(July 1, 2020 to June 30, 2021)

	FTA SECT 5303 80% FED & 20% STA/ LOC	FHWA PL FUNDS 80% FED & 20% STA/ LOC	FAA CASP 90% FED / & 10% LOC	TOTALS
DDOT ALLOCATIONS				
NEW FY 2021	\$538,004	\$2,405,656		\$2,943,660
PRIOR UNEXPENDED	\$84,842	\$392,674		\$477,516
CARRYOVER FY 2020	\$129,624	\$428,605		\$558,229
SUBTOTAL - DC	\$752,470	\$3,226,935		\$3,979,405
MDOT ALLOCATIONS				
NEW FY 2021	\$1,475,348	\$4,039,011		\$5,514,359
PRIOR UNEXPENDED	\$260,929	\$765,798		\$1,026,727
CARRYOVER FY 2020	\$396,068	\$909,870		\$1,305,938
SUBTOTAL - MD	\$2,132,345	\$5,714,679		\$7,847,024
VDRPT & VDOT ALLOCATIONS				
NEW FY 2021	\$1,263,817	\$3,467,106		\$4,730,923
PRIOR UNEXPENDED	\$213,790	\$651,037		\$864,827
CARRYOVER FY 2020	\$298,664	\$697,149		\$995,813
SUBTOTAL - VA	\$1,776,271	\$4,815,292		\$6,591,563
TOTAL FHWA/FTA FUNDING ALLOCATIONS				
NEW FY 2021	\$3,277,169	\$9,911,773		\$13,188,942
PRIOR UNEXPENDED	\$559,561	\$1,809,509		\$2,369,070
CARRYOVER FY 2020	\$824,355	\$2,035,624		\$2,859,979
SUB-TOTAL - FHWA-FTA	\$4,661,086	\$13,756,906		\$18,417,991
TOTAL BASIC UPWP	\$4,661,086	\$13,756,906		\$18,417,991
FAA - CASP PROGRAM			\$475,000	\$475,000
GRAND TOTAL UPWP	\$4,661,086	\$13,756,906	\$475,000	\$18,892,991

1. "New FY2021" funding amounts from DDOT are at FY 2020 levels and will be updated.
2. "Prior Unexpended" funding amounts are yet to be confirmed by funding agencies and may change.
3. "Carryover FY2020 funds" are funds budgeted for Core and Technical Assistance work program activities in FY 2020 UPWP, that are not anticipated to be spent in FY 2020. As such these funds will be carried over from FY 2020 to be used to perform Core program and Tech. Assistance activities in FY 2021.

Table 2: FY 2021 UPWP Expenditures

WORK ACTIVITY	FY 2021 TOTAL COST ESTIMATE
CORE PROGRAMS	
1. Long-Range Transportation Planning	\$1,085,010
2. Transportation Improvement Program	\$438,484
3. Planning Elements	\$2,952,916
4. Public Participation	\$1,018,896
5. Travel Forecasting	\$3,846,492
6. Mobile Emissions Planning	\$1,835,592
7. Travel Monitoring and Data Programs	\$2,164,395
8. Scenario Planning and Socioeconomic Forecasting	\$1,530,943
9. Mobility and Enhancement Programs	\$624,452
10. TPB Management and Support	\$865,807
Sub-total: Core Program	\$16,362,988
11. TECHNICAL ASSISTANCE	
A. District of Columbia	\$294,366
B. Maryland	\$807,804
C. Virginia	\$578,997
D. Regional Transit Technical Assistance	\$373,856
Sub-total: Technical Assistance Program	\$2,055,003
Total - Basic UPWP	\$18,417,991
AIR SYSTEMS PLANNING	
1. Continuous Airport System Planning (CASP)	\$475,000
Sub-total: CASP	\$475,000
GRAND TOTAL UPWP	\$18,892,991
<p>1. Above estimates are based on the work activities outlined in the FY 2021 UPWP Document.</p> <p>2. CASP work activities are based on anticipated FAA grants to process the biennial Air Passenger Survey conducted in FY 2020 and to assist in ground access improvement planning.</p>	

Table 3: TPB FY 2021 Work Program by Funding Sources

UPWP - Work Activity	COG Labor Cost		Total COG Staff	COG Labor Fringe Cost	Supplemental Labor		Total Labor & Fringe Cost	Total Indirect Cost	Direct Costs (Implementation)			Total Prgrm. Implmntn. Direct Cost	Grand Total Cost
	DTP Staff	Other Staff			Interns	Temps			Sftwre, Data, PC	Consultant Assistance	Other Costs		
CORE PROGRAMS													
1. Long-Range Transportation Planning	\$406,631	\$0	\$406,631	\$102,837	\$0	\$0	\$509,467	\$303,643	\$5,000	\$260,000	\$6,900	\$271,900	\$1,085,010
2. Transportation Improvement Program	\$133,767	\$0	\$133,767	\$33,830	\$0	\$0	\$167,596	\$99,887	\$170,000	\$0	\$1,000	\$171,000	\$438,484
3. Planning Elements	\$1,018,981	\$31,997	\$1,050,978	\$265,792	\$0	\$0	\$1,316,771	\$784,795	\$12,500	\$802,500	\$36,350	\$851,350	\$2,952,916
4. Public Participation	\$408,524	\$0	\$408,524	\$103,316	\$0	\$0	\$511,840	\$305,057	\$2,000	\$100,000	\$100,000	\$202,000	\$1,018,896
5. Travel Forecasting	\$1,036,439	\$0	\$1,036,439	\$262,115	\$0	\$0	\$1,298,554	\$773,938	\$362,000	\$1,348,000	\$64,000	\$1,774,000	\$3,846,492
6. Mobile Emissions Planning	\$712,106	\$91,339	\$803,446	\$203,191	\$0	\$0	\$1,006,637	\$599,956	\$30,000	\$70,000	\$129,000	\$229,000	\$1,835,592
7. Travel Monitoring And Data Programs	\$647,068	\$0	\$647,068	\$163,643	\$0	\$0	\$810,711	\$483,184	\$386,500	\$450,000	\$34,000	\$870,500	\$2,164,395
8. Planning Scenarios And Socio Economic Forecasting	\$212,159	\$243,147	\$455,306	\$115,147	\$0	\$0	\$570,453	\$339,990	\$350,000	\$215,000	\$55,500	\$620,500	\$1,530,943
9. Mobility And Enhancement Programs	\$108,207	\$44,580	\$152,787	\$38,640	\$35,360	\$0	\$226,787	\$135,165	\$1,000	\$260,000	\$1,500	\$262,500	\$624,452
10. TPB Support and Management	\$296,775	\$0	\$296,775	\$75,054	\$0	\$0	\$371,829	\$221,611	\$3,565	\$52,000	\$216,800	\$272,365	\$865,807
UPWP Core Program Total	\$4,980,656	\$411,064	\$5,391,720	\$1,363,566	\$35,360	\$0	\$6,790,646	\$4,047,226	\$1,322,565	\$3,557,500	\$645,050	\$5,525,115	\$16,362,988
TECHNICAL ASSISTANCE													
A. District of Columbia	\$77,567	\$0	\$77,567	\$19,617	\$0	\$0	\$97,183	\$57,921	\$0	\$139,262	\$0	\$139,262	\$294,366
B. Maryland	\$51,782	\$0	\$51,782	\$13,096	\$0	\$0	\$64,878	\$38,667	\$0	\$175,000	\$529,259	\$704,259	\$807,804
C. Virginia	\$34,789	\$0	\$34,789	\$8,798	\$0	\$0	\$43,588	\$25,978	\$0	\$150,000	\$359,411	\$509,411	\$578,977
D. WMATA	\$7,311	\$0	\$7,311	\$1,849	\$0	\$0	\$9,160	\$5,459	\$0	\$38,000	\$321,236	\$359,236	\$373,856
Technical Assistance Program Total	\$171,449	\$0	\$171,449	\$43,359	\$0	\$0	\$214,809	\$128,026	\$0	\$502,262	\$1,209,907	\$1,712,169	\$2,055,003
Total Basic Program	\$5,152,105	\$411,064	\$5,563,169	\$1,406,925	\$35,360	\$0	\$7,005,455	\$4,175,252	\$1,322,565	\$4,059,762	\$1,854,957	\$7,237,284	\$18,417,991
CONTINUOUS AIRPORT SYSTEM PLANNING PROGRAM (CASP)													
	\$172,853	\$0	\$172,853	\$43,715	\$0	\$0	\$216,568	\$129,074	\$0	\$129,358	\$0	\$129,358	\$475,000
GRAND TOTAL	\$5,324,958	\$411,064	\$5,736,022	\$1,450,640	\$35,360	\$0	\$7,222,022	\$4,304,326	\$1,322,565	\$4,189,120	\$1,854,957	\$7,366,642	\$18,892,991

Figure 5: Major Components of UPWP Work Activities

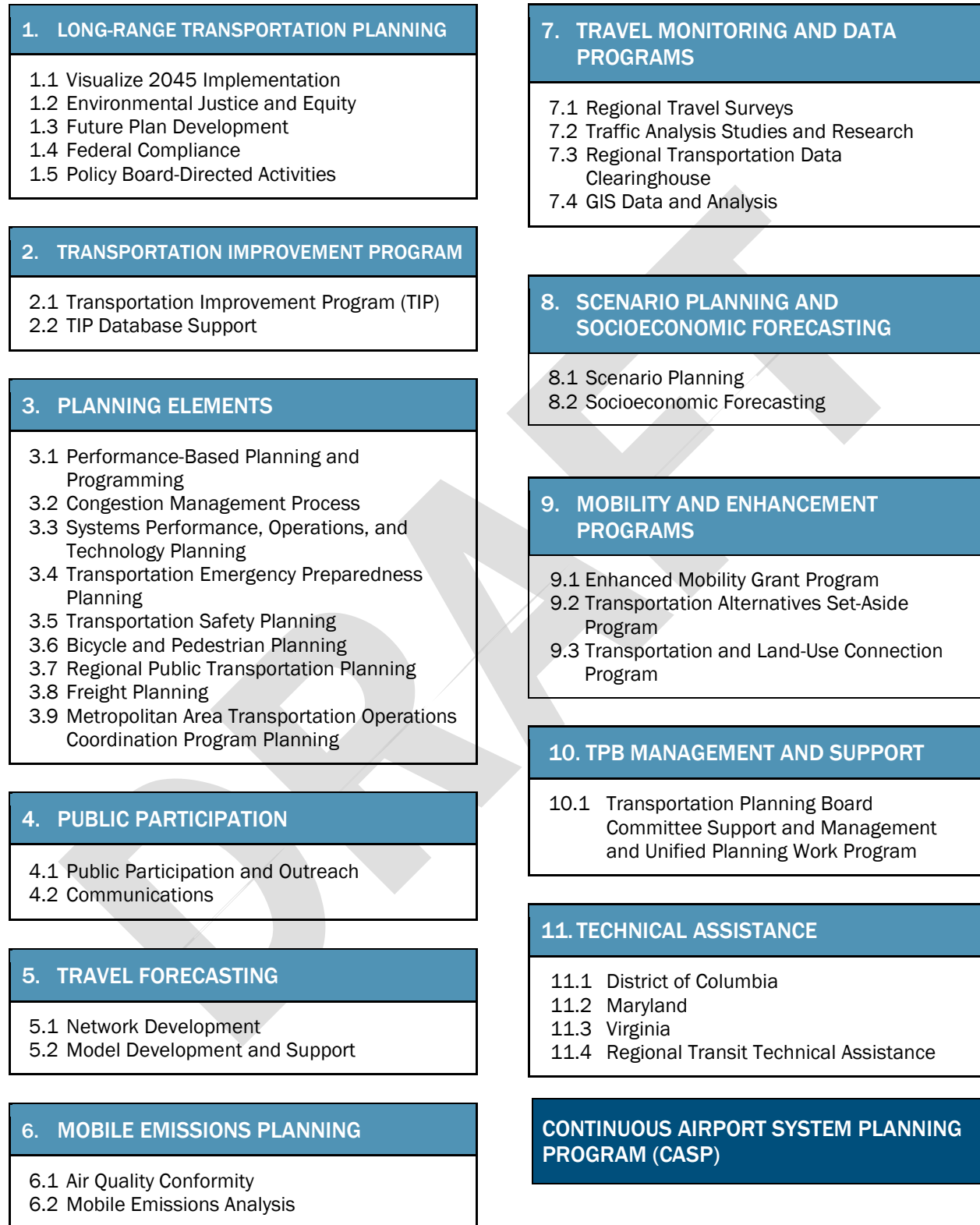


Figure 6: TPB Committee Structure

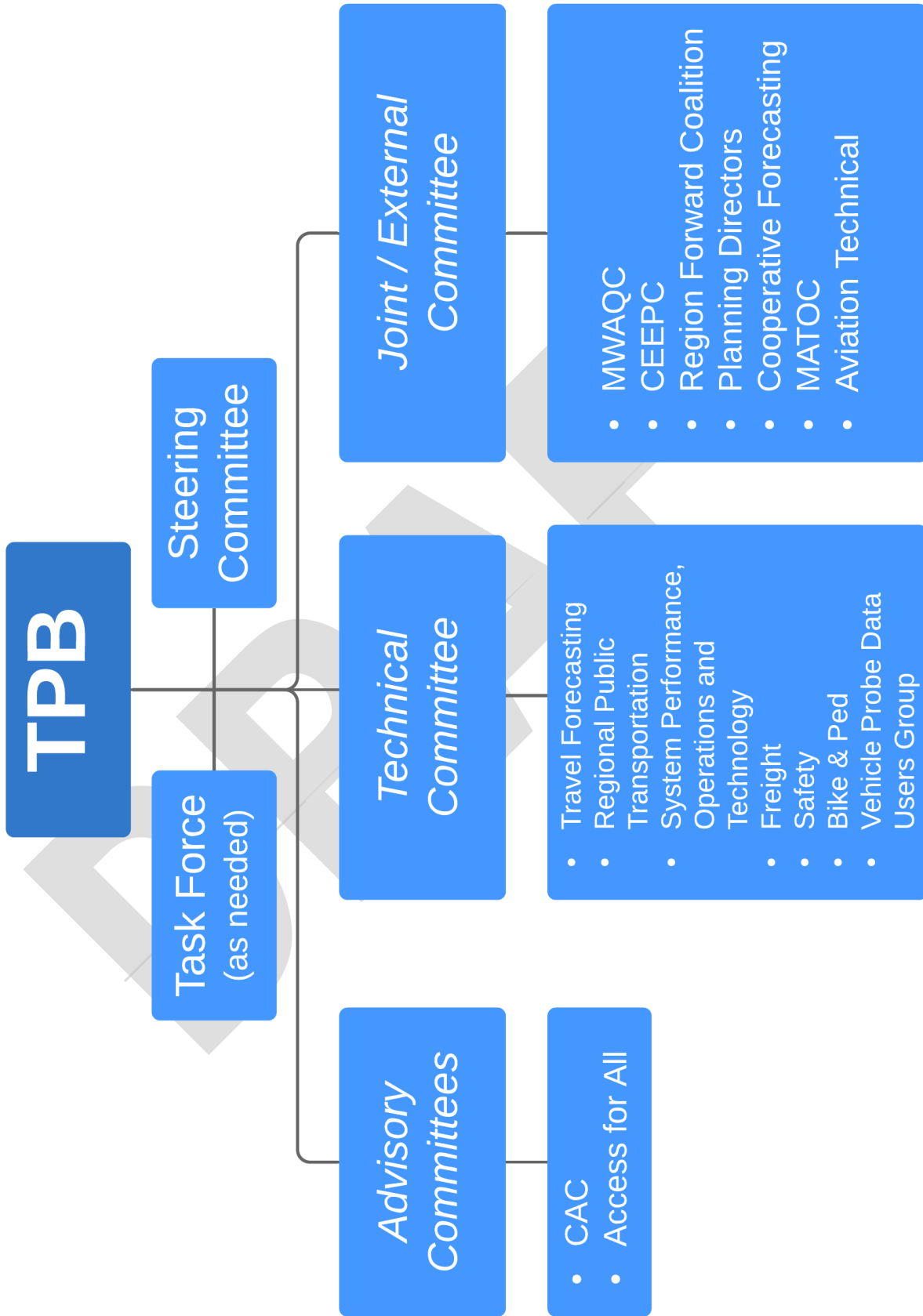
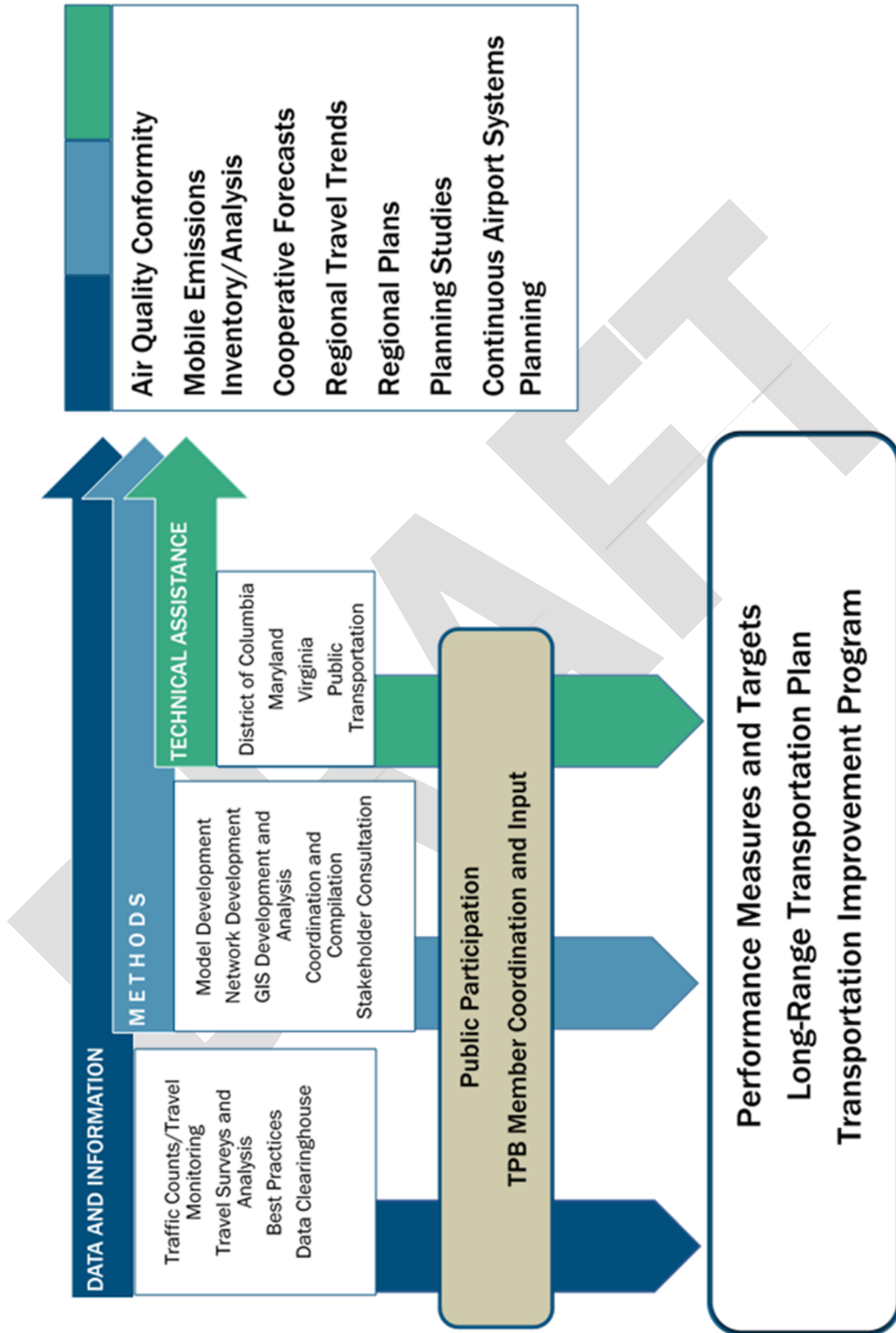


Figure 7: Overview of Planning Products and Supporting Processes



III. MAJOR WORK ACTIVITIES

1. Long-Range Transportation Planning

OVERSIGHT

TPB Technical Committee

MAJOR PRODUCTS

- Schedule and scope for the next long-range plan update
- Supporting analysis for the next plan
- Plan evaluation

TOTAL COST ESTIMATE

\$1,085,010

1.1 VISUALIZE 2045 IMPLEMENTATION

Visualize 2045 is the federally required long-range transportation plan for the National Capital Region. It identifies all regionally significant transportation investments planned through 2045 and provides detailed analysis to help decision makers and the public “visualize” the region’s future under current plans. The plan was approved in October 2018 and this activity describes work to support implementation and future plan development activities.

- Conduct general coordination and outreach to members to help members understand and implement the plan and the aspirational initiatives.
- Provide opportunities for consideration, coordination, and collaborative enhancement of Visualize 2045.
- Conduct analysis as necessary to support the aspirational initiatives.

1.2 ENVIRONMENTAL JUSTICE AND EQUITY

TPB continues to seek opportunities to understand the needs of all users of the regional transportation system. TPB will conduct outreach and analysis that will improve the region’s understanding of specific needs of and considerations for disadvantaged populations in the transportation planning process.

- Provide analysis and support for other equity-related activities.
- Coordinate with TPB public participation staff to improve data collection regarding disadvantaged populations.
- In the long-range plan evaluation and blueprint, TPB will consider its strengths and weaknesses regarding how it plans for environmental justice and equity (in addition to other topics). In the development of the long-range plan Blueprint, TPB will identify opportunities and draft recommendations on how to improve its planning efforts for environmental justice and equity.

1.3 FUTURE PLAN DEVELOPMENT

To support future plan development, TPB staff will conduct an evaluation of how Visualize 2045 (2018) and regional planning activities address key transportation planning issues. TPB will work with regional partners and members to draft recommendations as to how TPB might address these issues in the Visualize 2045 update (2022) and in future plans. This activity will inform future UPWPs. TPB staff will also undertake other activities to advance the development of the next long-range plan.

- Communicate to Board and other stakeholders the schedule and key planning activities for the next quadrennial transportation plan update.
- Conduct long-range plan evaluation and develop Blueprint. In the long-range plan evaluation and blueprint, TPB will consider its strengths and weaknesses regarding how it plans for several topics that are expected to impact the supply, demand, or overall function of the transportation system. In the development of the long-range plan Blueprint, TPB will identify opportunities and draft recommendations on how to improve its planning efforts for these topics. TPB will plan to conduct technical workshops related to the topics evaluated.
- Conduct additional planning analysis and coordination to support plan development.

1.4 FEDERAL COMPLIANCE

The TPB has federal responsibilities and this task supports work to maintain compliance with those requirements.

- Federal Certification was completed in July 2019. Complete tasks as noted in the Federal report to address any issues that have been noted.
- Monitor possible future transportation regulations and/or changes and prepare accordingly.
- Track, research, and respond to all Federal activities that impact the metropolitan transportation planning process.

1.5 POLICY BOARD-DIRECTED ACTIVITIES

The TPB is a policy board that can take action on a variety of transportation planning and policy initiatives. This task will support any activities that the Board directs staff to do.

- Carry out staff activities related to TPB Resolution R10-2019, which called for action on recommended project, program, and policy ideas that would implement the TPB's aspirational initiatives identified in Visualize 2045
- Carry out additional activities as directed by the TPB.

2. Transportation Improvement Program

OVERSIGHT

TPB Technical Committee

MAJOR PRODUCTS

- New iTIP Database

TOTAL COST ESTIMATE

\$438,484

2.1 TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

The Transportation Improvement Program (TIP) is a federal obligation document which describes the planned schedule in the next six years for distributing federal, state, and local funds for state and local transportation projects. This activity will encompass the following work tasks in FY 2021:

TIP Programming

- Prepare, review, and process administrative modifications and amendments to the currently approved TIP.
- Review administrative modifications and amendments for fiscal constraint.
- Enhance documentation of the TIP with additional analysis as a part of the long-range plan/TIP publications and the Visualize 2045 web site.
- Provide public access to long-range plan and TIP project data through an improved online searchable database and a linked GIS database.
- Prepare annual certification of compliance with regulations on the provision of transit services to persons with disabilities.
- Prepare an annual listing of projects for which federal funds have been obligated in the preceding year for the FY 2021-2024 TIP.

Performance Based Planning and Programming

Federal surface transportation law, as developed in MAP-21 and continued under the FAST Act, calls for MPOs, states, and public transportation providers to establish and use a performance-based approach to transportation decision making. States and MPOs must integrate performance-based plans into their planning process, including goals, objectives, performance measures, and targets, either directly or by reference. USDOT has established performance measures and subsequently states and public transportation providers have established performance targets in support of updated 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, Visualize 2045 and TIP are required to include a description of the performance measures and targets used in assessing the performance of the transportation system. The MPO review targets to track progress towards attainment of critical performance outcomes for the MPO region.

Under the performance provisions, the TIP shall do the following, in coordination with Visualize 2045:

- Contain projects consistent with the metropolitan transportation plan.
- Reflect investment priorities from the metropolitan transportation plan.
- Be designed to make progress toward achieving transportation system performance targets.
- Describe the anticipated effect of the TIP toward achieving the performance targets established in the metropolitan transportation plan.
- Link investment priorities to performance targets.

2.2 TIP DATABASE SUPPORT

In FY 2019, TPB procured a consultant to develop a new iTIP Database which provides a complete upgrade and overhaul to the project database information system. This new system will integrate current functionality into one enhanced, unified, user-friendly, customizable system that can be branded with COG and TPB styles. The system will have the ability to add or change fields, forms, queries and reports to respond to data requests or changes to requirements in the future. GIS mapping of projects will be integrated into the system, which will allow for data to be exported and used in other ArcGIS applications. The system will allow the many data input users to provide automated data transfers to the extent possible. Database versioning or some other means will be used to provide access to data in various states of input and approval without duplicating data. The system will include searchable data sets for the public, TPB members, federal approval agencies, and other stakeholders to query and interact with using maps, reports and charts. These are the work activities that will be undertaken to support this task.

- Develop and transition to a new long-range plan, TIP project, and conformity record database, with a GIS database.
- Coordinate with State DOT and other agency users to provide for data transfer and use of the database to support TIP requirements.
- Provide public access to long-range plan and TIP project data through an improved online searchable database and a linked GIS database.

3. Planning Elements

OVERSIGHT	Various (see below)
MAJOR PRODUCTS	See program-specific products below
TOTAL COST ESTIMATE	\$2,952,916

3.1 PERFORMANCE-BASED PLANNING AND PROGRAMMING

OVERSIGHT	TPB Technical Committee
MAJOR PRODUCTS	<ul style="list-style-type: none">• Performance measures and targets; associated documentation

The Performance-Based Planning and Programming (PBPP) task supports implementation of the performance-based planning framework for metropolitan transportation planning and decision making, including investment priorities, target setting and measuring progress toward those targets.

- Develop data and reports for the TPB's setting and tracking of federally specified PBPP targets, in accordance with Letters of Agreement that have been signed between TPB and partner agencies.
- Coordinate with the states and public transportation providers on data collection and sharing, targets, and federally required reporting.
- Set annual highway safety targets.
- Set annual transit asset management targets.
- Set regional transit safety targets (for the first time as per federal regulations).
- Update any four-year targets established in 2018 in the areas of pavement and bridge condition and highway system performance (travel time reliability, non-SOV mode, and CMAQ emissions reductions).
- Support TPB as it reviews data and sets required targets.

3.2 CONGESTION MANAGEMENT PROCESS

OVERSIGHT

Systems Performance, Operations, and Technology Subcommittee (SPOTS)

MAJOR PRODUCTS

- National Capital Region Congestion Report Dashboard
- Vehicle Probe Data Users Group reference materials
- Documentation for FAST Act performance and target reporting requirements

This task develops and maintains the regional Congestion Management Process (CMP), providing information on current congestion on the region's roadways through data analysis, as well as identifying potential multi-modal strategies to manage congestion.

This task includes:

- Compile information and undertake analysis for the development of major CMP components, including application of available or emerging "big data" sources.
- Begin development of the next biennial CMP Technical Report (to be published in FY 2022).
- Produce the National Capital Region Congestion Report, released as a quarterly website "dashboard".
- Provide CMP technical input to the Performance-Based Planning task.
- Continue development (begun in FY 2020) of jurisdictional, subregional, and/or corridor-based congestion profiles, using available data plus additionally procured data. Include related information such as Census and transit use.
- Produce special CMP analyses, such as following a major event, on an as-needed basis.
- Support the Vehicle Probe Data Users Group (VPDUG) in its role to foster technical and methodological coordination in the application of vehicle probe data by member agencies and jurisdictions.

3.3 SYSTEMS PERFORMANCE, OPERATIONS, AND TECHNOLOGY PLANNING

OVERSIGHT

Systems Performance, Operations, and Technology Subcommittee (SPOTS)

MAJOR PRODUCTS

- Regional ITS architecture maintenance
- Regional surveys on traffic signal timing and power back-up systems
- Documentation for FAST Act performance and target reporting requirements

This task addresses requirements for Regional Transportation Systems Management and Operations (RTSMO) and related technology.

This task includes:

- Address FAST Act requirements related to technology and RTSMO; address RTSMO-related aspects of connected and autonomous vehicle technology and shared mobility developments.
- Maintain the Regional Intelligent Transportation Systems (ITS) Architecture.
- Address Traffic Incident Management (TIM) as it relates to metropolitan transportation planning and RTSMO.
- Address planning for connected/autonomous vehicles (CAVs), advised by outcomes of the FY2020 TPB CAV forums and white paper.
- Address resiliency and reliability planning aspects of RTSMO.
- Conduct supporting activities as necessary on the above topics, potentially including in-depth studies, development of reports or white papers, or stakeholder workshops.
- Conduct a regional survey on traffic signal timing and power back-up systems.
- Support the regional Systems Performance, Operations, and Technology Subcommittee (SPOTS) and the Traffic Signals Subcommittee.

3.4 TRANSPORTATION EMERGENCY PREPAREDNESS PLANNING

OVERSIGHT

COG Transportation Emergency Preparedness Committee in coordination with the Systems Performance, Operations, and Technology Subcommittee

MAJOR PRODUCTS

- **Documentation pursuant to DHS and UASI requirements**

This task provides 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 and its public safety programs. This is a component of a much larger regional set of emergency preparedness activities funded primarily outside the UPWP by U.S. Department of Homeland Security (DHS) and COG local funding. The Regional Emergency Support Function #1 (R-ESF 1) Transportation Emergency Preparedness Committee, within the COG public safety committee structure, advises these efforts and coordinates with emergency management agencies, police, fire, and other emergency response committees.

This task includes:

- Undertake transportation emergency coordination and response planning through the emergency management and Homeland Security Urban Area Security Initiative (UASI) processes.
- Address Traffic Incident Management (TIM) as it relates to transportation emergency preparedness planning.
- Support the regional Transportation Emergency Preparedness Committee (R-ESF 1).

3.5 TRANSPORTATION SAFETY PLANNING

OVERSIGHT

TPB Transportation Safety Subcommittee

MAJOR PRODUCTS

- Documentation for FAST Act performance and target reporting requirements
- Workshop(s)

This task addresses planning for safety aspects of the region's transportation system and coordinating with the Strategic Highway Safety Plan development and implementation efforts of the District of Columbia, Maryland, and Virginia, as well as other state, regional, and local efforts.

This task includes:

- Support engineering, education, and enforcement strategies to reduce fatalities, serious injuries, and crashes in the National Capital Region.
- Address regional FAST Act traffic safety performance measure requirements, including compilation and analysis of safety data, tracking of regional performance measures for safety, and coordinating with member states on the setting of safety targets.
- Address the recommendations of the FY 2020 regional safety study.
- Investigate and document regional safety trends and influencing factors and identify strategies to address these factors. This effort will help inform local planning and programming efforts to improve transportation safety and achieve/exceed the region's PBPP targets.
- Coordinate with the Strategic Highway Safety Plan development and implementation efforts of the District of Columbia, Maryland, and Virginia, as well as other state, regional, and local efforts.
- Provide technical advice to the "Street Smart" regional pedestrian and bicycle safety public outreach campaign (Street Smart is supported by funding outside the UPWP).
- Conduct one or more workshops, targeting member agency staffs, regarding transportation/roadway safety. Support the Transportation Safety Subcommittee in its coordination and advisory roles.

3.6 BICYCLE AND PEDESTRIAN PLANNING

OVERSIGHT

TPB Regional Bicycle and Pedestrian Subcommittee

MAJOR PRODUCTS

- Regional bicycle and pedestrian plan
- Regional outreach workshops

This task addresses planning for bicycle and pedestrian aspects of the region's transportation system and coordinating with related state, regional, and local efforts. This task includes:

- Complete the update of the Bicycle and Pedestrian Plan for the National Capital Region begun in FY 2020, including the National Capital Regional Trails Network map.
- Monitor and update nonmotorized recommendations for the Transportation Improvement Program (TIP); monitor Regional Complete Streets and Green Streets activities.

- Address emerging mobility technologies, such as dockless bikesharing and electric scooters, and their relationship to bicycle and pedestrian planning.
- Provide technical advice to the “Street Smart” regional pedestrian and bicycle safety public outreach campaign (Street Smart is supported by funding outside the UPWP).
- Conduct two or more regional bicycle and pedestrian planning or design training, outreach, or professional development opportunities for member agency staffs.
- Support the Bicycle and Pedestrian Subcommittee in its coordination and advisory roles.

3.7 REGIONAL PUBLIC TRANSPORTATION PLANNING

OVERSIGHT

TPB Regional Public Transportation Subcommittee

MAJOR PRODUCTS

- **Annual report, data compilation, reports on technical issues, and outreach materials**
- **Private Provider involvement documentation**

This task addresses planning for public transportation aspects of the region’s transportation system and coordinating with related state, regional, and local efforts. This task includes:

- Address public transportation-related aspects of metropolitan transportation planning, such as consideration of inter-city buses, commuter buses, rail transit, and commuter rail.
- Continue implementation of federal requirements for performance-based planning, specifically transit safety and transit asset management, including data collection, analysis of the performance measures, forecasting, and setting of targets.
- Address Bus Rapid Transit (BRT) planning and coordination.
- Address TPB-related recommendations from the 2019 regional Bus Transformation Project.
- Produce an annual report on the “State of Public Transportation.”
- Provide support to private providers of transportation in the region, including organizing the annual Private Providers Annual Transit Forum.
- Conduct supporting activities as necessary on the above topics, potentially including in-depth studies, development of reports or white papers, or stakeholder workshops.
- Support the Regional Public Transportation Subcommittee in its coordination and advisory roles.

3.8 FREIGHT PLANNING

OVERSIGHT

TPB Freight Subcommittee

MAJOR PRODUCTS

- **Documentation as necessary supporting FAST Act requirements of freight planning**
- **Maintenance of the regional freight plan**

This task addresses planning for freight aspects of the region’s transportation system and coordinating with related state, regional, and local efforts. The Regional Freight Plan updated in FY 2016 provides guidance for continued regional planning activities.

This task includes:

- Compile and analyze data to support regional freight planning.
- Address recommendations of the FY 2020 symposium/workshop on the topic of curbside management in the National Capital Region, across fields of planning for freight, safety, public transportation, and related areas.
- Coordinate with relevant jurisdictions and committees on regional rail issues.
- Address the FAST Act requirements related to regional freight transportation planning, including PBPP measures and targets.
- Conduct supporting activities as necessary on the above topics, potentially including in-depth studies, development of reports or white papers, or stakeholder workshops.
- Support the TPB Freight Subcommittee in its coordination and advisory roles.

3.9 METROPOLITAN AREA TRANSPORTATION OPERATIONS COORDINATION PROGRAM PLANNING

OVERSIGHT

MATOC Steering Committee, in conjunction with the Systems Performance, Operations, and Technology Subcommittee (SPOTS)

MAJOR PRODUCTS

- **MATOC Steering Committee Materials**

This task is to provide TPB's planning support for the Metropolitan Area Transportation Operations Coordination (MATOC) Program, in conjunction with the MATOC Steering Committee, subcommittees, and partner agencies, as MATOC pursues its function of providing real-time situational awareness of transportation operations in the National Capital Region. TPB is an ex-officio member of MATOC.

This task includes:

- Provide administrative support of the MATOC Steering Committee, including preparation of agendas and summaries and tracking of action items.
- Provide TPB staff input and advice to the MATOC Steering Committee and its subcommittees and working groups.
- Address Traffic Incident Management (TIM) as it relates to MATOC planning.
- Provide briefings to the TPB on MATOC Program progress as requested.

4. Public Participation

OVERSIGHT

Transportation Planning Board

MAJOR PRODUCTS

- Public comment solicited and documented
- Materials and activities for public participation related to the Visualize 2045 update (Phase 1 Report, Phase 2 activities)
- CAC and AFA Committee reports
- Information dissemination through the website, social media, and printed documents
- Communication support for all Tasks

TOTAL COST ESTIMATE

\$1,018,896

4.1 PUBLIC PARTICIPATION AND OUTREACH

Public participation, outreach, and communications are essential to carrying out the continuing, cooperative, and comprehensive (3C) metropolitan transportation planning process. The TPB's Participation Plan guides all public involvement activities to support the development of the plan, TIP, and all other TPB planning activities. The TPB's Participation Plan emphasizes involving traditionally disadvantaged populations in the planning process, as part of the TPB's commitment to ensuring nondiscrimination in all its programs and activities as required under Title VI and the Environmental Justice Executive Order. An update of the Participation Plan is scheduled to be completed by the end of FY 2020. This activity will encompass the following work tasks in FY 2021:

- Conduct regular public involvement as described in the TPB Participation Plan, including public comment sessions at the beginning of TPB meetings and official public comment periods prior to the adoption of TPB plans and programs as key TPB policies and documents.
- Conduct public involvement activities as part of the update to Visualize 2045. These activities are expected to be conducted in two phases, which will roughly coincide with calendar years 2020 and 2021. Thus, portions of both phases will be conducted during FY 2021.
 - Phase I activities will begin in the spring of 2020 and will be expected to conclude in October or November of 2020. This phase will focus on the seven aspirational initiatives that were included in the original version of Visualize 2045 that was approved in 2018. The public participation activities will be designed to educate the public on the initiatives and will solicit feedback on how those initiatives might be implemented while also documenting how successful implementation might positively affect the lives of the region's residents. Activities conducted during this phase may include a public opinion poll and qualitative research conducted through small group discussions, interviews, focus groups, or other methods. During this phase, educational materials will also be developed, which may include videos, infographics, other web-based content, printed materials, and other products. The input obtained through Phase I activities will be documented in a report that will be finalized in the fall of 2020 in advance of the Call for Projects for the constrained element of Visualize 2045, which is the project solicitation

- document scheduled to be released in December 2020.
- Phase II activities will be developed and conducted between the fall of 2020 and the fall of 2021. This phase will focus on “future factors” – sweeping, global forces that will affect the future of transportation in our region and around the world. The future factors examined in this phase will also be the subject of analysis that will be conducted under activities described elsewhere in the UPWP. The factors may include topics such as equity, technology, and sustainability. Public participation activities for this phase will be designed to engage residents in a regional conversation about how we can harness these factors for positive effect while also addressing challenges and potentially harmful impacts. A public participation work scope for Phase II activities will be designed in the fall of 2020, so that work can commence early in 2021. Activities are likely to include the development and dissemination of educational materials (web-based, print, other), public workshops and events, and qualitative research activities. The input received during Phase II will be summarized in documentation that will be developed in the fall of 2021 and will be integrated in the final stages of the long-range plan’s development, which is expected to occur in the spring of 2022.
- Provide staff support for the TPB Citizens Advisory Committee (CAC), including organizing monthly meetings and outreach sessions, and drafting written materials for the committee. Staff will ensure that CAC comments are communicated to the TPB regarding transportation plans, projects, programs, and issues that are important to the committee and its members.
- Provide staff support for the TPB Access for All Advisory (AFA) Committee that includes leaders and representatives of low-income communities, minority communities, persons with disabilities, older adults, and those with limited English skills as the TPB’s primary strategy for engaging traditionally disadvantaged population groups in the planning process and for providing guidance on Human Service Transportation Program activities. AFA Committee comments will be shared with the TPB on transportation plans, projects, programs, services, and issues that are important to AFA community groups.
- Conduct training activities, as needed, to help community leaders learn how to get more actively involved in transportation decision making in the Washington region.
- Conduct evaluation activities of the public involvement process.
- Ensure that all public participation is consistent with and meets the Federal Civil Rights Act (Title VI) and Executive Order 12988 Environmental Justice.

4.2 COMMUNICATIONS

This activity will encompass the following work tasks in FY 2021:

- Develop written and visual materials to spread information about regional transportation planning issues, explain how transportation decision-making works, and engage the public.
- Support staff as they develop meeting materials and publications to communicate information developed in other tasks in the UPWP.
- Produce content for the TPB News, Visualize 2045 newsletter, and other digital publications.
- Produce an annual report or other print publication highlighting significant TPB activities.
- Regularly update information on the TPB’s webpages, ensuring the site is timely, thorough, and user-friendly.
- Effectively use social media and other digital tools to engage the public in current TPB activities.

5. Travel Forecasting

OVERSIGHT

TPB Travel Forecasting Subcommittee

MAJOR PRODUCTS

- A series of highway and transit networks reflecting the latest long-range transportation plan (Visualize 2045) and TIP for input to the regional travel demand model, together with technical documentation
- Maintenance, support and development of currently adopted travel models; inputs, application files and documentation
- Continue development of the TPB's next-generation travel demand forecasting model, known as the Gen3 Model, which will occur over a three-year period, from FY 2020 to FY 2023. Associated technical documentation

TOTAL COST ESTIMATE

\$3,846,492

The Travel Forecasting work activity consist of Network Development and Model Development and Support. Network Development prepares and develops the primary inputs, including transportation networks, for the regional travel demand model. Model Development and Support consists of developing, maintaining, supporting, and improving the TPB's travel demand forecasting methods for tactical models and strategic planning models.

5.1 NETWORK DEVELOPMENT

Develop, maintain, and improve the transportation networks used as inputs to the TPB's regional travel demand forecasting models, both the production-use and developmental models.

Planned tasks for FY 2021:

- Develop a base-year transit network representing current (year-2020) conditions.
- Produce a series of forecast-year networks in support of the next air quality conformity (AQC) analysis of the TPB's Long-Range Transportation Plan (LRTP). This could be either the quadrennial update or an off-cycle AQC analysis, if requested by implementing agencies.
- Develop transportation networks for scenario studies or project-planning studies.
- Maintain and refine both 1) the multi-year transportation network geodatabase used in regional travel demand modeling and 2) the software used to edit and update the geodatabase (COGTools).
- Explore the possibility of using a new format, known as Cube Public Transport (PT), to store transit networks. The new format could provide enhancement such as on-screen transit path tracing and capacity-constrained transit assignment.
- Respond to network-related technical data requests.

5.2 MODEL DEVELOPMENT AND SUPPORT

Develop, maintain, support, and improve the TPB's travel demand forecasting methods. Methods can range from tactical models, such as the TPB's regional travel demand forecasting model, to strategic models, such as sketch and scenario planning models.

This work includes improving the production-use travel model and developing the next-generation travel model, known as the Gen3 Model, which is to be developed during a three-year period, from FY 20 through FY 23. This work also involves exploring the use of modeling tools for strategic planning, such as RSPM and VisionEval. This work activity also includes related concerns such as data collection, research, and interfacing with travel demand modeling staff at peer MPOs.

Planned tasks for FY 2021:

- Staff the TPB Travel Forecasting Subcommittee (TFS).
- Support both internal and external users of the TPB's current production-use travel demand forecasting model (Gen2/Ver. 2.3)
- Develop new versions of the TPB's travel demand forecasting model that provide enhanced modeling capabilities.
 - Gen2/Ver. 2.4 Model
 - Develop and implement bug fixes and feature enhancements.
 - Investigate new modeling capabilities associated with Cube Public Transport (PT) software, such as multi-path transit path-building and capacity constrained transit assignment (Ver. 2.4 Model and/or the Gen3 Model).
 - Gen3 Model (Phase 2 of the Strategic Plan for Model Improvement)
 - With consultant assistance, develop Gen3 Model, which is to be the TPB's next-generation travel demand forecasting model. Model development will last three years (FY 2020-2023).
 - Planned tasks for consultant in FY 2021
 - First round of model specification, estimation, and calibration
 - First round of model validation, including sensitivity tests
 - Training staff in theory and use of tour-based and activity-based models.
 - Identify, and possibly obtain, data needed to support development of the Gen3 Model and its successor model (Gen4 Model).
- Keep abreast of best practices in travel demand modeling.
- Develop knowledge of and support other DTP staff in the use of strategic planning models, such as sketch and scenario planning models (e.g., VisionEval and RSPM).
- Respond to travel-model related technical data requests from consultants and local agencies.
- Maintain software and hardware required to apply the regional travel demand model.
- Coordinate with the COG Office of Information Technology (IT) to help maintain the computers used to run the regional travel demand model.

6. Mobile Emissions Planning

OVERSIGHT

TPB Technical Committee in consultation with MWAQC

MAJOR PRODUCTS

- Scope of work and schedule for the air quality conformity analysis of the TPB's 2022 Long-Range Transportation Plan
- Mobile inventories associated with 2015 ozone NAAQS
- Decoded 2020 vehicle registration (VIN) data files for mobile emissions modeling
- Technical documentation supporting SIP-related activities

TOTAL COST ESTIMATE

\$1,835,592

6.1 AIR QUALITY CONFORMITY

The 1990 Clean Air Act Amendments require MPOs to conduct detailed systems-level technical analyses to demonstrate that future mobile source emissions resulting from the region's plans and programs comply with federally approved budgets. This task supports the air quality conformity analyses and other air quality modelling to comply with federal regulations. This activity will encompass the following work tasks in FY 2021:

- Begin technical tasks related to the air quality conformity analysis of the TPB's 2022 Long-Range Transportation Plan quadrennial update.
- Provide technical travel demand and mobile emissions modeling support for off-cycle AQC analysis, if requested by implementing agencies. This task may be funded from Technical Assistance accounts.
- Keep abreast of federal requirements as related to air quality conformity determinations.
- Continue working to incorporate Performance-Based Planning and Programming (PBPP) requirements pertaining to Congestion Mitigation and Air Quality Improvement Program (CMAQ) into the planning process as it relates to the adopted Plan.
- Maintain communication and consultation among transportation agencies, air agencies, and the public regarding air quality related matters in the region.

6.2 MOBILE EMISSIONS ANALYSIS

This task conducts a wide range of analyses to quantify mobile-source emissions levels of various pollutants in support of air quality planning and Transportation Emissions Reduction Measures (TERMs). TPB staff is also actively involved with State Implementation Plan (SIP) activities that determine how metropolitan areas will attain and maintain national air quality standards. SIP activities include the establishment of mobile emission budgets for criteria pollutants that are analyzed in air quality conformity work.

- Support development of Attainment State Implementation Plan (SIP), if needed, to address requirements of 2015 ozone National Ambient Air Quality Standards (NAAQS). This would include developing inventories of on-road mobile emissions for volatile organic compounds (VOC) and nitrogen oxides (NOx).
- Coordinate with the Metropolitan Washington Air Quality Committee (MWAQC) and its subcommittees to support development of new motor vehicle emissions budgets (MVEBs), if needed, to address requirements of 2015 ozone NAAQS.
- Revisit opportunities to refresh inputs to the EPA's Motor Vehicle Emission Simulator (MOVES) software, such as vehicle registration data, referred to as Vehicle Identification Number (VIN) data, in consultation with regional environmental and transportation agency partners.
- Provide technical support to COG/DEP staff with regional greenhouse gas (GHG) related planning activities.
- Keep abreast of MOVES updates and best practices.
- Conduct sensitivity tests of new MOVES model versions that may be released by EPA.
- Respond to technical requests from COG's Department of Environmental Programs (DEP) and from TPB member jurisdictions for readily available mobile emissions information.
- Follow established TPB interagency and public consultation procedures and coordinate with COG/DEP staff to involve the MWAQC in the public and interagency consultation process.

DRAFT

7. Travel Monitoring and Data Programs

OVERSIGHT	Various (see below)
MAJOR PRODUCTS	See program-specific products below
TOTAL COST ESTIMATE	\$2,164,395

7.1 TRAVEL SURVEYS

OVERSIGHT TPB Travel Forecasting Subcommittee

- MAJOR PRODUCTS**
- Completed output survey datasets
 - Presentations, visualizations, and information reports
 - Workplan for geographic-focused surveys
 - Technical Support

Work under this task encompasses conducting surveys designed to collect key information that provide insights and understanding of regional travel trends as well as provide key inputs into the regional travel demand forecasting model. Data collection and processing on the large-scale, multi-year Regional Travel Survey (RTS), which produces data required for the regional travel demand model, has concluded, and RTS efforts during FY 2021 will focus on finalizing the datafiles for distribution and continuing making presentations on the survey findings. During FY 2020, a 7-day panel survey was conducted of households to evaluate the performance of smartphone technology to collect regional travel data. During FY 2021, data collected from the panel survey will be processed and findings will be presented and incorporated into data products and travel trends analyses. Finally, initial activities will be carried out to prepare to conduct geographically focused travel surveys, which provide more specific household travel information and varying levels of geographic specificity.

This activity will encompass the following in FY 2021:

- Finalize 2017-2018 Regional Travel Survey (RTS) datasets to be used in analyses to provide inputs into travel demand models used to forecast future travel patterns and vehicle emissions as well as to provide data to be used in the development of the Gen3 Travel Demand Model.
- Provide continued briefings to the TPB, TPB Technical Committee, the Travel Forecasting Subcommittee, and other subcommittee and stakeholders, as appropriate, on the findings from the RTS.
- Process data from the panel travel survey conducted in fall 2019 and prepare finalized datasets to be used in survey analysis and documentation.

- Conduct analysis of RTS and 2019 panel survey to produce data and findings for consideration and inclusion in the regional next long-range plan update.
- Produce public-release datasets from the RTS and panel survey.
- Compare results of 2017/2018 RTS with 2007/2008 HTS and present the findings to appropriate committees.
- Conduct detailed analysis of the 2019 State of the Commute Survey.
- Respond to inquiries about the survey from state and local government staff, survey participants, and the media.
- Develop visualizations and other innovative means to convey survey results and findings.
- Develop workplan for the geographic-focused surveys.

7.2 TRAVEL ANALYSIS STUDIES AND RESEARCH

OVERSIGHT

TPB Travel Forecasting Subcommittee

MAJOR PRODUCTS

- **Travel monitoring datasets to support PBPP and next-generation modeling requirements**
- **Travel trends visualizations**
- **Technical reports/memoranda**
- **Presentations**

This task conducts travel trends analysis, monitoring studies, and associated research activities to support the regional travel demand forecasting model, performance-based planning and programming (PBPP), and long-range plan development. Individual studies for FY 2021 will be largely determined based on programmatic needs of the regional travel demand forecasting model, PBPP requirements, and long-range planning activities. There will be a special emphasis on continuing the expansion of the regional travel trends analysis program, including developing a more convenient, visualization-rich, and user-friendly way to access regional travel trends information and gain insights into their implications on regional travel. In coordination with the needs of the current as well as the anticipated Gen3 travel demand model, travel monitoring study needs will be identified and performed. Expanded research will begin to consider emerging topics of importance in regional transportation. This task will also include activities to acquire “Big Data” to research, analyze, and understand regional travel behavior through analysis of Big Data, which consists of very large datasets that can be analyzed to identify patterns and trends in human behavior and activity.

During FY 2021, key activities will also include:

- Continuing the enhancement of the regional travel trends analysis program to produce more frequent data products, reports, and presentations on various aspects of regional travel trends. This will include:
 - Developing and maintaining user-friendly and convenient travel trends information and visualizations

- Developing methodologies to develop more robust, geographic-focused travel trends analysis updates
- Developing user-friendly information reports/products that combine results of multiple travel trends research activities
- Making more frequent presentation to the TPB, TPB Technical Committee, and other committees and subcommittees, as appropriate, to provide more frequent and ongoing awareness and understanding of the latest travel trends and their implication for regional transportation planning.
- Acquiring and analyzing Big Data to support travel trends and travel behavior analysis as well as supporting the estimating, calibrating, and validating the regional travel demand model. This activity will follow the completion of a consultant study designed to independently identify appropriate Big Data sources and applications that can be used to support regional transportation planning activities.
- Providing cross-program research and analysis support for regional transportation planning studies and activities.
- Performing travel monitoring studies based on programmatic needs of the regional travel demand forecasting model, PBPP requirements, and long-range plan development activities.

7.3 REGIONAL TRANSPORTATION DATA CLEARINGHOUSE

OVERSIGHT

TPB Technical Committee

MAJOR PRODUCTS

- Updated Clearinghouse database and documentation
- Web interface to access Clearinghouse data

Efficient access to a comprehensive source of current and historic data on the characteristics and performance of the region's transportation system is vitally important for transportation planning, air quality analysis, travel models development, congestion management, travel trends analysis, and project evaluations. Under this activity, staff 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 Clearinghouse with updated highway and transit performance data and other important multi-modal travel data as they become available.

This activity will encompass the following in FY 2021:

- 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.

- Develop, maintain, and provide data at varying geographic levels of specificity, including parcel-level data, when needed, to support the development of the Gen 3 regional travel demand model.
- Update freeway and arterial road speed and level of service data, when available.
- Update Clearinghouse highway network bridge and pavement condition data from most current National Bridge Inventory and Highway Performance Management System databases.
- Add updated Cooperative Forecasting data by TAZ to the Regional Transportation Clearinghouse Data.
- Support efforts to develop and maintain a web-based regional travel trends dashboard described in the previous task.
- Distribute Regional Transportation Clearinghouse Data to TPB participating agencies via a GIS web-based application.
- Ensure functionality of the RTDC with ongoing system administration and updates and promote the availability and use of the RTDC to local, state, and transit agency partners.

7.4 GIS DATA AND ANALYSIS

OVERSIGHT

TPB Technical Committee

MAJOR PRODUCTS

- Updated GIS software, databases, online web map applications, user documentation, and support and coordination of COG/TPB GIS activities

This work activity provides cross-program geospatial and data support throughout the Department of Transportation Planning to support all UPWP program activities. This includes providing data and technical support to staff using GIS for development and distribution of data and information developed for TPB planning activities, including future long-range planning studies, the TIP, travel trends analysis, planning scenario development, Congestion Monitoring and Analysis, Cooperative Forecasting, Regional Transportation Data Clearinghouse, Network and Models Development, and Freight, Bike and Pedestrian Planning activities, among others.

This activity will encompass the following work activities in FY 2021:

- Provide data and technical support to staff using GIS for development and distribution of data and information developed for TPB planning activities.
- Provide technical guidance and develop GIS-based products (web maps and applications, visualization, etc.) for TPB planning activities.
- Respond to requests for TPB GIS metadata, databases, and applications.
- Coordinate regional GIS activities with state DOTs, WMATA, and the local governments through COG's GIS Committee and subcommittees.
- Maintain and update GIS-related hardware and software used by staff for regional transportation planning activities.

8. Scenario Planning and Socioeconomic Forecasting

OVERSIGHT	TPB Technical Committee
MAJOR PRODUCTS	<ul style="list-style-type: none">• See program-specific products
TOTAL COST ESTIMATE	\$1,530,943

This task supports identifying and testing alternative future planning scenarios and their potential influence on regional travel and mobility. These analyses provide regional decision makers with insights and understanding of how transportation planning decisions made today can influence regional travel and mobility in the future. This task also supports development of socioeconomic forecasts (Cooperative Forecasts) of population, households, and employment, which reflect technical and policy assumptions of future land use in the region’s jurisdictions and are essential inputs into the region’s travel demand model and forecasting tools.

8.1 SCENARIO PLANNING

OVERSIGHT	TPB Technical Committee
MAJOR PRODUCTS	<ul style="list-style-type: none">• Consultant report evaluating and recommending scenario planning tools• Status briefings and information reports• Technical support

To further build its technical capabilities and support regional transportation planning activities, staff will continue testing and evaluating different scenario planning tools that can be used in future scenario planning analyses. This effort will cut across all program areas of the Department of Transportation Planning and will feature extensive collaboration and coordination throughout the Department to identify program requirements and carry out initial activities. A new generation of scenario planning analytical tools will help examine “what if” questions related to emerging trends in travel trends and travel behavior. Long-range planning inherently includes uncertainties and changes in demand and the effectiveness of current mobility solutions. Scenario planning helps planners understand the range of variation in forecasts and anticipated system performance.

Initial activities in FY 2020 will include:

- Increase staff awareness of the use of planning tools in the regional transportation planning practice
- Build staff technical capabilities to apply scenario planning tools in transportation planning studies and analyses.
- Identifying and testing potential scenario planning tools
- Acquiring and deploying scenario planning tool(s), as appropriate, to support regional transportation planning studies and analyses.

8.2 SOCIOECONOMIC FORECASTING

OVERSIGHT

TPB Technical Committee

MAJOR PRODUCTS

- Updated Cooperative Forecasting land activity forecasts and documentation
- Analysis of Activity Center and High Capacity Transit Station area forecasts
- Information reports and products
- Technical support
- Annual Baseline Employment Guidance

Staff will continue to coordinate land use and regional transportation planning in the region. Central to this activity will be supporting the development of the Round 9.2 Cooperative Forecasts. Activities required to coordinate the development of the Cooperative Forecasts and regional transportation planning will include:

Staff will continue to coordinate land use and regional transportation planning in the region. Central to this activity will be supporting the development of the Round 9.2 Cooperative Forecasts. Activities required to coordinate the development of the Cooperative Forecasts and regional transportation planning will include:

- Support initiatives of COG Board of Directors and the TPB on matters related to the coordination and analysis of regional transportation and land use planning to support important regional policy discussions and decisions. This includes supporting activities to identify opportunities that support development of transit-oriented communities in the region and efforts to address housing production and affordability.
- Support the PDTAC in the coordination of local, state, and federal planning activities and the integration of land use and transportation planning in the region.
- Develop annual Baseline Employment Guidance update to support local governments preparing employment forecast estimates.
- Develop Travel Model Employment Definition Adjustment Factors, which are applied to develop a set of employment forecasts based on a consistent set of employment definitions and used in the regional travel demand model.
- Analyze changes in regional economic, demographic, and housing trends drawing on the results from the U.S. Census American Communities Survey, the Census Transportation Planning Products (CTPP) program, and from other available federal, state, and local data sources.
- Work with members of the Cooperative Forecasting and Data Subcommittee to enhance and improve the quality of small area (TAZ-level) employment, population, and employment data.
- Work with the Cooperative Forecasting and Data Subcommittee and the PDTAC to assess the effects of significant transportation system changes on the Cooperative Forecasting land activity forecasts.

- Work with the Cooperative Forecasting Subcommittee and the region's Planning Directors to develop updated Round 9.2 growth forecasts at the regional and Transportation Analysis Zone (TAZ) level.
- Document key land use and transportation assumptions used in making updates to the Cooperative Forecasting land activity forecasts.
- Update and maintain Cooperative Forecasting land activity databases of TAZ-level population, household, and employment forecasts that are used as input into TPB travel demand-forecasting model.
- Map and analyze Cooperative Forecasting growth forecasts in relation to COG Activity Centers and high-capacity transit locations.
- Respond to public comments on the Round 9.2 forecasts and the Cooperative Forecasting process.
- Work with the Cooperative Forecasting Subcommittee to analyze results of the 2020 Census for use in developing future updates to the Cooperative Forecasts. Continue to provide regular seminars and trainings on accessing and analyzing Census data to support local demographic analysis and small-area forecasting.
- Develop and publish useful economic, demographic and housing-related information products including the Regional Economic Monitoring Reports (REMS), the annual "Commercial Development Indicators," the "Multi-family Rental Housing Construction" report, and economic and demographic data tables to be included in the Region Forward work program.
- Use TPB transportation planning data to update information for the approved COG Region Forward Targets and Indicators.

9. Mobility and Enhancement Programs

OVERSIGHT

TPB Technical Committee

MAJOR PRODUCTS

- Solicit projects for FTA Section 5310 funding
- TAP Coordination and project selection for DC, MD
- TLC Technical Assistance including final reports, provided by consultant teams to localities
- Updated website
- Regional Peer Exchange Network Activities

TOTAL COST ESTIMATE

\$624,452

The TPB solicits and selects projects for the following three programs. This activity will encompass the following work tasks in FY 2021:

9.1 ENHANCED MOBILITY GRANT PROGRAM

COG is the designated recipient for the FTA “Section 5310: Enhanced Mobility of Seniors and Individuals with Disabilities” program. This task includes:

- Plan for and implement the next solicitation and selection of projects for FTA Section 5310 Enhanced Mobility funding (Summer 2021).
- Support the implementation of the Coordinated Plan by furthering the goals and strategies in the plan provide an array of transportation services and options to older adults and people with disabilities.
- The UPWP does not provide financial support to implement the projects and oversee the grants that have been awarded. These activities are funded by the FTA Section 5310 Program.

9.2 TRANSPORTATION ALTERNATIVES SET-ASIDE PROGRAM

Coordinate and conduct the selection process for small capital improvement projects that will be awarded funding sub-allocated to the Washington metropolitan region through the state DOTs from the federal Transportation Alternatives Set-Aside Program (TAP). The TPB approves the final selection of projects and submits them to the states for implementation.

9.3 TRANSPORTATION LAND USE CONNECTION PROGRAM

The TLC Program offers short term consultant technical assistance to local jurisdictions to advance planning activities that strengthen the connection between local land use and transportation planning. This activity will encompass the following work tasks in FY 2021:

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

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10. TPB Management and Support

OVERSIGHT

Transportation Planning Board

MAJOR PRODUCTS

- Materials for the meetings of the TPB, Steering Committee, Technical Committee, and State Technical Working Group
- Responses to information requests from elected officials, federal agencies, and media
- Participation in external meetings related to the TPB work program
- FY 2022 UPWP

TOTAL COST ESTIMATE

\$814,443

10.1 TRANSPORTATION PLANNING BOARD COMMITTEE SUPPORT AND MANAGEMENT AND UNIFIED PLANNING WORK PROGRAM

This activity includes support for the Transportation Planning Board (TPB), management activities not attributable to specific tasks in the work program, committee coordination and support, and development of the Unified Planning Work Program (UPWP).

TPB Committee Support

- Make all administrative arrangements and provide staff support for TPB, the TPB Steering Committee, the State Technical Working Group, the TPB Technical Committee, and special TPB work groups meetings.
- Maintain TPB Committee membership rosters and distribution lists and prepare meeting materials for TPB Committee meetings.
- Prepare the monthly Director's Report.
- Respond to periodic requests from TPB members, federal agencies, Congressional offices, media, and others for information or data of a general transportation nature.
- Meet with TPB Board members and participating agency staff to discuss current and emerging regional transportation planning issues.
- Respond to TPB correspondence and draft correspondence requested by the Board.
- Participate in meetings of other agencies whose programs and activities relate to and impact the TPB work program.
- Draft Memoranda of Understanding with other agencies for the TPB's review and approval.
- Participate in the Association of Metropolitan Planning Organizations (AMPO) and meetings.
- Coordinate TPB Planning Activities with Program Directors.
- Day-to-day management of and allocation of staff and financial resources.
- Monitor all work program activities and expenditures.

Unified Planning Work Program (UPWP)

The UPWP for the Metropolitan Washington Region describes all transportation planning activities utilizing federal funding, including FHWA Planning (PL) funds, FTA Section 5303 funds, and (FAA) 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.

This task includes:

- Develop a Unified Planning Work Program (UPWP) that complies with anticipated metropolitan planning requirements in the Fixing America's Surface Transportation (FAST) Act.
- Supervise the preparation, negotiation, and approval of the annual work program and budget involving the State Transportation Agencies, the TPB Technical Committee, the TPB Technical Committee, the Steering Committee, and the TPB.
- Prepare monthly UPWP progress reports for each of the state agencies administering planning funding and prepare all necessary federal grant applications submissions.
- Review all monthly UPWP invoices going to each of the state agencies administering planning funding.
- Prepare the FY 2021 UPWP.

11. Technical Assistance

This TPB work program activity responds to requests for technical assistance from the state and local governments and transit operating agencies. This activity takes the form of technical work tasks in which TPB-developed tools, techniques, data, and capabilities are used to support DDOT, MDOT, VDOT, VDRPT, and WMATA sub-area planning, travel monitoring, travel modeling, and data collection efforts related to regional transportation planning priorities. The funding level allocated to technical assistance is an agreed upon percentage of the total new FY 2021 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. Specific technical assistance projects and work activities falling within the broad categories identified in this section are identified and coordinated through consultation with state departments of transportation and regional transit agencies throughout the fiscal year.

11.1 DISTRICT OF COLUMBIA

MAJOR PRODUCTS See program-specific products below

TOTAL COST ESTIMATE \$288,548

1. Program Development, Data Requests and Miscellaneous Services

MAJOR PRODUCT Specific scopes of work, on-going activity

TOTAL COST ESTIMATE \$ TBD

This work activity supports staff time spent in developing scopes of work for requested projects and in administering the DC Technical Assistance work program throughout the year. Work activities involve meeting with DDOT staff to discuss proposed projects, drafting and finalizing work statements and tasks, creating project accounts when authorized, and progress reporting throughout the projects. Additionally, this project establishes an account to address requests which are too small or too short-lived to warrant separate scopes of work. Requests may include staff time to participate in technical review committees and task forces and execution of small technical studies.

2. Traffic Counts and Highway Performance Management System (HPMS) Support

MAJOR PRODUCT • Machine traffic counts and HPMS submittal support

TOTAL COST ESTIMATE \$ TBD

This task includes procurement of a contractor to perform 7-day vehicle classification counts and 3-day traffic volume machine counts on roadway segments and grade-separated ramps that part of DDOT’s traffic counting program. A total of approximately 200 traffic counts and 60 ramp counts will be

performed city-wide at locations specified by DDOT's HPMS Coordinating Committee. Staff will also provide quality control checking of the traffic counts conducted by the contractor and provide technical support to DDOT in preparation of its annual HPMS submittal. This technical support will include processing of the traffic counts into average annual daily traffic (AADT) volumes, growth factoring of AADT volumes, and preparation of vehicle classification summaries of daily travel activity and preparation of traffic volume metadata.

3. Other Tasks to Be Defined

TOTAL COST ESTIMATE \$ TBD

This work element is established to respond to requests by DDOT for anticipated technical assistance work tasks that are not yet defined. These work tasks will be performed upon further specific authorization received from DDOT in FY 2019.

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11.2 MARYLAND

MAJOR PRODUCTS See program-specific products below

TOTAL COST ESTIMATE \$807,804

1. Program Development, Data Requests and Miscellaneous Services

MAJOR PRODUCT • Specific scopes of work, on-going activity

TOTAL COST ESTIMATE \$ TBD

This work activity supports staff time spent administering the Maryland Technical Assistance work program throughout the year. Work activities would involve meetings with participating agencies to discuss proposed/new projects, development of monthly progress reports, budgetary reporting and technical quality control. This work task also includes staff time needed for the development of the annual planning work program.

2. Project Planning Studies

MAJOR PRODUCT • Specific scopes of work, on-going activity

TOTAL COST ESTIMATE \$ TBD

This work task supports staff time associated with the development of scopes of work, interagency coordination, and technical analyses associated with travel demand modeling, evaluation of alternatives and coordination with other governmental entities and consultants. It is anticipated that technical work will continue on modelling efforts to support Maryland's Traffic Relief Plan. This work element also anticipates technical work on new planning studies administered by MDOT, MD SHA and other agencies.

3. Feasibility/Special Studies

MAJOR PRODUCT • Specific scopes of work, on-going activity

TOTAL COST ESTIMATE \$ TBD

This work task will provide funding to support technical support on feasibility/special studies as requested by MDOT, SHA and other agencies in Maryland. Work may include but is not limited to technical support in ongoing corridor/subarea studies, initiating new studies ranging from major new corridor analyses to the development of travel demand forecasts for individual facilities and scenario analyses. Project authorizations may occur throughout the fiscal year as priorities dictate to address transportation planning initiatives and strategic goals of MDOT, SHA and other agencies.

4. Travel Monitoring/Transportation Performance Measures

MAJOR PRODUCT • Specific scopes of work, on-going activity

TOTAL COST ESTIMATE \$ TBD

This work task will provide funding for data collection and analysis to support the assessment of system performance on major freeway and arterial roadway segments of the region's transportation network in Maryland. Computation and analysis of various travel time, congestion level, system reliability and freight performance metrics will be performed as part of this work task.

5. Miscellaneous Technical Support:

MAJOR PRODUCT • Specific scopes of work, on-going activity

TOTAL COST ESTIMATE \$ TBD

This work task will support technical work associated with several pursuits of MDOT and MD SHA that do not fit into other Technical Assistance work tasks. Work activities could include Transit Oriented Development (TOD) studies, statewide model support, GIS applications, scenario studies, SHRP2 Capacity and Reliability Product Implementation assessments, and possibly freight/special generator studies may be conducted as part of this work task.

6. Transportation / Land Use Connections Program

MAJOR PRODUCTS • TLC Technical Assistance awards, technical reports from contractors,
To be completed by June 2021

TOTAL COST ESTIMATE \$ TBD

The Transportation / Land Use Connections (TLC) program is an effort to provide technical assistance to local governments in the Washington region to facilitate integrating land use and transportation planning at the community level. Begun as a six-month regional pilot program in January 2007, this project has been very well received. MDOT supplements this regional effort by allocating a portion of its Technical Assistance funds to provide additional TLC technical assistance funding for Maryland jurisdictions.

7. Other Tasks yet to be defined

TOTAL COST ESTIMATE \$ TBD

This work element is established to respond to requests by MDOT and SHA for anticipated technical assistance work tasks that are not yet defined. These work tasks will be performed upon further specific authorization from MDOT and MDSHA in FY 2021.

11.3 VIRGINIA

MAJOR PRODUCTS See program-specific products below

TOTAL COST ESTIMATE \$578,997

1. Program Development, Data Requests, and Miscellaneous Services

MAJOR PRODUCT • Specific scopes of work, on-going activity

TOTAL COST ESTIMATE \$ TBD

This work activity supports staff time spent administering the VA Technical Assistance work program throughout the year. Work activities include meetings with participating agencies to discuss proposed/new projects, development of monthly progress reports, budgetary reporting and technical quality control. This work task also includes staff time to process requests for data/documents received from local jurisdictions in Northern Virginia as advised by VDOT throughout the year.

2. Travel Monitoring and Survey

MAJOR PRODUCT • Program management plan, data and analysis, technical memorandum – on-going activity

TOTAL COST ESTIMATE \$ TBD

This work activity supports an ongoing continuous program to monitor travel and system performance on major commuting routes in Northern Virginia, with a goal to collect travel monitoring data for each major route on a 2 to 3-year cycle. Collected data and system performance analysis will include volume and occupancy data, travel time data, and other information. This travel monitoring program will also include collection of bicycle and pedestrian data at various locations throughout Northern Virginia, as identified by VDOT.

3. Travel Demand Modeling

MAJOR PRODUCT • Model output, technical memoranda, on-going activity

TOTAL COST ESTIMATE \$ TBD

This work activity is designed to assist VDOT with the use of results from the regional transportation travel demand model to support various transportation planning efforts and studies in Northern Virginia. Specific tasks undertaken will be identified throughout the year and are likely to include: developing forecasts and/or extracting specific information from the regional model forecasts for specific scenarios/options evolving out of ongoing studies and/or project planning efforts; and assistance with documentation, training and customization of the regional travel demand forecasting model for the Northern Virginia sub-area per VDOT's requirements.

4. Regional and Sub-Regional Studies

This work activity is designed to provide technical analysis and TPB staff support for various regional and sub-regional planning studies throughout the year as identified and requested VDOT and/or VDRPT. Work may include but not be limited to technical support for ongoing corridor/subarea studies and initiation of new studies ranging from major new corridor analyses to the development of travel demand forecasts for individual facilities. Staff may also assist VDOT in its work on a system-wide evaluation designed to provide information relating to the effectiveness of ongoing and planned projects and programs aimed at addressing the congestion and mobility challenges in Northern Virginia.

MAJOR PRODUCT

- Technical analysis and support for Northern Virginia regional and sub-regional planning studies, on-going activity

TOTAL COST ESTIMATE

\$ TBD

5. Transportation / Land Use Connections Program

MAJOR PRODUCTS

- TLC Technical Assistance awards, technical reports from contractors,
To be completed by June 2021

TOTAL COST ESTIMATE

\$ TBD

The Transportation / Land Use Connections (TLC) program is an effort to provide technical assistance to local governments in the Washington region to facilitate integrating land use and transportation planning at the community level. Begun as a six-month regional pilot program in January 2007, this project has been very well received. VDOT supplements this regional effort by allocating a portion of its Technical Assistance funds to provide additional TLC technical assistance funding for Virginia jurisdictions.

6. Other Tasks to be Defined

TOTAL COST ESTIMATE

\$ TBD

This work element is established to respond to requests by VDOT and VDRPT for anticipated technical assistance work tasks that are not yet defined. These work tasks will be performed upon further specific authorization from VDOT and VDRPT in FY 2021.

11.4 REGIONAL TRANSIT TECHNICAL ASSISTANCE

MAJOR PRODUCTS See program-specific products below

TOTAL COST ESTIMATE \$373,856

1. Program Development, Data Requests and Miscellaneous Services

MAJOR PRODUCT • Specific scopes of work, on-going activity

TOTAL COST ESTIMATE \$ TBD

This work activity supports staff time spent in developing the scopes for requested work tasks and administering the WMATA Technical Assistance work program throughout the year. Work activities include meeting with WMATA staff to discuss projects, drafting and finalizing work statements and tasks, creating project accounts when authorized, and reporting progress on projects throughout the year. In addition, this project will provide staff with resources to attend required meetings at WMATA.

2. Tasks to be Defined

TOTAL COST ESTIMATE \$ TBD

This work element is established to respond to requests by WMATA for anticipated technical assistance work tasks that are not yet defined. These work tasks will be performed upon further specific authorization from WMATA in FY 2019.

3. Transportation / Land Use Connections Program

MAJOR PRODUCTS • TLC Technical Assistance awards, technical reports from contractors, To be completed by June 2021

TOTAL COST ESTIMATE \$ TBD

The Transportation / Land Use Connections (TLC) program is an effort to provide technical assistance to local governments in the Washington region to facilitate integrating land use and transportation planning at the community level. Begun as a six-month regional pilot program in January 2007, this project has been very well received. Regional Transit Technical Assistance funding supplements this regional effort to provide additional TLC technical assistance funding for design projects that would improve bicycle and pedestrian access to high-capacity transit in support of TPB regional transit goals.

Continuous Airport System Planning Program

OVERSIGHT

TPB Aviation Technical Subcommittee

MAJOR PRODUCTS

- Ground Access Forecast and Ground Access Element Update
- Air Passenger Survey Response Rate Study
- Process 2019 Regional Air Passenger Survey, Phase 2

TOTAL COST ESTIMATE

\$475,000 (Not funded with federal UPWP funding)

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. The major elements of the CASP program have now been consolidated into a reoccurring two-year cycle based on available and anticipated FAA funding. The CASP work program elements for the for FY 2021 UPWP cycle are as follows:

Ground Access Forecast and Ground Access Element Update

The update of forecasts of ground access trips to the region's three commercial airports is an important step in the airport systems planning process. This project will use the results of the most recent regional air passenger survey together with the latest available airport terminal area forecasts and land activity forecasts of future growth in the Washington-Baltimore region to update forecasts of ground access trips from local area Aviation Analysis Zones (AAZ) to each of the region's three commercial airports.

As part of this project, the Ground Access Element of the Regional Airport System Plan will be updated using the results of the most recent Regional Air Passenger Surveys and the latest Updated Ground Access Forecasts. Ground access and landside congestion problems are expected to increase in the future. In turn, these ground access problems could adversely impact airport use in the Washington-Baltimore region. This update will provide an analysis of current and forecast ground access problems at Ronald Reagan Washington National, Washington Dulles International, and Baltimore-Washington International airports. This plan element will also integrate airport system ground access and facility planning into the overall regional transportation planning process for the National Capital Region and include recommendations for improving ground access to the region's airports.

Air Passenger Survey Response Rate Study

The purpose of the Air Passenger Survey Response Rate Study is to conduct an independent evaluation to improve the response rate of the biennial Washington-Baltimore Regional Air Passenger Survey. Over the past several Washington-Baltimore Regional Air Passenger Surveys, a steady decline in the overall survey response rate has been observed. If this trend continues, the survey program could reach the point where the results are no longer statistically defensible. As a result, TPB staff and their hired consultants will conduct an independent analysis of the regional air passenger survey program. This study will identify ways to stabilize and improve the response rates of future surveys. The

solutions sought will not undermine the quality of the survey results or disrupt the time-series nature of comparable survey data.

The study will consist of several lines of inquiry, all based in the common goal of improving the response rate of the air passenger survey. This study will explore a range of strategies for improving inputs to the sample identification process. The evaluation will entail the following general tasks: (1) completion of a literature review on the state of the practice to inform the implementation and performance of future Air Passenger Surveys; (2) evaluation of the effectiveness of the current survey program and instrument; (3) review and analysis of past survey results in order to identify trends and opportunities for future survey enhancements; (4) evaluation of the potential use of “big data” sources to obtain information typically collected in the survey; (5) recommendations for enhancing data collection protocols and capabilities; and (6) the implementation plan for the 2021 Washington-Baltimore Regional Air Passenger Survey. The analyzed results of this study, as well as the strategies tested out in the 2021 survey, will inform future survey implementation locally and nationally.

Process 2019 Regional Air Passenger Survey – Phase 2

Phase 2 of this project provides for the continued processing of data collected in the 2019 Regional Air Passenger Survey. In Phase 1, data collected as part of the survey was corrected and geocoded and the 2019 Air Passenger Survey database was finalized in preparation for data analysis.

Specific tasks to be completed in Phase 2 are: data expansion, data tabulation, data analysis. During this process detailed statistical analysis of the survey is conducted, which ultimately results in summarization of the survey findings. Findings are summarized by the various characteristics of the air passengers, characteristics of their ground access trips (work vs. non-work, resident vs. non-resident, mode of access, airport preference, etc.) as well as the geographic characteristics of ground access trips. Analysis concludes with the production of summary tables and charts, and GIS-based maps that will be incorporated the final survey report. The products for this phase will be the preparation of a summary findings and a final full technical report.

IV. PROPOSED FY 2021 STATE TRANSPORTATION AGENCY STATE PLANNING AND RESEARCH PROGRAMS (SPR)

DRAFT

District of Columbia Department of Transportation (DDOT)

The following presents the types of activities that DDOT uses Statewide Planning and Research Program (SPR) funding to implement.

STATE AND REGIONAL PLANNING

Develop and implement the annual State Planning and Research Program (SPR) that describes state planning activities as required under 23 CFR Part 420 Subpart A. Coordinate and manage Long-Range Transportation Planning activities related to Visualize 2045; and provide support to update, amend, modify, and enhance the TPB's Transportation Improvement (TIP) and the District's Statewide Transportation Improvement Program (STIP).

ARTS AND ACTIVATION

Review transportation zoning plans for environmental and transportation policy compliance. Provide oversight and direction for neighborhood planning efforts including development review and public space, and evaluate the impact of travel conditions on the District's multimodal transportation network.

PLANNING

Plan and lead major capital projects to ensure project goals are met to support DDOT's long range objectives. Manage projects from feasibility and conceptual analysis to preliminary design and coordinate the implementation of ongoing transportation planning through the development of joint planning projects.

ACTIVE AND SUSTAINABLE TRANSPORTATION

Promote safe and convenient bicycling, walking, and public transit to reduce the number of motor vehicular injuries and fatalities in crashes; and ensure the safety of motor carrier operations through enforcement, regulations, and improving safety information systems and commercial motor vehicle technologies by increasing safety awareness.

PROJECT DEVELOPMENT AND ENVIRONMENT

Provide environmental oversight for all environmental and project development processes and ensure project compliance with Section 106 that meet National Environmental Policy ACT (NEPA) requirements.

DATA COLLECTION AND ANALYSIS

Maintain citywide roadway condition and asset inventory data base and ensure accurate and timely data is collected to assess pavement conditions. Collect and analyze data in support of the Highway Performance Monitoring System (HPMS).

TRAFFIC SAFETY DATA COLLECTION

Manage the I-295 and New York Avenue Weigh-in-Motion (WIM) site.

METROPOLITAN PLANNING

Describes regional transportation planning and special technical assistance projects proposed to be undertaken July 1, 2020, through June 30, 2021, by COG/TPB staff in cooperation with state and local agencies and WMATA.

PROGRAM FUNDING

The FY 2021 SPR Program funding is under development. The FY 2020 budget is \$3,280,554 (Federal = \$2,624,443.20 and District = \$656,110.80).

DRAFT

Maryland Department of Transportation State Highway Administration (MDOT SHA)

SYSTEMS AND PROGRAMMING

- Preparation and development of the six-year Consolidated Transportation Program (CTP) and preparation of the Annual Statewide Transportation Improvement Program (STIP)
 - Develop the FY 2021-2026 CTP.
 - Coordinate with appropriate state and local planning staffs, MPOs, and state, county, and municipal elected officials.
 - Prepare presentation materials for the Annual CTP Tour consultation with local elected officials.
 - Prepare and submit an annual program for use of available federal funds in accordance with Title 23 U.S.C. and the FAST Act (and/or successor federal authorizing act).
 - Coordinate the STIP with the regional TIPs, CTP, and local jurisdictions' highway improvement programs.
- Local Government Liaison
 - Coordinate between all levels of federal, state, and local governments to ensure that transportation plans are compatible.
 - Review agency and local programs/plans via the state Clearinghouse process.
 - Coordinate and review county and municipal master plans.
 - Assess transportation impacts of proposed major development projects.
- Long-Range Planning
 - Update the Highway Needs Inventory (HNI).
 - Evaluate long-term highway needs and investment levels for various program categories and sub-categories.
 - Review and provide input on updates to the statewide long-range plan.
 - Develop the 2021 Annual Attainment Report on Transportation System Performance.

TRAFFIC

Traffic Monitoring Program

- Monitor the characteristics of highway traffic.
- Enhance procedures to collect, process, and disseminate traffic data.
- Ensure that the traffic monitoring system meets state needs and the requirements and guidelines set forth by FHWA and AASHTO.
- Study and, as appropriate, implement methods to improve the efficiency and effectiveness of traffic monitoring through statistical analysis.
- Improve the monitoring of traffic on freeways, particularly in urban areas.
- Ensure the collection of traffic volume, classification and weight data on SHRP monitoring sites.

Metropolitan Planning Organization Liaison (Urbanized Areas)

- Work with the MPOs in modifying and adhering to their planning process.
- Work with the MPOs in the development of the UPWPs, CLRPs, TIPs, air quality conformity determinations, and management systems.

Highway Statistics

- Mileage – Federal-Aid System
 - Develop new Federal Functional Classification and NHS maps and mileage tables for approval and distribution.
 - Update and maintain statistical records summary tables.
- State and Local Highway, Data Collection, Analysis and Distribution
 - Solicit, receive, and process reports from local jurisdictions regarding road improvements, mileage, etc.
 - Collect, update, and maintain data used for the Universe portion of the HPMS submission.
 - Update and maintain the highway information databases to meet on-going state and federal requirements.
 - Provide data used for the update of MDOT SHA's highway maps.

Highway Performance and Monitoring System (HPMS)

- Update the HPMS database including revisions to any data elements, maintain sample size requirements to accurately reflect system-wide conditions, and submit an updated HPMS data file and related reports and data files.

Special Studies – Preliminary Studies

- Prepare engineering and feasibility studies.
- Develop preliminary purpose and need statements.
- Develop access control plans for selected primary highway corridors.
- Prepare interstate access point approval requests.

MDOT State Highway Administration Estimated FY 2021 State Planning & Research Program Elements Supporting the Washington Area Work Program	
ITEM	AMOUNT
Systems & Programming	
CTP	\$ 271,276
Local Government Liaison	\$ 248,693
Long-Range Planning	\$ 41,032
Traffic Monitoring Program	\$ 836,824
MPO Liaison	\$ 31,904
Highway Statistics	\$ 2,504,514
Highway Performance Monitoring System	\$ 48,320
Special Studies	\$ 461,849
TOTAL	\$ 4,444,412

Virginia Department of Transportation (VDOT)

SPR FUNDS FOR DISTRICT PLANNING ANNUAL ACTIVITIES

Metropolitan Planning Support Activities

This element represents the various activities undertaken by Northern Virginia District Planning and Investment Management staff (with support from the VDOT Central Office staff as needed) in the development and implementation of the various elements/work tasks in the MPO's FY 2020 Unified Planning Work Program (UPWP) and the annual work program of the Metropolitan Washington Air Quality Committee and the regional Climate, Energy, Environment Policy Committee. Planned work items, to be conducted mostly by in-house staff, include:

- The Department's participation in all work activities associated with the work programs of the: (a) Transportation Planning Board (TPB), (b) Metropolitan Washington Air Quality Committee (MWAQC); (c) Climate Energy, Environment Policy Committee (CEEPC); and Multi-Sector Working Group on Greenhouse Gas Emissions.
- Oversight of the TPB/MWCOG activities such as: development/update of the long-range plan, TIP, regional air quality conformity analysis, regional Freight Plan, Congestion Management Program report, Commuter Connections program, and other regional studies undertaken by the MPO (e.g., Household Travel Survey, State of the Commute Survey, Modeling).
- Regional air quality planning related activities undertaken by MWAQC and CEEPC, including: development of PM2.5 Maintenance Plan, Ground-Level Ozone NAAQS Attainment SIP, Clean Air Partners program, voluntary action to help reduce regional greenhouse gases.

Statewide Planning Support Activities

This element of the SPR work program provides for staffing within the Northern Virginia District Planning section to participate in and provide assistance to Transportation and Mobility Planning Division and other sections within the Department and the local agencies in a variety of tasks including:

Corridor and sub-area studies to identify either multi-modal or mode specific improvements to the transportation system addressing specific congestion/mobility challenges in the near-, mid-, or long-term. Examples of such studies currently underway in FY 2020 include: Assist NVTA in evaluation of significant transportation projects pursuant to HB 599; validate NVTA ratings; Fairfax County Parkway corridor Improvements; STARS Program Corridor Improvement studies; Smart Scale performance-based project prioritization and funding process.

Ongoing planning functions supported by SPR funding include:

- Provide inputs and review of the findings and recommendations for the State LRP (VTRANS); assist with development and implementation of the Smart Scale Project Prioritization process;
- Regular and ongoing update of the Statewide Planning System inventory and traffic forecasts;
- Provide a dedicated full time Bicycle and Pedestrian Coordinator;
- Provide input and review of federal functional classification updates; and
- Provide assistance with General Assembly legislative impact statements and studies.

Project Development Support Activities

This element of the SPR work program represents the District Planning section staff working to:

- Prepare and/or review traffic forecasts for project design (LD-104) and environmental documents (Project level conformity analysis for Noise, Air and other pollutants for NEPA documents).
- Conduct and/or assist in the conduct of transportation planning studies initiated by VDOT and/or localities such as Comprehensive Plan updates, Transit Development Plan studies, corridor and sub area studies. etc.
- Participate in the development and/or review of the traffic forecasts for IMR and IJR as developed for/by the VDOT PE and/or L&D sections of the District.
- Review and comment on various Environmental Impact Reports received by the District as part of VDOT's role in Inter-agency consultation process.
- Assist the Transportation and Land Use directors in the review and planning of project activities such as location and design of Park-and-Ride lots.

Local Planning Activities

This element outlines activities undertaken by the District Planning section staff to assist the planning activities at the locality level.

- Locally prepared transportation studies: Participate in discussions on the scope of work for the conduct of Traffic Impact Analysis (TIA) reports by localities in response to proposed Comprehensive Plan/Master Plan amendment/Small Area Plans; review and comment on TIAs and/or CTIAs submitted by the localities to VDOT in part complying with the requirements of VA Code chapter 870.
- Assist in the development of the transportation portion of local comprehensive/master plans as needed.
- Provide transportation technical assistance to localities including in the development of travel demand models; applying travel demand model for project and/or locality planning levels.

SPR FUNDS FOR SPECIAL STUDIES TO BE CONDUCTED BY CONSULTANTS OR ENTITIES OTHER THAN DISTRICT STAFF (LIST EACH STUDY INDIVIDUALLY)

In addition to supporting staff planning activities, SPR funding is used to fund special plans and studies requiring outside consultants. This takes two different forms, depending on the size, complexity and budget of the project.

Major SPR Special Projects: These are projects that require major funding (generally over \$500,000) and time commitments and procurement of consultants. In FY 2018, VDOT has completed the legislatively mandated "HB 599" Project Rating process using SPR funds. There are no current or anticipated Major SPR projects. The rating process has been incorporated into the Northern Virginia Transportation Authority's long-range plan development process. VDOT staff is involved in the new process and in confirming the validity of project ratings, but SPR annual staff funding is used to support VDOT's role.

On-Call Consultant Plans and Studies: VDOT uses SPR funds to support routine planning projects, generally with budgets under \$500,000 and requiring consultants. VDOT procures on-call consultants for 2-year contracts and assigns the appropriate consultant team to work on District-level projects as needed. During FY 2021, on-call consultants funded by SPR are expected to produce the following studies under VDOT's supervision:

- Shreve Road Safety and Operations Study
- Russell Road Interchange Study
- Route 28 Study in Prince William County
- STARS Route 50 Corridor Improvement Study - From Route 120 (Glebe Road) to Route 6622 (Fillmore Street)
- STARS Old Bridge Road/Prince William Co. Pkwy
- STARS Prince William County Pkwy/Minnieville Road
- STARS Route 50 Fairfax County – From Route 2338 (Jaguar Trail) to Route 613 (Wilson Blvd)
- STARS Centerville Road from Fairfax/Prince William County Line to Blooms Quarry Road Operational Improvements Study

V. APPENDIX

Memoranda of Understanding

- Fredericksburg Area Metropolitan Planning Organization (FAMPO)
- Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO)

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