



Visualize 2050 Planning and Programming Process

Introduction



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INTRODUCTION

The National Capital Region Transportation Planning Board (TPB) is the federally designated Metropolitan Planning Organization (MPO) for the Washington region. Since its inception in 1965, the TPB has served as a regional forum for establishing policy principles and priorities that guide transportation decision-making. The TPB works with state and local jurisdictions and transportation agencies to bring world class transportation options to the region.

As part of its responsibility to ensure federal compliance, the TPB produces the federally required metropolitan transportation plan (MTP), referred to in the region as the National Capital Region Transportation Plan (NCRTP) or “Visualize”. To receive federal funding, the region’s transportation projects must be consistent with the NCRTP and the Transportation Improvement Program (TIP)—the second document over which the TPB has responsibility.

What is a Metropolitan Transportation Plan?

Federal laws require that the region’s Metropolitan Transportation Plan, the National Capital Region Transportation Plan (referred to as “Visualize”), contain the region’s collective plans to fund, operate, maintain, and expand the transportation system within a minimum planning horizon of 20 years. The plan is updated at least once every four years. The plan must demonstrate that the forecasted emissions produced by the future transportation system comply with air quality requirements.

Two main requirements are that the plan must identify the projects and programs for which funding is reasonably expected to be available over the 20-year plan horizon and demonstrate that these projects and programs together comply with regional air quality improvement goals. In addition, Visualize 2050 must meet an array of other federal requirements, including but not limited to: complying with performance-based planning rules, considering the ten federal planning factors, conducting a Congestion Management Process, engaging in public participation, and responding to any concerns of non-discrimination and equity.

What is a Transportation Improvement Program?

The federally required Transportation Improvement Program (TIP) provides the schedule for the next four years for distributing federal, state, and local funds for state and local transportation projects and programs. The TIP represents an agency’s intent to construct or implement projects and identifies the anticipated flow of federal funds and matching state or local contributions. TIP projects comprise the first four financial years of the Visualize plan and include expansion, maintenance and operations projects, project groupings, and programs.

The financial relationship between the MTP and TIP is demonstrated in this simple diagram:



Together, these two documents, the NCRTP and TIP reflect the outcome of the TPB’s performance-based transportation planning and programming process (PBPP).

What Is Performance-Based Planning and Programming?

PBPP is a federal requirement to 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. The PBPP process ties the funding of projects and programs to improving measured performance and achieving targets set for future performance.

The key elements of that process used to create the Visualize 2050 transportation plan and the FY 2026-2029 TIP are described in detail later in this document within the following topics:

TABLE 1: VISUALIZE 2050 PLANNING AND PROGRAMMING PROCESS TOPICS

Part	Title	Part	Title
1	Policy Evolution	15	Transportation Safety Planning
2	Public Engagement and Communications	16	Modeling of Travel Demand and Mobile Emissions
3	Air Quality Conformity Analysis	17	Travel and Tourism
4	Emissions Reduction Activities	18	Roadway Planning
5	Natural Hazards Resiliency	19	Bus Transit Planning
6	Congestion Management Process	20	Railway Planning
7	Emergency Preparedness and Transportation Security Coordination	21	Bicycle, Pedestrian, and Micromobility Planning
8	Emerging Technologies	22	Transportation Demand Management
9	Environmental Consultation and Mitigation	23	Surface Connection to Air Planning
10	Freight Planning	24	Pipelines and Waterways
11	Housing Coordination	25	Future Scenarios Planning
12	Land Use and Transportation Coordination	26	Financial Planning
13	Public Health	27	Amendment and Administrative Modification Procedures
14	Regional ITS Architecture		

TPB'S ROLE AND KEY STAFF

The TPB, as the region's MPO, performs a range of activities that promote an integrated approach to transportation development, but it does not exercise direct control over most funding, and it does not implement projects. The requirements of federal law compel the key transportation players in the region to work through the TPB process. The TPB exercises its role as a coordinating agency in several ways, it:

- Ensures compliance with federal laws and requirements.
- Provides a regional transportation policy framework and a forum for coordination.
- Provides technical resources for decision-making.

As the MPO for the National Capital Region, the TPB brings together key decision-makers to coordinate planning and funding for the region's transportation system. This role involves upholding a federally mandated planning process that promotes an integrated approach to transportation development.

TABLE 2: AGENCIES REPRESENTED ON THE TRANSPORTATION PLANNING BOARD

Agency	State	Role	# Representatives
City of Alexandria	VA	Board Member	One
Arlington County	VA	Board Member	One
City of Bowie	MD	Board Member	One
Charles County	MD	Board Member	One
City of College Park	MD	Board Member	One
District of Columbia Council	DC	Board Member	Three
District of Columbia Department of Transportation	DC	Board Member	One
District of Columbia Office of Planning	DC	Board Member	One
City of Fairfax	VA	Board Member	One
Fairfax County	VA	Board Member	Two

City of Falls Church	VA	Board Member	One
Federal Highway Administration	DC	Ex-Officio Member	One
City of Frederick	MD	Board Member	One
Frederick County	MD	Board Member	One
Federal Transit Administration	DC/MD/VA	Ex-Officio Member	One
City of Gaithersburg	MD	Board Member	One
City of Greenbelt	MD	Board Member	One
City of Laurel	MD	Board Member	One
Loudoun County	MD	Board Member	Two
City of Manassas	VA	Board Member	One
City of Manassas Park	VA	Board Member	One
Maryland Department of Transportation	MD	Board Member	One
Maryland House	MD	Board Member	One
Maryland Senate	MD	Board Member	One
Montgomery County	MD	Board Member	Two
Metropolitan Washington Airports Authority	DC/MD/VA	Ex-Officio Member	Vacant
National Capital Planning Commission	MD	Ex-Officio Member	One
National Park Service	DC/MD/VA	Ex-Officio Member	One

Prince George's County	MD	Board Member	Two
Prince William County	VA	Board Member	Two
City of Rockville	MD	Board Member	One
City of Takoma Park	MD	Board Member	One
Virginia Department of Transportation	VA	Board Member	One
Virginia House	VA	Board Member	One
Virginia Senate	VA	Board Member	One
Washington Metropolitan Area Transit Authority	DC/MD/VA	Board Member	One

The board is responsible for reviewing information critical to the transportation planning process and making decisions to advance the work activities, projects and programs, and conversations necessary for the TPB's partners to plan, operate, and maintain the region's transportation system. All use of federal transportation funding for planning and implementation of transportation investments must be approved by the TPB before work can begin. The board makes decisions critical to the region's adherence to federal requirements for transportation planning and programming of funds.

In addition to the board, the work of the TPB is supported by a Steering Committee, Technical Committee, as well as several technical subcommittees and advisory committees.

The TPB Steering Committee has the full authority to approve non-regionally significant items for the TPB and reviews and approves the agenda for the upcoming TPB meeting. Andrew Austin and Lyn Erickson are the staff coordinators for the TPB Steering Committee.

TABLE 3: TPB STEERING COMMITTEE AGENCIES

TPB Steering Committee Agencies	State
Charles County	MD
District Department of Transportation	DC
District of Columbia	DC

Virginia Department of Rail and Public Transportation	VA
City of Gaithersburg	MD
Fairfax County	VA
Maryland Department of Transportation	MD
Virginia Department of Transportation	VA
Washington Metropolitan Area Transit Authority	DC/MD/VA

The TPB Technical Committee oversees and supports all methods subcommittees, coordinating subcommittees, advisory committees of the TPB in addition to other joint external committees. Lyn Erickson serves as the staff coordinator to the TPB Technical Committee

TABLE 4: AGENCIES REPRESENTED ON THE TECHNICAL COMMITTEE

Agency	State	Role	# Representatives
City of Alexandria	VA	Board Member	One
Arlington County	VA	Board Member	One
City of Bowie	MD	Board Member	Vacant
Charles County	MD	Board Member	One
City of College Park	MD	Board Member	Vacant
District of Columbia Department of Transportation	DC	Board Member	One
District of Columbia Office of Planning	DC	Board Member	One
City of Fairfax	VA	Board Member	One

Fairfax County	VA	Board Member	One
City of Falls Church	VA	Board Member	Vacant
Federal Highway Administration	DC	Ex-Officio Member	One
City of Frederick	MD	Board Member	One
Frederick County	MD	Board Member	One
Federal Transit Administration	DC/MD/VA	Ex-Officio Member	One
City of Gaithersburg	MD	Board Member	One
City of Greenbelt	MD	Board Member	Vacant
City of Laurel	MD	Board Member	Vacant
Loudoun County	VA	Board Member	One
City of Manassas	VA	Board Member	One
City of Manassas Park	VA	Board Member	One
Maryland Department of Transportation	MD	Board Member	Two
Maryland National Capital Park and Planning Commission	MD	Board Member	Vacant
Metropolitan Washington Airports Authority	DC/MD/VA	Ex-Officio Member	Vacant
Metropolitan Washington Air Quality Committee	DC/MD/VA	Ex-Officio Member	Vacant
Montgomery County	MD	Board Member	One
National Capital Planning Commission	MD	Ex-Officio Member	One

National Park Service	DC/MD/VA	Ex-Officio Member	One
Northern Virginia Transportation Authority	VA	Board Member	One
Northern Virginia Transportation Commission	VA	Board Member	One
Prince George's County	MD	Board Member	One
Potomac and Rappahannock Transportation Commission	VA	Board Member	One
Prince William County	VA	Board Member	One
City of Rockville	MD	Board Member	One
City of Takoma Park	MD	Board Member	Vacant
Virginia Department of Rail and Public Transportation	VA	Board Member	One
Virginia Department of Transportation	VA	Board Member	One
Virginia Passenger Rail Authority	VA	Board Member	One
Virginia Railway Express	VA	Board Member	One
Washington Metropolitan Area Transit Authority	DC/MD/VA	Board Member	One

The TPB subcommittee and advisory committees each play a unique role and gather regional stakeholders or community representatives around key topics.

TABLE 5: TPB SUBCOMMITTEES AND ADVISORY COMMITTEES

TPB Subcommittee	Role	Staff Coordinator
Aviation Technical Subcommittee	Coordinates airport system planning and provides technical reviews for projects and reports stemming from the Continuous Airport System Planning program.	Timothy Canan Ken Joh Olga Pérez Peláez Zhuo Yang
Bicycle and Pedestrian Subcommittee	Provide advice and assistance to the Technical Committee and update and evaluate the Regional Bicycle and Pedestrian Plan.	Michael Farrell
Commuter Connections Subcommittee	Provide overall technical review of the regional TDM Program elements.	James Davenport Daniel Sheehan
Freight Subcommittee	Integrates current freight issues into the National Capital Region's transportation planning process and raises awareness of freight issues among local elected officials and the public.	Andrew Meese Janie Nham
Regional Public Transportation Subcommittee	Provides a permanent process for the coordination of public transportation planning throughout the region, and for incorporating regional public transportation plans into the long-range plan and TIP.	Pierre Gaunard Eric Randall
Systems Performance, Operations and Technology Subcommittee	Advises the TPB on matters of performance outcomes of the transportation system, operations and management, Intelligent Transportation Systems (ITS) technologies, and emerging technologies.	Andrew Burke
TPB Access for All Advisory Committee	Advises to TPB on transportation issues, programs, policies, and services important to the traditionally underserved communities.	Laura Bachle
TPB Community Advisory Committee	Promotes public involvement in transportation planning for the region, advances equitable representation in regional planning, and provides independent region-oriented community advice to the TPB.	Laura Bachle
Transportation Safety Subcommittee	Serves as a forum for local transportation practitioners to exchange best practices, learn	Janie Nham

	about emerging trends and developments in roadway safety, and coordinate on regional roadway safety matters.	
Travel Forecasting Subcommittee	Provides oversight of activities related to development of the regional travel demand forecasting model.	Mark Moran
TPB Regional Transportation Resilience Subcommittee	Aims to enhance the resilience of transportation systems and infrastructure, mitigate potential current and future risks, and build community resilience with a focus on equity to better adapt to impacts from natural hazards.	Katherine Rainone

When necessary, the TPB has also established task forces and the work of the Long-Range Plan Task Force in 2017 still influences the work of the TPB and its partner agencies through development of Visualize 2050.

The TPB is staffed by the Metropolitan Washington Council of Governments (COG). COG's Department of Transportation Planning staffs approximately 60 professionals including transportation engineers, urban planners, and public safety experts. TPB staff are involved with every topic within this document from leading studies and discussions to conducting analysis or researching and summarizing information.

ROLE OF KEY PLANNING AGENCIES

Federal, state, and local governments, transit agencies, and affiliated agencies have roles in the region's transportation decision-making process by bringing their priorities, planning focus areas, and responsibilities to the TPB's planning table. Through the TPB's coordination and convening role, these agencies collaborate around the areas of funding, land use, road construction and maintenance, and public transportation service provision.

Working in collaboration, the key planning agencies represented on the board identify both short-term and long-term transportation system issues, conduct planning studies and analyses of the issues, and identify and prioritize projects. Depending on their role, an agency such as a state department of transportation, city, or county may also conduct project-level planning, design, engineering, and construction of road, transit, or active transportation projects.

PUBLIC ENGAGEMENT

The public and interest groups are continuously active in supporting or opposing a range of transportation issues, modes, or specific projects. Ongoing activism, advisory group participation, and information sharing completes the circle of cross-agency collaboration, education, and communication for regional transportation decision-making.

Every TPB meeting offers the opportunity for the public to comment on items being discussed or for action. The public may provide comments in various ways:

- Using an online form (available at www.mwcog.org/tpbcomment)
- Sending an email to TPBcomment@mwkog.org

- Leaving a voicemail at (202) 962-3315 (messages can be up to 3 minutes long)
- In-person comment (In-person meetings only with advance notice per above.)
- Writing to the TPB Chair at:

National Capital Region Transportation Planning Board
777 North Capitol Street NE, Suite 300
Washington, DC 20002-4239

Unique engagement for Visualize 2050 is described in Part 2 (Public Engagement and Communication) of this report.

NATIONAL CAPITAL REGION STUDY AREA DEFINITION

In accordance with federal regulations 23 CFR 450 (Planning Assistance and Standards), “. . . an MPO shall be designated for each urbanized area with a population of more than 50,000 individuals (as determined by the Bureau of the Census).”¹ The National Capital Region, which includes the District of Columbia as well as several cities and counties in Maryland and Virginia, contains an urbanized area well in excess of 50,000 residents. As a result, the TPB is the designated MPO for the National Capital Region, and defines its planning area through its Bylaws, as amended, and in accordance with applicable laws and regulations.

The TPB prepares a metropolitan transportation plan, the National Capital Region Transportation Plan, for its Planning Area at least every four years, which encompasses the 22 jurisdiction members of the TPB. This area, shown in Figure 1, includes the nation’s capital, the District of Columbia, as well as 12 jurisdictions in Maryland and nine jurisdictions in Virginia. The TPB Planning Area comprises approximately 3,500 square miles and includes area in three physiographic provinces: the Atlantic Coastal Plain, the Piedmont, and the Blue Ridge. All localities in the Planning Area contain a portion of the urbanized area.

Previously, as a result of the 2010 census, the Washington, DC-MD-VA Urbanized Area (2010) included portions of the 22 current member jurisdictions of the TPB as well as the urbanized portion of Fauquier County, Virginia, which included the Town of Warrenton. As a result of this urbanized area designation, that portion of Fauquier County was included as part of the TPB Planning Area, and Fauquier County was a member of the TPB, resulting in a total of 23 jurisdiction members. The metropolitan transportation plans prepared after this designation, including the most recently adopted Visualize 2045, included the urbanized portion of Fauquier County.

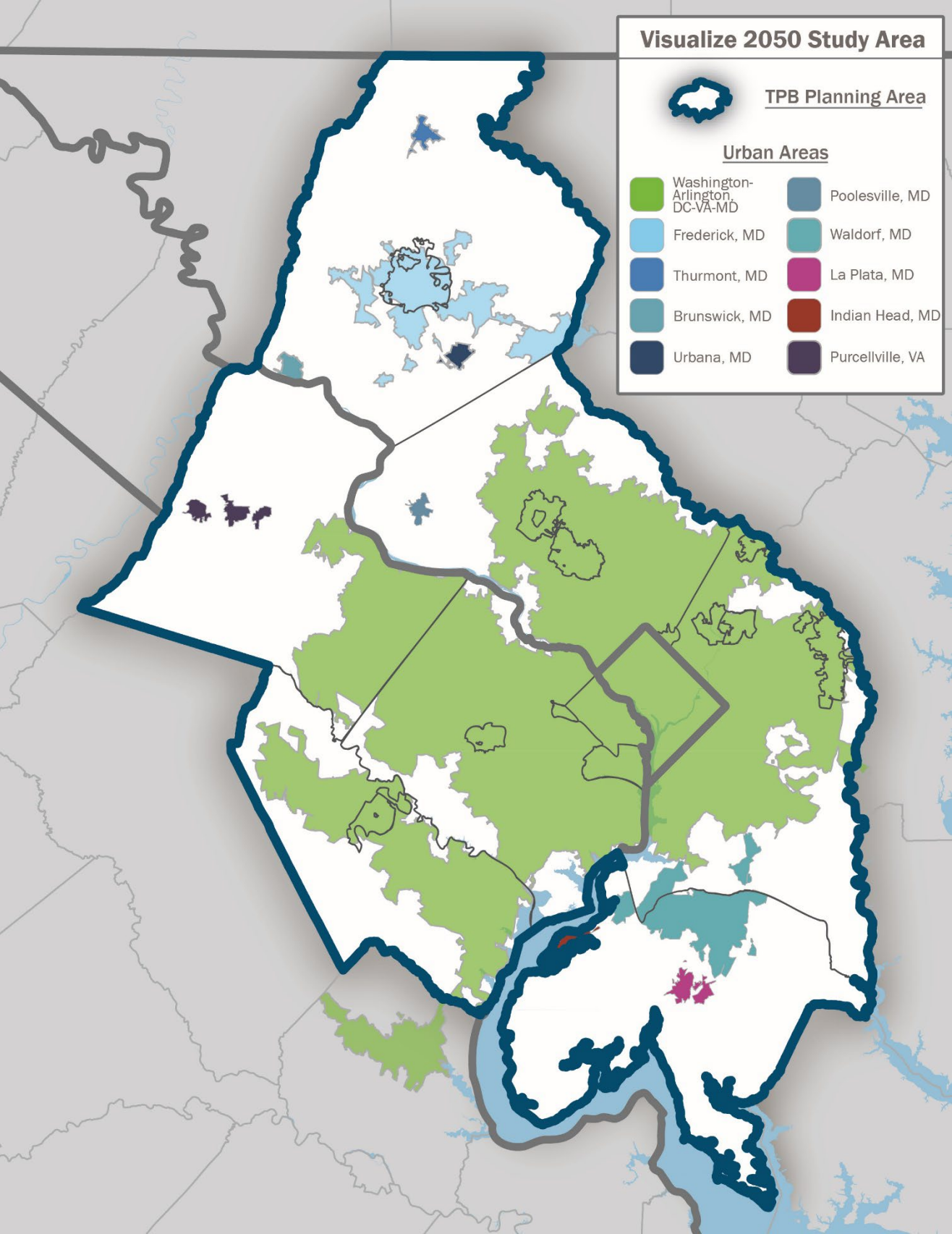
For the 2020 decennial census, the Bureau of the Census modified the criteria used to define urban areas. This methodological change, along with the results of the 2020 census, resulted in the urban portion of Fauquier County being designated as its own urban area, the Warrenton-New Baltimore Urban Area (2020), distinct from the Washington-Arlington, DC-VA-MD (2020) Urban Area. Further, because this newly designated urban area had a 2020 census population of 24,437, it was no longer required to be included in a designated MPO since it did not meet the population threshold of 50,000 persons. Following this redesignation and as a result of consultations with the Commonwealth of Virginia, including the Virginia Department of Transportation, Fauquier County requested that the TPB amend its Bylaws to remove Fauquier County as a member of the TPB and to remove the urban area portion of Fauquier County from the

¹ Code of Federal Regulations (September 22, 2025). 23 CFR 450.310(a). [https://www.ecfr.gov/current/title-23/part-450/subpart-C#p-450.310\(a\)](https://www.ecfr.gov/current/title-23/part-450/subpart-C#p-450.310(a))

TPB Planning Area. On February 21, 2024, the TPB adopted Resolution R6-2024, formally adjusting its Planning Area Boundary and removing Fauquier County as a TPB member.

Although a portion of the Washington-Arlington, DC-VA-MD (2020) Urban Area extends into northern Stafford County, Virginia, this area is not included in the TPB Planning Area. Through a formal agreement between the TPB and the Fredericksburg Area Metropolitan Planning Organization (FAMPO), which includes Stafford County, responsibility for metropolitan transportation planning for this portion of the Washington-Arlington, DC-VA-MD (2020) Urban Area is carried out by FAMPO.

FIGURE 1: VISUALIZE 2050 STUDY AREA



FEDERAL REQUIREMENTS

Like previous versions of the National Capital Region Transportation Plan, federal requirements govern and inform the content and process for development of Visualize 2050. This plan meets all federal requirements as demonstrated in this document and indicated by the compliance checklist provided in this section.

The checklist in Table 6 indicates each federal requirement for Metropolitan Transportation Plans and how it is being met by the Visualize 2050 plan. Regulatory citations in the table refer to the Code of Federal Regulations (CFR), Title 23 (“Highways”), Subpart C (“Metropolitan Transportation Planning and Programming”): 23 CFR Part 450 Subpart C.

TABLE 6: VISUALIZE 2050 FEDERAL COMPLIANCE CHECKLIST

#	Regulatory citation	Key content of requirement	Comments, including where in Visualize 2050 plan
1	450.300(a)	The MPO must carry out a continuing, cooperative, and comprehensive (3C) performance-based multimodal transportation planning process, including the development of a MTP and TIP, that encourages and promotes the safe and efficient development, management, and operation of surface transportation systems to serve the mobility needs of people and freight (including accessible pedestrian walkways, bicycle transportation facilities, and intermodal facilities that support intercity transportation, including intercity buses and intercity bus facilities and commuter vanpool providers) fosters economic growth and development, and takes into consideration resiliency needs, while minimizing transportation-related fuel consumption and air pollution.	This Visualize 2050 Planning and Programming report documents the many parts of the TPB's 3C performance-based multimodal transportation planning process.
2	450.300(b)	Encourages continued development and improvement of metropolitan transportation planning processes guided by the planning factors set forth in 23 U.S.C.134(h) and 49 U.S.C.5303(h) .	The TPB is continuously evaluating the transportation planning process and adjusting as new methods and information become available to improve its work. The planning factors guide the TPB's work and TPB's member agencies specifically reflect on the planning factors when proposing investments for TPB approval.
3	450.306(a)	To accomplish the objectives in § 450.300 and §450.306(b) , metropolitan planning organizations designated under § 450.310 , in cooperation with the State and public transportation operators, shall develop	The TPB's performance-driven, outcome-based approach to planning is coordinated with its member agencies including the States and public transportation operators. This Visualize 2050

		long-range transportation plans and TIPs through a performance-driven, outcome-based approach to planning for metropolitan areas of the State.	Planning and Programming report documents the many parts of the TPB's 3C performance-based multimodal transportation planning process including the selection of investments for the TIP.
4	450.306(b)	<p>Planning Factors: The MPO planning process shall be continuous, cooperative, and comprehensive, and provide for consideration and implementation of projects, strategies, and services that will address the following factors: (1) Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency; (2) Increase the safety of the transportation system for motorized and non-motorized users; (3) Increase the security of the transportation system for motorized and non-motorized users; (4) Increase accessibility and mobility of people and freight; (5) Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns; (6) Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight; (7) Promote efficient system management and operation; (8) Emphasize the preservation of the existing transportation system; (9) Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and (10) Enhance travel and tourism.</p>	The TPB required sponsor agencies to identify how their proposed investments for Visualize 2050 and the FY 2026-2029 TIP supported these planning factors. These factors align with TPB goals, and the results of how future investments will support TPB goals and thus address these factors was included in the plan.
5	450.306(c)	Consideration of the planning factors shall be reflected, as appropriate, in the metropolitan transportation planning process. The degree of consideration and analysis of the factors should be based on the scale and	Consideration of the many parts in the transportation planning process have been documented in this report and the outcome of the

		complexity of many issues, including transportation system development, land use, employment, economic development, human and natural environment (including Section 4(f) properties as defined in 23 CFR 774.17), and housing and community development.	planning process is the Visualize 2050 plan and FY 2026-2029 TIP.
6	450.306(d)(1)	Performance-based approach: The MPO planning process must provide for the establishment and use of a performance-based approach to transportation decision making to support the national goals (highway) and the general purposes (public transportation).	The TPB adopted goals in alignment with national goals for highways and public transportation that reflect key areas of interest. Visualize 2050 Chapter 1 acknowledges this goals alignment, and Chapters 5, 6, and 7 show how the region will apply strategies and measure performance to achieve these goals.
7	450.306(d)(2)	Establishment of performance targets by metropolitan planning organizations: The MPO must establish performance targets, in coordination with the State and public transportation providers, for the federal performance measures to use in tracking progress toward attainment of critical outcomes for the MPO region.	Visualize 2050 Chapter 7 provides the performance targets adopted for federal performance measures from which the TPB will assess its progress towards or attainment of its goals.
8	450.306(d)(4)	Performance-based approach: An MPO must integrate in the MPO planning process, directly or by reference, the goals, objectives, performance measures, and targets described in other State transportation plans and transportation processes, as well as any plans developed under 49 U.S.C. chapter 53 by providers of public transportation, required as part of a performance- based program including: (i) The State asset management plan for the NHS and the Transit Asset Management Plan; (ii) Applicable portions of the HSIP, including the SHSP; (iii) The Public Transportation Agency Safety Plan; (iv) Other safety and security planning and review processes, plans, and programs, as appropriate; (v) The CMAQ performance	Visualize 2050 Chapter 7 provides the goals, objectives, performance measures, and targets adopted by the TPB and incorporated from other State transportation plans and processes as well as by providers of public transportation.

		plan, as applicable; (vi) Appropriate (metropolitan) portions of the State Freight Plan; (vii) The congestion management process, if applicable; and (viii) Other State transportation plans and transportation processes required as part of a performance-based program.	
9	450.306(f)	An MPO must carry out the metropolitan transportation planning process in coordination with the statewide transportation planning process.	The TPB and its member states coordinate monthly on their ongoing planning efforts. Visualize 2050 Chapter 1 indicates the TPB's transportation goals align with the states and the process document demonstrates the goals coordination and comparison to make this assessment.
10	450.306(g)	The MPO planning process shall (to the maximum extent practicable) be consistent with the development of applicable regional intelligent transportation systems (ITS) architectures, as defined in 23 CFR part 940.	Chapter 4 of Visualize 2050 and part 14 of this report discuss regional ITS architectures.
11	450.306(h)	Preparation of the coordinated public transit-human services transportation plan, as required by 49 U.S.C. 5310, should be coordinated and consistent with the MPO planning process.	Part 19 of this report discusses the preparation of the TPB's coordinated public transit-human services transportation plan. Investments that support implementation of this plan are reflected in the Visualize 2050 Future Transportation Investments in Projects and Programs list.
12	450.324(a)	The transportation plan has no less than a 20-year planning horizon.	Visualize 2050 has a 24-year planning horizon: 2026-2050.
13	450.324(b)	The transportation plan includes both long-range and short-range strategies/actions that provide for the development of an integrated multimodal transportation system (including accessible pedestrian walkways and bicycle transportation facilities) to facilitate the safe and efficient movement of people and goods in addressing current and future transportation demand.	Visualize 2050 includes investment strategies for the short-range FY 2026-2029 Transportation Improvement Program timeframe as well as the long-range period of FY 2030-2050. The Visualize 2050 Future Transportation Investments in Projects and Programs list provides the details of these short- and long-range investment strategies.

			In addition to these short- and long-range investment strategies, TPB's priority strategies/ actions may be found in Visualize 2050 Chapters 5 and 6.
14	450.324(c)	The MPO shall review and update the transportation plan at least every four years in air quality nonattainment and maintenance areas and at least every five years in attainment areas to confirm the transportation plan's validity and consistency with current and forecasted transportation and land use conditions and trends and to extend the forecast period to at least a 20-year planning horizon. In addition, the MPO may revise the transportation plan at any time using the procedures in this section without a requirement to extend the horizon year. The MPO shall approve the transportation plan (and any revisions) and submit it for information purposes to the Governor. Copies of any updated or revised transportation plans must be provided to the FHWA and the FTA.	The TPB elected to pursue a schedule less than four years for the development of the Visualize 2050 plan, following the adoption of Visualize 2045 in June 2022. Visualize 2050 is scheduled for TPB approval by or before December 2025.
15	450.324(d)	In metropolitan areas that are in nonattainment for ozone or carbon monoxide, the MPO shall coordinate the development of the metropolitan transportation plan with the process for developing transportation control measures (TCMs) in a State Implementation Plan (SIP).	The air quality process document, Part 3 of this report, describes the process the TPB used for coordinating the Visualize 2050 plan development with the process for developing TCMs in a SIP.
16	450.324(e)	The MPO, the State(s), and the public transportation operator(s) shall validate data used in preparing other existing modal plans for providing input to the transportation plan. In updating the transportation plan, the MPO shall base the update on the latest available estimates and assumptions for population, land use, travel, employment, congestion, and economic activity. The MPO shall approve transportation plan contents and	Visualize 2050 uses the latest available estimates, and assumptions for population, households, and employment from the Washington Metropolitan Council of Governments (COG) which also represent land use and economic activity. The COG Board of Directors endorsed the Cooperative Forecast Round 10.0 at their June 2023 meeting and this information is discussed in Visualize 2050 Chapter

		supporting analyses produced by a transportation plan update.	6. The projected transportation demand on the region's transportation system is used in the regional travel demand model providing comparison data between the base year (2025) and horizon year (2050). The model uses current/projected transportation infrastructure and the Round 10.0 population/employment/household data to produce the latest estimates for travel and congestion.
17	450.324(f)(1)	The metropolitan transportation plan shall, at a minimum, include the current and projected transportation demand of persons and goods in the metropolitan planning area over the period of the transportation plan.	<p>Visualize 2050 uses the latest available estimates, and assumptions for population, households, and employment from the Metropolitan Washington Council of Governments (COG) in the travel demand model and air quality conformity analysis. The COG Board of Directors adopted the jurisdictional totals for the Round 10 Cooperative Forecasts at their June 14, 2023, meeting, and this information is discussed in Visualize 2050 Chapter 6. The projected transportation demand on the region's transportation system is used in the regional travel demand model providing comparison data between the base year (2025) and horizon year (2050).</p> <p>The TPB's Travel Demand Forecasting Model (Gen2/Ver. 2.4.6) produces estimates of motor vehicle trips and transit person trips for the metropolitan Washington region. Vehicle trips occur on the highway network and include both those used by passenger vehicles (e.g., cars) and commercial vehicles (e.g., trucks). Goods movement or freight movement can occur on different modes of travel (e.g., truck, train, boat, and aircraft). The COG/TPB Travel Model is state of</p>

			<p>the practice for modeling goods movement, namely, truck travel is modeled for trip generation, trip distribution, and traffic assignment, but goods movement is not modeled for non-road modes. For more information, see “User’s Guide for the COG/TPB Gen2/Version 2.4.6 Travel Demand Forecasting Model.” Washington, D.C.: Metropolitan Washington Council of Governments, National Capital Region Transportation Planning Board, July 11, 2023.</p> <p>https://www.mwcog.org/transportation/data-and-tools/modeling/model-documentation/</p>
18	450.324(f)(2)	<p>The metropolitan transportation plan shall, at a minimum, include existing and proposed transportation facilities (including major roadways, public transportation facilities, intercity bus facilities, multimodal and intermodal facilities, nonmotorized transportation facilities (e.g., pedestrian walkways and bicycle facilities), and intermodal connectors) that should function as an integrated metropolitan transportation system, giving emphasis to those facilities that serve important national and regional transportation functions over the period of the transportation plan.</p>	<p>Existing transportation facilities are described in Visualize 2050 Chapter 2, and the proposed facilities are shown and discussed in Chapter 6, with additional financial details provided in the Visualize 2050 Future Transportation Investments in Projects and Programs in Chapter 5.</p>
19	450.324(f)(3)	<p>The metropolitan transportation plan shall, at a minimum, include a description of the performance measures and performance targets used in assessing the performance of the transportation system in accordance with §450.306(d).</p>	<p>Visualize 2050 Chapter 3 includes a description of the performance measures and targets used to assess system performance. Chapter 3 also describes current system performance. Chapter 6 describes anticipated 2050 system performance and Chapter 7 shares the most recently adopted targets.</p>

20	450.324(f)(4)	The metropolitan transportation plan shall, at a minimum, include a system performance report and subsequent updates evaluating the condition and performance of the transportation system with respect to the performance targets described in § 450.306(d) , including—(i) Progress achieved by the metropolitan planning organization in meeting the performance targets in comparison with system performance recorded in previous reports, including baseline data; and (ii) For metropolitan planning organizations that voluntarily elect to develop multiple scenarios, an analysis of how the preferred scenario has improved the conditions and performance of the transportation system and how changes in local policies and investments have impacted the costs necessary to achieve the identified performance targets.	Visualize 2050 Chapter 3 reflects the current system performance and reports the progress achieved by the TPB in meeting the performance targets in comparison with system performance recorded previously in Visualize 2045 including baseline data.
21	450.324(f)(5)	The metropolitan transportation plan shall, at a minimum, include operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and mobility of people and goods.	The Visualize 2050 Future Transportation Investments in Projects and Programs list provides investment strategies including operational and management strategies to improve vehicular congestion and maximize safety and mobility.
22	450.324(f)(6)	The metropolitan transportation plan shall, at a minimum, include consideration of the results of the congestion management process in TMAs that meet the requirements of this subpart, including the identification of SOV projects that result from a congestion management process in TMAs that are nonattainment for ozone or carbon monoxide.	As part of the project inputs process, agencies submitting roadway capacity expansion projects for construction during the FY 2026-2029 Transportation Improvement Program timeframe, were required to respond to question regarding the consideration of other strategies. The Visualize 2050 Future Transportation Investments in Projects and Programs includes all roadway capacity expansion projects. Chapter 6 discusses projects relating to congestion management and discusses the congestion forecasts. The CMP process related

			to Visualize 2050 is described in part 6 of this report.
23	450.324(f)(7)	<p>The metropolitan transportation plan shall, at a minimum, include assessment of capital investment and other strategies to preserve the existing and projected future metropolitan transportation infrastructure, provide for multimodal capacity increases based on regional priorities and needs, and reduce the vulnerability of the existing transportation infrastructure to natural disasters.</p> <p>The metropolitan transportation plan may consider projects and strategies that address areas or corridors where current or projected congestion threatens the efficient functioning of key elements of the metropolitan area's transportation system.</p>	Visualize 2050 Chapter 7 assesses capital investment and other strategies used to accomplish regional goals and meet regional needs. TPB's resilient region goal and related strategies particularly aims to reduce the vulnerability of infrastructure to natural disasters.
24	450.324(f)(8)	The metropolitan transportation plan shall, at a minimum, include transportation and transit enhancement activities, including consideration of the role that intercity buses may play in reducing congestion, pollution, and energy consumption in a cost-effective manner and strategies and investments that preserve and enhance intercity bus systems, including systems that are privately owned and operated, and including transportation alternatives, as defined in 23 U.S.C. 101(a) , and associated transit improvements, as described in 49 U.S.C. 5302(a) , as appropriate.	Visualize 2050 includes transportation and transit enhancement activities listed within the Visualize 2050 Future Transportation Investments in Projects and Programs; the role of intercity buses is included in Chapters 2, 3, and 6.
25	450.324(f)(9)	The metropolitan transportation plan shall, at a minimum, include design concept and design scope descriptions of all existing and proposed transportation facilities in sufficient detail, regardless of funding source, in nonattainment and maintenance areas for conformity determinations under the EPA's transportation conformity	Visualize 2050 Financial Plan in Chapter 5 and the Visualize 2050 Future Transportation Investments in Projects and Programs list includes all the proposed transportation facilities with cost estimates. More information about each investment may be found online via the TPB's Project Tracker

		regulations (40 CFR part 93, subpart A). In all areas (regardless of air quality designation), all proposed improvements shall be described in sufficient detail to develop cost estimates.	Database which is available on the visualize2050.org website.
26	450.324(f)(10)	The metropolitan transportation plan shall, at a minimum, include a discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the metropolitan transportation plan. The discussion may focus on policies, programs, or strategies, rather than at the project level. The MPO shall develop the discussion in consultation with applicable Federal, State, and Tribal land management, wildlife, and regulatory agencies. The MPO may establish reasonable timeframes for performing this consultation;	Visualize 2050 Chapter 4 has a discussion of environmental mitigation activities.
27	450.324(f)(11)(i)	A financial plan that demonstrates how the adopted transportation plan can be implemented: For purposes of transportation system operations and maintenance, the financial plan shall contain system-level estimates of costs and revenue sources that are reasonably expected to be available to adequately operate and maintain the Federal-aid highways (as defined by 23 U.S.C. 101(a)(5)) and public transportation (as defined by title 49 U.S.C. Chapter 53).	Visualize 2050 Chapter 5 presents the financial plan for Visualize 2050 with detailed expenditures shared in the Visualize 2050 Future Transportation Investments in Projects and Programs. The financial plan includes system-level estimates of reasonably anticipated to be available revenue sources and expenditures for operations and maintenance.
28	450.324(f)(11)(ii)	A financial plan that demonstrates how the adopted transportation plan can be implemented: For the purpose of developing the metropolitan transportation plan, the MPO(s), public transportation operator(s), and State shall cooperatively develop estimates of funds that will be available to support metropolitan transportation plan implementation, as required under § 450.314(a) . All	Visualize 2050 Chapter 5 presents the financial plan for Visualize 2050. The details of reasonably anticipated sources for each investment listed in the Visualize 2050 Future Transportation Investments in Projects and Programs may be found via the Project Tracker Database available on the visualize2050.org website. The TPB's process

		necessary financial resources from public and private sources that are reasonably expected to be made available to carry out the transportation plan shall be identified.	for cooperatively developing the revenue estimates is provided within part 26 of this report.
29	450.324(f)(11)(iii)	A financial plan that demonstrates how the adopted transportation plan can be implemented: The financial plan shall include recommendations on any additional financing strategies to fund projects and programs included in the metropolitan transportation plan. In the case of new funding sources, strategies for ensuring their availability shall be identified. The financial plan may include an assessment of the appropriateness of innovative finance techniques (for example, tolling, pricing, bonding, public private partnerships, or other strategies) as revenue sources for projects in the plan.	Visualize 2050 Chapter 7 presents key regional issues that are beyond what may be accomplished in the financial plan described in Chapter 5; Chapter 5 goes on to describe any additional financing strategies to fund projects and programs included for the future.
30	450.324(f)(11)(iv)	A financial plan that demonstrates how the adopted transportation plan can be implemented: In developing the financial plan, the MPO shall take into account all projects and strategies proposed for funding under title 23 U.S.C., title 49 U.S.C. Chapter 53 or with other Federal funds; State assistance; local sources; and private participation. Revenue and cost estimates that support the metropolitan transportation plan must use an inflation rate(s) to reflect “year of expenditure dollars,” based on reasonable financial principles and information, developed cooperatively by the MPO, State(s), and public transportation operator(s).	Visualize 2050 Chapter 5 presents the financial plan for Visualize 2050. The details of reasonably anticipated sources for each investment listed in the Visualize 2050 Future Transportation Investments in Projects and Programs list may be found via the Project Tracker Database available on the visualize2050.org website. Investments included in the financial plan utilize varying combinations of these funding sources. Sponsor agencies develop the cost estimates with consideration of the anticipated completion year and the impact of inflation. The process for developing the inflation rate(s) and developing the revenues and cost estimates is explained in part 26 of this report.

31	450.324(f)(11)(v)	A financial plan that demonstrates how the adopted transportation plan can be implemented: For the outer years of the metropolitan transportation plan (<i>i.e.</i> , beyond the first 10 years), the financial plan may reflect aggregate cost ranges/cost bands, as long as the future funding source(s) is reasonably expected to be available to support the projected cost ranges/cost bands.	Visualize 2050 reflects two financial periods: the FY 2026-2029 programmed and the FY 2030-2050 reasonably anticipated periods. The first period aligns with TPB's next Transportation Improvement Program (TIP). Visualize 2050 Chapter 5 and part 26 of this report provide more information about the financial timeframes.
32	450.324(f)(11)(vi)	A financial plan that demonstrates how the adopted transportation plan can be implemented: For nonattainment and maintenance areas, the financial plan shall address the specific financial strategies required to ensure the implementation of TCMs in the applicable SIP.	The region no longer includes TCM projects in SIPs, but the TPB does have Transportation Emission Reduction Measure (TERM) projects in Visualize 2050. Part 26 of this report provides more information on the process for developing the Visualize 2050 financial plan.
33	450.324(f)(11)(vii)	A financial plan that demonstrates how the adopted transportation plan can be implemented: For illustrative purposes, the financial plan may include additional projects that would be included in the adopted transportation plan if additional resources beyond those identified in the financial plan were to become available.	Visualize 2050 includes projects that have programmed or reasonably anticipated to be programmed projects as noted within the financial plan in Chapter 5 and the Visualize 2050 Future Transportation Investments in Projects and Programs list.
34	450.324(f)(11)(viii)	A financial plan that demonstrates how the adopted transportation plan can be implemented: In cases that the FHWA and the FTA find a metropolitan transportation plan to be fiscally constrained and a revenue source is subsequently removed or substantially reduced (<i>i.e.</i> , by legislative or administrative actions), the FHWA and the FTA will not withdraw the original determination of fiscal constraint; however, in such cases, the FHWA and the FTA will not act on an updated or amended metropolitan transportation plan that does not reflect the changed revenue situation.	No documentation required at this time.

35	450.324(f)(12)	Pedestrian walkway and bicycle transportation facilities in accordance with 23 U.S.C. 217(g) .	The Visualize 2050 Visualize 2050 Future Transportation Investments in Projects and Programs list and Chapter 6 detail the investment strategies that include pedestrian walkway and/or bicycle transportation facilities.
36	450.324(g)(1)	The MPO shall consult, as appropriate, with State and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation concerning the development of the transportation plan. The consultation shall involve, as appropriate: Comparison of transportation plans with State conservation plans or maps, if available.	Part 9 of this report explains the TPB's process for environmental consultation during the development of the plan. Visualize 2050 includes an interactive map showing the results of the environmental consultation and the comparison of transportation plans and environmental-related data. It is available on visualize2050.org.
37	450.324(g)(2)	The MPO shall consult, as appropriate, with State and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation concerning the development of the transportation plan. The consultation shall involve, as appropriate: Comparison of transportation plans to inventories of natural or historic resources, if available.	Part 9 of this report explains the TPB's process for environmental consultation during the development of the plan. Visualize 2050 includes an interactive map showing the results of the environmental consultation and the comparison of transportation plans and environmental-related data. It is available on visualize2050.org.
38	450.324(h)	The metropolitan transportation plan should integrate the priorities, goals, countermeasures, strategies, or projects for the metropolitan planning area contained in the HSIP, including the SHSP required under 23 U.S.C. 148 , the Public Transportation Agency Safety Plan required under 49 U.S.C. 5329(d) , or an Interim Agency Safety Plan in accordance with 49 CFR part 659 , as in effect until completion of the Public Transportation Agency Safety Plan, and may incorporate or reference applicable emergency relief and disaster preparedness plans and strategies and policies that support homeland security, as	The Visualize 2050 Future Transportation Investments in Projects and Programs list provides the projects and programs included in financial plan. The full details of each project as provided by the sponsor agency may be found in the Project Tracker Database via the visualize2050.org website. Visualize 2050 Chapter 1 notes the TPB's goal for safety, and Chapter 5 details how TPB agencies are planning to apply endorsed strategies to improve safety.

		appropriate, to safeguard the personal security of all motorized and non-motorized users.	Part 7 of this report describes the process for emergency preparedness and transportation security coordination and part 15 the safety planning process.
39	450.324(i)	An MPO may, while fitting the needs and complexity of its community, voluntarily elect to develop multiple scenarios for consideration as part of the development of the metropolitan transportation plan.	The TPB has conducted numerous scenarios in the past which were summarized for member consideration in submitting proposed investment strategies for Visualize 2050. Part 25 of this report provides more information.
40	450.324(i)(1)	An MPO that chooses to develop multiple scenarios under this paragraph (i) is encouraged to consider: (i) <i>Potential regional investment strategies for the planning horizon;</i> (ii) <i>Assumed distribution of population and employment;</i> (iii) <i>A scenario that, to the maximum extent practicable, maintains baseline conditions for the performance areas identified in § 450.306(d) and measures established under 23 CFR part 490;</i> (iv) <i>A scenario that improves the baseline conditions for as many of the performance measures identified in § 450.306(d) as possible;</i> (v) <i>Revenue constrained scenarios based on the total revenues expected to be available over the forecast period of the plan;</i> and (vi) <i>Estimated costs and potential revenues available to support each scenario.</i>	Acknowledged.
41	450.324(i)(2)	In addition to the performance areas identified in 23 U.S.C. 150(c) , 49 U.S.C. 5326(c) , and 5329(d) , and the measures established under 23 CFR part 490 , MPOs may evaluate scenarios developed under this paragraph using locally developed measures.	The TPB has identified many performance measures beyond the federally-required performance measures and uses them to convey the anticipated results of each National Capital Region Transportation Plan, including Visualize 2050. As many scenarios have been evaluated over the years, for Visualize 2050, TPB staff provided member agencies with a Summary of Scenario Findings to help with selecting strategies to propose

			for Visualize 2050 that best align with TPB's goals. More information about performance measures is available in Chapters 3 and 7 of the plan and part 1 of this report. Part 25 explains the TPB's scenario planning process and the information compiled and shared for Visualize 2050.
42	450.324(j)	The MPO shall provide individuals, affected public agencies, representatives of public transportation employees, public ports, freight shippers, providers of freight transportation services, private providers of transportation (including intercity bus operators, employer-based commuting programs, such as carpool program, vanpool program, transit benefit program, parking cashout program, shuttle program, or telework program), representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, and other interested parties with a reasonable opportunity to comment on the transportation plan using the participation plan developed under § 450.316(a) .	The Department of Transportation Planning maintains a committee structure in accordance with 49 U.S. Code §5303 that includes all of the individuals and groups in this part, including the Regional Public Transportation Subcommittee, the Commuter Connections Subcommittee (including Bike-to-work, Car-Free Day, Employer Outreach, Ridematch), and technical committees covering aviation, bicycle and pedestrian, freight (which includes ports), and safety. Additionally, the structure maintains two standing public-facing committees. The Access for All Advisory Committee represents organizations that serve people with low income, people with disabilities, people with Limited English Proficiency, ethnic communities, and older adults. It also includes many private providers of transportation and users of public transportation. Similarly, the TPB's Community Advisory Committee is made up of representatives from all over the region and from a variety of interest groups, including advocates for bicycle and pedestrian walkways. All these groups and committees were routinely involved in plan development.
43	450.324(k)	The MPO shall publish or otherwise make readily available the metropolitan transportation plan for public	The plan is made electronically available via the visualize 2050.org website. A Visualize 2050 email

		review, including (to the maximum extent practicable) in electronically accessible formats and means, such as the World Wide Web.	list also provided periodic updates by email for stakeholders and members of the public. The TPB News website, TPB News email newsletter, and the use of social media helped keep the public informed of key steps in the process and provided website links for more details in electronically accessible formats. For more information about public engagement during the development of Visualize 2050, see part 2 of this report.
44	450.324(l)	A State or MPO is not required to select any project from the illustrative list of additional projects included in the financial plan under paragraph (f)(11) of this section.	N/A
45	450.324(m)	In nonattainment and maintenance areas for transportation-related pollutants, the MPO, as well as the FHWA and the FTA, must make a conformity determination on any updated or amended transportation plan in accordance with the Clean Air Act and the EPA transportation conformity regulations (40 CFR part 93, subpart A).	Following the last public comment period in 2025, the staff will recommend the TPB approve the air quality conformity determination of Visualize 2050 and the FY 2026-2029 TIP. The plan and TIP conform to the requirements (Sections 174 and 176(c) and (d) of the Clean Air Act as amended (42 U.S.C. 7504, 7506(c) and (d)), and meet air quality conformity regulations: (1) as originally published by the Environmental Protection Agency (EPA) in the November 24, 1993, Federal Register, and (2) as subsequently amended, most recently in April 2012, and (3) as detailed in periodic FHWA / FTA and EPA guidance. Following the TPB's approval, the FHWA and FTA will have the opportunity to review the air quality conformity report, Visualize 2050 plan, and FY 2026-2029 TIP to make their conformity determination.