



MEMORANDUM

TO: Transportation Planning Board
FROM: Lyn Erickson, Plan Development and Coordination Program Director
SUBJECT: Outline and Preliminary Budget for the Fiscal Year 2023 Unified Planning Work Program (UPWP)
DATE: December 30, 2021

The Unified Planning Work Program (UPWP) is the annual statement of work, and associated budget, identifying the planning priorities and activities to be carried out within a metropolitan planning area. This memo includes a draft itemized set of activities/tasks for the Fiscal Year (FY) 2023 UPWP (July 1, 2022 through June 30, 2023) for the National Capital Region Transportation Planning Board (TPB). The work activities are organized into 11 work activities/tasks which reflect and support the activities that the TPB is federally required to implement. This information is preliminary and will be refined over the next two months as funding information is made available from the state departments of transportation who oversee all Metropolitan Planning Organization (MPO) work and work products. The purpose of this memo is to start to identify and refine a list of tasks that will be elaborated on in the actual document which will be distributed for review in February. The TPB will be asked to approve the FY 2023 UPWP at its March 2022 meeting.

It is recognized that COVID-19 may continue to play a role in our activities, both from an administrative and programmatic perspective. These tasks were developed with that in mind.

The TPB and its staff commit to being guided by the following statement on equity, and the activities as carried out in the UPWP are intended to reflect this:

Every action that the TPB considers - including every debate we have, and every decision we make as the region's MPO - must be viewed through the lens of justice, equity, and fairness. We must recognize past actions that have been exclusionary or had disparate impacts on people of color and marginalized communities, and we must take actions to correct or mitigate the resulting unfairness. From infrastructure to education and enforcement, we must act fairly to ensure equitable and true access to safety, accessibility, and mobility.¹

UPWP REVENUE ESTIMATES

The budget for the FY 2023 UPWP is based upon MPO planning funding allocations provided by our three state departments of transportation (DOTs). Federal Metropolitan Planning Funds are apportioned to the state DOTs who then allocate and distribute these funds to the MPO to enable the TPB to lead the metropolitan planning process. As with all federal funds, there is a match that is necessary to access the federal funds. In our case, 80 percent of the revenue comes from a

¹ "Resolution to Establish Equity as a Fundamental Value and Integral Part of All Transportation Planning Board's Work Activities (TPB R1-2021)," Resolution (Washington, D.C.: National Capital Region Transportation Planning Board, July 22, 2020), <https://www.mwco.org/documents/2020/07/22/resolution-r1-2021--resolution-to-establish-equity-as-a-fundamental-value-and-integral-part-of-all-transportation-planning-boards-work-activities/>.

combination of Federal Transit Administration Section 5303 funds and Federal Highway Administration PL funds. The state DOTs provide a 10 percent state match and the local jurisdictions, through the COG dues, provide a 10 percent local match. Funding amounts are determined by the FY 2022 USDOT budget from the 2021 Bipartisan Infrastructure Law (enacted as the Infrastructure Investment and Jobs Act). The Continuous Airport System Planning (CASP) Program is funded separately through Airport Improvement Grants from the Federal Aviation Administration as well as support from the Maryland Aviation Administration and the Metropolitan Washington Airports Authority to conduct the biennial regional air passenger survey.

Detailed budget information will be provided when it becomes available. Since the annual federal funding amounts have not changed significantly over time, the budget process begins based on previous estimates and previously approved budgets.

The UPWP documents the planned work activities of the TPB for FY 2023. Consistent with the purpose of the federal funds provided, the planned tasks are designed to fully comply with federal requirements for metropolitan planning (23 CFR Part 450 / 49 CFR Part 613) and recommendations from the most recent federal review of the TPB work activities (June 4, 2019).² The scope of work for planned tasks also reflects enhancements, wherever viable and as appropriate, to reflect regional planning priorities/aspirations adopted by the TPB.

The recently enacted Bipartisan Infrastructure Law (Infrastructure Investment and Jobs Act, November 16, 2021) contains requirements affecting the metropolitan planning process. The UPWP will be reviewed and amended, as needed, to comply with these new requirements once federal regulations are promulgated.

The following table provides an outline of the 11 topic areas of work for FY 2023. Pending finalization of the revenues for FY 2023, these proposed tasks will be further refined.

² “Metropolitan Washington, D.C., Transportation Management Area, Summary Report,” Transportation Management Area Planning Certification Review (Washington, D.C.: U.S. Department of Transportation, Federal Highway Administration & Federal Transit Administration, June 4, 2019).

OUTLINE OF PROPOSED UPWP WORK ACTIVITIES FOR FY 2023

1. LONG-RANGE TRANSPORTATION PLANNING

- 1.1 Visualize 2045 Implementation
- 1.2 Environmental Justice and Equity
- 1.3 Future Plan Development
- 1.4 Federal Compliance
- 1.5 Policy Board-Directed Activities

2. TRANSPORTATION IMPROVEMENT PROGRAM

- 2.1 Transportation Improvement Program
- 2.2 TIP Database Support

3. PLANNING ELEMENTS

- 3.1 Performance-Based Planning and Programming
- 3.2 Congestion Management Process
- 3.3 Systems Performance, Operations, and Technology Planning
- 3.4 Transportation Emergency Preparedness Planning
- 3.5 Transportation Safety Planning
- 3.6 Bicycle and Pedestrian Planning
- 3.7 Regional Public Transportation Planning
- 3.8 Freight Planning
- 3.9 Metropolitan Area Transportation Operations Coordination Program Planning
- 3.10 Resiliency Planning

4. PUBLIC PARTICIPATION

- 4.1 Public Participation and Outreach
- 4.2 Communications

5. TRAVEL FORECASTING

- 5.1 Network Development
- 5.2 Model Development and Support

6. MOBILE EMISSIONS PLANNING

- 6.1 Air Quality Conformity
- 6.2 Mobile Emissions Analysis

7. TRANSPORTATION RESEARCH AND DATA PROGRAMS

- 7.1 Transportation Research and Analysis
- 7.2 Data Management and Visualization Services

8. REGIONAL LAND USE AND TRANSPORTATION PLANNING COORDINATION

9. MOBILITY AND ENHANCEMENT PROGRAMS

- 9.1 Enhanced Mobility Grant Program
- 9.2 Regional Roadway Safety Program
- 9.3 Transportation Alternatives Program
- 9.4 Transportation and Land Use Connection Program

10. TPB MANAGEMENT AND SUPPORT

- 10.1 TPB Committees Support and Management and UPWP

11. TECHNICAL ASSISTANCE PROGRAM

- 11.1 DDOT
- 11.2 MDOT
- 11.3 VDOT
- 11.4 Regional Transit Technical Assistance

CONTINUOUS AIRPORT SYSTEM PLANNING PROGRAM (CASP)

1. LONG-RANGE TRANSPORTATION PLANNING

Visualize 2045 Implementation

- Conduct general coordination and outreach to members to help members understand and implement the plan and the priority strategies supported by the TPB.
- Provide opportunities for consideration, coordination, and collaborative enhancement of Visualize 2045.
- Conduct analysis as necessary to support the Aspirational Initiatives and other TPB priorities.

Environmental Justice and Equity

- Coordinate with TPB public participation staff to improve data collection regarding disadvantaged populations.
- Provide analysis and support for other equity-related activities.
- Communicate equity findings from analysis and outreach activities
- Update the Equity Emphasis Areas (EEAs) with 2020 Census data and conduct the federally-required Environmental Justice (EJ) analysis on the approved 2022 plan.

Future Plan Development

- Communicate to Board and other stakeholders the key planning activities for the next plan update – the interim update of Visualize 2045 in 2024. This update will take place over two fiscal years.
- Initiate Visualize 2045 dashboard (See Task 7 for more detail).
- Conduct coordination across all tasks to support plan development.
- Conduct planning and coordination activities related to PBPP and the federal planning factors (See Task 3 for more detail).

Federal Compliance

- Prepare for and participate in Federal Certification review process (spring 2023).
- Track, research, and respond to all federal activities and regulations that impact the metropolitan transportation planning process.

Policy Board-Directed Activities

- Support implementation of TPB Resolution R4-2022 that focuses on building transit oriented communities throughout the region around High-Capacity Transit (HCT) station areas using Equity Emphasis Areas as a key planning concept and tool to inform decision making and action.
- Support planning activities responsive to the TPB resolution R8-2021 endorsing the 2030 regional greenhouse gas reduction goal. Conduct transportation planning activities and collaborate with COG and member jurisdictions, as appropriate, to advance actions to improve equity and take actions, within the on-road sector, to mitigate/adapt to the impacts of climate change.
- Produce all products through an 'equity lens' as directed by TPB Resolution R1-2021, which requires all TPB activities to be conducted with an equity lens.
- Carry out additional activities as directed by the TPB.

2. TRANSPORTATION IMPROVEMENT PROGRAM

Transportation Improvement Program (TIP) Programming

- Prepare, review, and process administrative modifications and amendments to the currently approved TIP.
- Review administrative modifications and amendments for fiscal constraint.
- Develop a revised version of Appendix A to the Technical Inputs Solicitation document that acts as a comprehensive user manual for TPB staff, member agency staff and federal partners.
- 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 with integrated GIS project mapping.
- Prepare an annual listing of projects for which federal funds have been obligated in the preceding fiscal year compared against the federal funding programmed for that year in the TIP of record.

TIP Database Support

- Provide additional customizations to the system's forms, reports, and functionality.
- Provide assistance and guidance in using the Project InfoTrak system for the amendments and the new iteration of the plan.
- Provide ongoing help desk service for TPB staff and agency users to troubleshoot any technical issues that arise.
- Assist State DOT and other agency users with large-scale data transfer requests for major TIP amendments.
- Provide support for the development and maintenance of project data for the TPB's Bicycle and Pedestrian Plan.

3. PLANNING ELEMENTS

This task considers the following aspects of metropolitan transportation planning, in conjunction with federal surface transportation planning requirements. Also included for all elements will be coordination with related state, regional, and local efforts, as well as outreach to members, stakeholders, and subject matter experts, to gather information and collaborate to advise future planning and committee activities. Conduct all Planning Elements activities and related products through an 'equity lens' as directed by TPB Resolution R1-2021

Performance-Based Planning and Programming (PBPP)

- 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 regional annual transit safety targets.

- Set new four-year targets in the areas of pavement and bridge condition and highway system performance (travel time reliability, non-SOV mode, and CMAQ emissions reductions) in coordination with State DOTs.
- Report on performance in relation to previously set targets, as required.
- Support TPB as it reviews data and sets required targets.

Congestion Management Process (CMP)

- Compile information and undertake analysis for the development of major CMP components, including application of “big data” sources.
- Produce the National Capital Region Congestion Report, released as a quarterly website “dashboard”, in conjunction with travel monitoring and data publishing activities undertaken in Task 7.
- 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 or roadway improvement, or examining short- to mid-range trends, such as for impacts of the COVID-19 pandemic, 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.

Systems Performance, Operations, and Technology (SPOT) Planning

- Conduct regional planning activities regarding regional transportation systems management and operations (RTSMO) and emerging technologies, including information gathering and sharing, subcommittee briefings, and discussions among stakeholders; produce one or more summary memorandums/presentations for the TPB Technical Committee regarding this year’s findings and recommendations.
- Conduct Traffic Incident Management (TIM) planning as a component of RTSMO.
- Conduct regional planning activities regarding connected/autonomous vehicles (CAVs).
- Compile information on ITS and CAV deployments in the region.
- Maintain the Regional Intelligent Transportation Systems (ITS) Architecture.
- 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 Systems Performance, Operations, and Technology Subcommittee (SPOTS).

Transportation Emergency Preparedness Planning

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

Transportation Safety Planning

- Conduct regional roadway safety planning in a manner that emphasizes equity, including information gathering and sharing as well as subcommittee briefings and discussions among stakeholders; produce one or more summary memorandums/presentations for the TPB Technical Committee regarding this year's findings and recommendations.
- Support engineering, education, and enforcement strategies to reduce fatalities, serious injuries, and crashes in the National Capital Region, including consideration of equity.
- Compile and analyze regional crash data to produce updated roadway safety performance measures and coordinate with member states to develop federally required regional roadway safety targets.
- Update the crash data analysis from the FY 2020 – FY 2021 regional safety study to develop new charts, graphs, and tables that include CY 2018 through CY 2021 data; produce one or more summary memorandums/presentations for the TPB and the TPB Technical Committee regarding the findings. This effort will help inform local planning and programming efforts to improve transportation safety and achieve/exceed the region's PBPP targets.
- Participate in and 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 safety efforts.
- Coordinate regional transportation safety planning with the Regional Roadway Safety Program undertaken in Task 9.
- 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 staff, regarding transportation/roadway safety.
- Support the Transportation Safety Subcommittee in its coordination and advisory roles.

Bicycle and Pedestrian Planning

- Conduct regional planning regarding bicycle and pedestrian activities and infrastructure, incorporating consideration of equity, including information gathering and sharing, subcommittee briefings, and discussions among stakeholders; produce one or more summary memorandums/presentations for the TPB Technical Committee regarding this year's findings and recommendations.
- Conduct outreach and follow-up activities regarding the Regional Bicycle and Pedestrian Plan update published in FY 2022.
- Update the National Capital Trail Network map; monitor implementation of National Capital Trail Network projects.
- Monitor and update nonmotorized recommendations for the Transportation Improvement Program (TIP) and Project Info Tracker (PIT).
- Monitor Regional Complete Streets and Green Streets activities.
- Conduct regional planning regarding emerging mobility technologies, such as dockless bikesharing and electric scooters.
- 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 staff.
- Support the Bicycle and Pedestrian Subcommittee in its coordination and advisory roles.

Regional Public Transportation Planning

- Conduct regional planning regarding public transportation activities and infrastructure, incorporating consideration of equity, including information gathering and sharing, subcommittee briefings, and discussions among stakeholders; produce one or more summary memorandums/presentations for the TPB Technical Committee regarding this year's findings and recommendations.
- 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.
- Conduct a regional survey gathering usage information on inter-city buses, commuter buses, rail transit, and commuter rail, to advise regional planning and coordination.
- Address Bus Rapid Transit (BRT) planning and coordination as part of regional public transportation planning activities.
- Address TPB-related recommendations from the 2019 regional Bus Transformation Project as part of regional public transportation planning activities.
- 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.

Freight Planning

- Conduct regional planning regarding freight and goods movement activities and infrastructure, incorporating consideration of equity, including information gathering and sharing, subcommittee briefings, and discussions among stakeholders; produce one or more summary memorandums/presentations for the TPB Technical Committee regarding this year's findings and recommendations.
- Develop and publish an updated Regional Freight Plan.
- Compile and analyze data to support regional freight planning.
- Conduct a 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 federal 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.

Metropolitan Area Transportation Operations Coordination (MATOC) Planning

- 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.

Resiliency Planning

- Develop a regional interactive map, using data provided by previous COG studies, that layers major resiliency hazards, to inform future planning and programming.
- Conduct a TPB Transportation Resiliency Study (Phase II), to expand upon the Phase I study completed in FY 2022, informing future planning and programming.
- Convene a temporary working group to guide current resiliency planning activities, to identify and engage stakeholders and member agency participants in this new regional planning task.
- Conduct one or more regional resiliency planning or training, outreach, or professional development forums to strengthen regional awareness.

4. PUBLIC PARTICIPATION

Public Participation and Outreach

- Conduct public involvement as described in the new TPB Participation Plan, which was approved by the TPB in October of 2020. The plan calls upon staff to integrate public engagement, as appropriate, into planning activities throughout the department. All such public involvement activities will be developed and implemented with consideration given to an equity perspective, as directed by TPB Resolution R1-2021, which called for equity, as a foundational principle, to be woven into all of the TPB's work.
- Provide regular opportunities for comment on TPB activities and products, including public comment sessions at the beginning of TPB meetings and official public comment periods prior to the adoption of key TPB plans and programs.
- Conduct an evaluation of all Public Participation activities.
- Conduct outreach to support update to Visualize 2045.
- Conduct public involvement activities in the fall of 2022 following up on the update to Visualize 2045. These activities will share information about work that the TPB and its members have done to implement policy elements of the long-range plan.
- Initiate follow up survey to the Voices of the Region survey and focus group activities.
- Provide staff support for the TPB Community 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 traditionally underserved communities, including low-income communities, underrepresented communities, people with limited English proficiency, people with disabilities, and older adults as the TPB's primary strategy for engaging traditionally underserved population groups in the planning process and for providing guidance on Human Service Transportation Program activities. Feedback from the AFA Committee on transportation plans, projects, programs, services, and issues that are important to the communities the AFA represents will be shared with the TPB.
- Conduct training activities, as needed, to help community leaders learn how to get more actively involved in transportation decision making in the Washington region.
- Ensure that all public participation is consistent with and meets the Federal Civil Rights Act (Title VI) and Executive Order 12988 Environmental Justice.

Communications

- 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.
- 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

Network Development

- Develop a base-year transit network representing recent conditions, which is used as the starting point for developing future-year transit networks used by the regional travel demand forecasting model. This is typically a recent year and the choice of year can be influenced by factors such as COVID-19-related disruptions.
- Produce a series of forecast-year transportation networks used as inputs to the regional travel demand forecasting model, in support of transportation planning studies, air quality studies, and mobile emissions planning work. Examples include scenario studies, project-planning studies, and air quality conformity (AQC) analyses of the TPB's Long-Range Transportation Plan (LRTP), State Implementation Plans (SIPs) for attaining or maintaining air pollution standards, and greenhouse gas (GHG) planning studies. The quadrennial update of the LRTP occurs in 2022, but, in some cases, TPB staff may be asked to perform an "off-cycle" AQC analysis.
- 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, known as COGTools.
- Develop transportation networks in formats that support both 1) the production-use travel models, such as the Gen2/Ver. 2.3 and Ver. 2.4 models, which require networks in Cube TRNBUILD format; and 2) developmental travel models, such as the Gen3 Model, which will likely require networks in Cube Public Transport (PT) format. As we transition from the aggregate, trip-based travel model (Gen2/Ver. 2.3) to the disaggregate, activity-based travel model (Gen3), transit networks will transition from having two time-of-day periods (peak and off-peak) to four time-of-day periods (AM peak, midday, PM peak, and nighttime).
- Maintain and update network development documentation, such as the COGTools User's Guide and the highway and transit network report.
- Respond to network-related technical data requests.

Model Development and Support

- Staff the TPB Travel Forecasting Subcommittee (TFS).
- Maintain, update, and implement a strategic plan for model development that directs the model development activities from a long-term perspective to support regional transportation planning.
- Support both internal and external users of the TPB's production-use travel demand forecasting models (e.g., the Gen2/Ver. 2.3 Model and the Gen2/Ver. 2.4 Model).
- Develop new versions of the TPB's travel demand forecasting model that provide enhanced modeling capabilities. TPB staff is currently working with a consultant to develop the TPB's next-generation travel demand forecasting model, a disaggregate, activity-based travel model (ABM), to be known as the Generation 3, or Gen3, Travel Model. The Gen3 Model is to be implemented in both the open-source ActivitySim software platform and Bentley Cube software. Model development is planned to last three to four years (FY 2020-2024). Development will occur via two main phases. Phase 1 of the Gen3 Model is planned to conclude in February 2022. The goal of Phase 1 is to obtain a developmental model that has gone through an initial round of calibration and can be tested by TPB staff. Phase 2 of the Gen3 Model is planned to run from February 2022 (FY 22) through approximately September 2023 (FY 24), though, as of December 2021, the schedule for Phase 2 is still being developed with the consultant. The goal of Phase 2 is to obtain a travel model that is calibrated, validated, and is production ready.
- Identify, and possibly obtain, data needed to support development of the Gen3 Model and its successor model, the Gen4 Model.
- Promote the regional coordination of future transit on-board surveys (TOBS) to ensure that the surveys: 1) Are largely consistent across agencies; 2) Provide transit agencies the customer satisfaction and Title VI demographic information that transit agencies need to carry out their mission; and 3) Provide COG/TPB staff the data needed to estimate, calibrate, and validated regional travel demand models, which support many transportation planning studies. This effort would be coordinated with other DTP teams, the TPB Travel Forecasting Subcommittee, and the TPB Regional Public Transportation Subcommittee (see Task #3, "Planning Elements").
- Attend the ActivitySim Consortium meetings representing MWCOG and coordinate with other member agencies, including MPOs, state DOTs and other transportation agencies, on the maintenance and development of ActivitySim, the underlying software of the Gen3 Travel Model.
- Keep abreast of best practices in travel demand modeling.
- Develop knowledge of, and provide support for, other DTP staff in the use of strategic planning models, such as sketch and scenario planning models (e.g., VisionEval and RSPM). Coordinate with DTP's Planning Data & Research Team.
- Respond to travel-model related technical data requests from consultants, state/local agencies, and academics.
- Working with COG's Office of Information Technology (IT), acquire and maintain the hardware and software needed to apply the regional travel demand model. Assist IT with testing related to the planned agency-wide transition into cloud computing.



6. MOBILE EMISSIONS PLANNING

Air Quality Conformity

- Continue technical tasks related to the air quality conformity analysis of the TPB's 2022 Long-Range Transportation Plan quadrennial update.
- Provide technical support for activities related to the TPB's 2024 Long-Range Transportation Plan interim update.
- Provide technical travel demand and mobile emissions modeling support for any off-cycle AQC analysis, if requested by implementing agencies. This task may be funded from Technical Assistance accounts.
- Keep abreast of federal requirements related to air quality conformity determinations and the new mobile emissions estimation software, MOVES3.
- Continue working to incorporate Performance-Based Planning and Programming (PBPP) requirements pertaining to the Congestion Mitigation and Air Quality (CMAQ) Improvement Program into the planning process as it relates to the adopted LRTP.
- Maintain communication and consultation among transportation agencies, air agencies, and the public regarding air-quality-related matters in the region.

Mobile Emissions Analysis

- Support development of an Attainment/Maintenance State Implementation Plan (SIP) to address requirements of the 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 in consultation with regional environmental and transportation agency partners.
- Provide technical support to COG/DEP staff regarding regional climate change planning activities.
- Keep abreast of MOVES updates and best practices.
- Conduct sensitivity tests of new MOVES model versions that may be released by EPA (e.g., MOVES3).
- 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.



7. TRANSPORTATION RESEARCH AND DATA PROGRAMS

Transportation Research and Analysis

This subtask entails conducting data collection, such as conducting surveys or acquiring external data, and analysis to support research that inform regional transportation planning policy development and decision-making.

- Travel Surveys
 - Provide cross-program coordination support for all survey efforts.
 - As the region transitions toward a post-pandemic period, develop and conduct survey to measure and understand post-pandemic travel patterns and behavior in the region.
 - Provide continued briefings to the TPB, TPB Technical Committee, the Travel Forecasting Subcommittee, and other subcommittee and stakeholders, as appropriate, on analysis and findings of travel surveys and travel survey research, including comprehensive analysis of multiple surveys and the overall regional story they tell of travel in the region.
 - Provide survey analysis support for development of Visualize 2045 Update, including “deep dive” analysis of the RTS and 2019 panel survey, among others.
 - Identify and obtain appropriate data on regional travel behavior that have occurred and continue to occur during the COVID-19 pandemic period.
 - Conduct detailed analysis of the RTS, panel survey, State of the Commute Survey, Employer Survey, and applicable data from the pandemic period to analyze and build a baseline understanding of how regional travel was changed as a result of the pandemic and what new trends and behaviors can be observed.
 - Respond to inquiries about the survey from state and local government staff, survey participants, and the media.
 - Develop and format data to be used in visualizations of survey information.
 - Initiate geographic-focused surveys.
- Travel Analysis Studies and Research
 - Provide cross-program support to research and analysis efforts and incorporate resulting data into department transportation data products and visualizations.
 - Continue 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 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
 - Leverage appropriate data sources from partner agencies and other external sources
 - 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, including the impact of the COVID-19 pandemic on regional travel

- Identify and establish a base set of data that can be refreshed and updated on a regular basis to serve as basic transportation-related snapshots/data visualization to engage TPB's stakeholders and audience
- Conduct "deep dive" research and analysis on regional travel trends using a variety of data sources, including, among others, the Regional Travel Survey, the 7-day panel survey, Census and other federal transportation-related datasets, Cooperative Forecasts, and Big Data that will be acquired to support numerous programmatic requirements.
- Perform research and analysis that support regional transportation planning activities, including, among others, the development of the regional long-range transportation plan update, Visualize 2045, as well as consideration of equity in regional transportation planning.
- Acquiring Big Data to support travel trends and travel behavior analysis as well as supporting the estimating, calibrating, and validating the regional travel demand model.
- Providing cross-program research and analysis support for regional transportation planning studies and activities using a variety of analytical tools. These may include the use of scenario planning tools that were evaluated in FY 2021 and intended to support complex "what if" analyses that examine the effects and impacts that could occur under varying future conditions. Scenario planning may be applied to better understand future uncertainties, such as changes in Greenhouse Gas production, the deployment of connected autonomous vehicles, and future alternative land use distribution patterns.
- Perform travel monitoring studies based on programmatic needs of the regional travel demand forecasting model, PBPP requirements, and long-range plan development activities.
- Continue to increase staff awareness of the use of planning tools in the regional transportation planning practice and build staff technical capabilities to apply scenario planning tools in transportation planning studies and analyses.
- Identifying, testing, and acquiring a scenario planning tool to support scenario planning analyses that may be undertaken in multiple program areas.

Data Management and Visualization Services

This subtask entails hosting and managing data collected and compiled across numerous programs and developing visualizations of these data as part of research and analysis activities.

- Data Management Services
 - Update traffic volume data on the Regional Transportation Data Clearinghouse (RTDC) 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 RTDC 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 Gen3 regional travel demand model.
 - Update freeway and arterial road speed and level of service data, when available.
 - Update RTDC 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 RTDC.
 - Conduct cross-program and/or cross-department coordination to identify opportunities to integrate additional datasets into the travel monitoring dashboard or other visualization products.
 - Integrate data and products to be consistent across program areas to ensure consistency when presenting to TPB's stakeholders/audience
 - Distribute RTDC 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.
 - Evaluate new data management techniques and software that may be considered for future applications in transportation research.
- Visualization Services
 - Develop and maintain user-friendly and convenient travel trends information and visualizations, including a web-based dashboard that consolidates various regional transportation-related data and information products.
 - Provide data and technical support to staff using GIS for development and distribution of data and information developed for TPB planning activities, including, among others, the development of the regional long-range transportation plan update, Visualize 2045.
 - Provide technical guidance and develop GIS-based products (web maps and applications, visualization, etc.) for TPB planning activities.
 - Provide ongoing support and updates for existing products (e.g. 'major projects map' for Visualize 2045)
 - Collaborate with other TPB staff on the development of new spatial data products that will enhance the visibility of TPB's programs and planning activities to TPB's stakeholders/audience
 - 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. REGIONAL LAND USE AND TRANSPORTATION PLANNING COORDINATION

This activity coordinates local, state, and federal planning activities, develops population, household, and employment forecasts that are used as input into the TPB travel demand forecasting model, and facilitates the integration of land use and transportation planning in the region.



- 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 may entail analyzing the relationship between regional land use and transportation using a variety of analytical tools. These may include the use of scenario planning tools that were evaluated in FY 2021 and intended to support complex “what if” analyses that examine the effects and impacts that could occur under varying future land use and transportation conditions.
- Develop and publish analyses and user-friendly visualizations and tools of land use, demographic, socioeconomic, and other applicable data to support the TPB’s initiative to optimize high-capacity transit areas (HCTs) and elevating Equity Emphasis Areas (EEAs) in its planning program.
- Conduct analysis related to regional land use and transportation in support of the development of the regional long-range transportation plan update, Visualize 2045, as well as the consideration of equity in regional land use and transportation planning. This includes supporting Visualize 2045 performance analysis, baseline (existing conditions), and developing supporting graphics and visualizations to convey complex land use and transportation planning concepts to myriad stakeholders.
- 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.
- Provide continued support for the Transportation Analysis Zone (TAZ) system used in the regional travel demand forecasting model and the Cooperative Forecasting process, including any activities that may be necessary to make TAZ adjustments to support future model development processes.
- 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 growth forecasts at the regional and Transportation Analysis Zone (TAZ) level.
- Conduct activities to complete the next major Cooperative Forecasting update (Round 10). Activities may include evaluating econometric databases that could be used to help identify base year estimates and examining regional, national, and global demographic and market trends that will inform underlying regional growth assumptions, among others.



- 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 updated Cooperative Forecasting growth forecasts in relation to COG Activity Centers, high-capacity transit locations, and Equity Emphasis Areas
- Respond to public and stakeholder comments on the Cooperative Forecasts and the Cooperative Forecasting process.
- Work with the Cooperative Forecasting Subcommittee to analyze results and implications of the 2020 Census and other applicable baseline data sources for use in developing future updates to and assumptions in 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.
- Commence work to update the map of Regional Activity Centers.
- Use TPB transportation planning data to update information for the approved COG Region Forward Targets and Indicators.

9. MOBILITY AND ENHANCEMENT PROGRAMS

Enhanced Mobility Grant Program

- Support the implementation of the Coordinated Plan by furthering the goals and strategies in the plan to provide an array of transportation services and options to older adults and people with disabilities.
- Finalize the next required update of the Coordinated Plan and seek TPB approval in fiscal year 2023, by December 2022.
- 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.

Regional Roadway Safety Program

- Conduct a regional program that provides short-term consultant services to member jurisdictions or agencies to assist with planning or preliminary engineering projects that address roadway safety issues, including studies, planning, or design projects that will improve roadway safety and lead to a reduction in fatal and serious injury crashes on the region's roadways.
- Fund approximately three to eight technical assistance planning projects, or project design effort to achieve 30% completion at a level between \$30,000 and \$80,000 each, supported by UPWP core funding plus portions of the DDOT, MDOT, and VDOT Technical Assistance Programs (and potentially more projects if additional funding is provided by state or local agencies).



- Develop tools and activities to facilitate regional learning about roadway safety issues among TPB member jurisdictions through regional peer exchange.
- Provide staff support for project proposal solicitation, review, and conduct.

Transportation Alternatives Program

- Conduct the selection process for small capital improvement projects using funding sub-allocated to the Washington metropolitan region through the state DOTs from the federal Transportation Alternatives Set-Aside Program (TAP).
- Promote TAP funding for projects that seek to complete the National Capital Trail Network (NCTN) or promote pedestrian and bicycle access in Transit Access Focus Areas (TAFAs). The TPB approved the NCTN and TAFAs concepts and maps in July 2020.

Transportation and Land Use Connection Program

- Fund at least six technical assistance planning projects at a level between \$30,000 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. 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.
- Promote TLC funding for projects that seek to complete the National Capital Trail Network (NCTN) or promote pedestrian and bicycle access in Transit Access Focus Areas (TAFAs). The TPB approved the NCTN and TAFAs concepts and maps in July 2020.

10. TPB MANAGEMENT AND SUPPORT

TPB Committee Support and Management and UPWP

- 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.
- 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 2024 UPWP.

11. TECHNICAL ASSISTANCE PROGRAM

The UPWP Technical Assistance Program provides assistance to state departments of transportation and regional transit agencies. Examples of past Technical Assistance projects have included the VRE-MARC Run-Through Study, support to the District of Columbia travel monitoring program, state- and mode-specific travel monitoring studies, technical support to state project pre-planning activities, and supplemental support to the Transportation Land-Use Connections (TLC) Program, among others.

- 11.1. DDOT Technical Assistance**
- 11.2. MDOT Technical Assistance**
- 11.3. VDOT Technical Assistance**
- 11.4. Regional Transit Technical Assistance**

