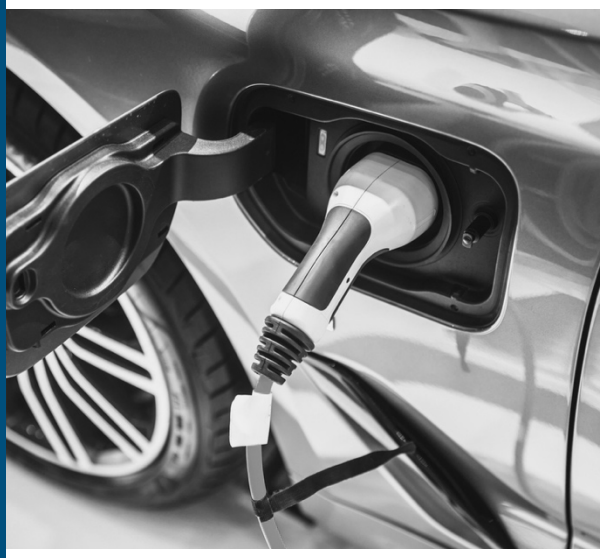
VISUALIZE 2050



Visualize 2050 Planning and Programming Process

Policy Evolution

Part 1 of 27

National Capital Region
Transportation Planning Board

December 2025

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OVERVIEW OF TPB POLICY EVOLUTION

The TPB's Synthesized Policy Framework for Visualize 2050 is a culmination of more than 25 years evolving from a visioning process in 1998. The policy framework informs transportation planning for the National Capital Region including a vision, principles, goals, strategies and performance measures. Figure 1.1 shows the contents and hierarchy of the TPB's policy framework.

FIGURE 1.1: TPB POLICY FRAMEWORK CONTENT

These policy elements are defined as follows:

- **Vision:** The TPB's desired future state of transportation
- **Principles:** Values the TPB holds
- **Goals:** What we as the TPB aim to accomplish
- **Priority Strategies:** How we intend to accomplish our goals through multimodal transportation projects, programs, policies, and technologies
- **Performance Measures:** How we determine the impact of the planned strategies and if we have succeeded in advancing or reaching our goals

These fundamental elements guide the projects, programs, and policies that are submitted for the Visualize 2050 National Capital Region Transportation Plan and the Transportation Improvement Program (TIP). The projects, programs, and policies submitted by sponsoring agencies should uphold the planning principles, advance one or more regional goals, and implement the TPB priority strategies to support desired performance outcomes. TPB and its members take strides to achieve the regional and local goals to make a real difference for the people and businesses that rely on the region's transportation system.

TPB'S ROLE AND KEY STAFF

The TPB is the metropolitan planning organization (MPO) for the National Capital Region and is responsible for conducting a continuing, cooperative, comprehensive (3-C) metropolitan transportation planning process. The TPB was designated as the region's MPO by the governors of Maryland and Virginia and the mayor of the District of Columbia. The TPB also serves as the transportation policy committee of the Metropolitan Washington Council of Governments (COG). This relationship serves to ensure that transportation planning is integrated with comprehensive metropolitan planning and development and is responsive to the needs of the local governments in the area.

Policy coordination of regional highway, transit, bicycle, pedestrian, and intermodal planning is the responsibility of the TPB. This coordinated planning is supported by the three state departments of transportation (DOTs), Federal Transit Administration (FTA), Federal Highway Administration (FHWA), and the member governments of COG. The relationship among land use and environmental and transportation planning for the area is established through the continuing, coordinated land-use, environmental, and transportation planning work programs of COG and TPB. Policy coordination of land use and transportation planning is the responsibility of COG, which formed the Region Forward Coalition in 2010 to foster collaboration in these areas, and the Transportation Planning Board.

The roles and responsibilities involving the TPB, the three state DOTs, the local government transportation agencies, Washington Metropolitan Area Transit Authority (WMATA), and the local government public transportation operators for cooperatively carrying out regional transportation planning and programming have been established over several years. As required under planning regulations, the TPB, the state DOTs, and the public transportation operators have documented their transportation planning roles and responsibilities in an agreement that was executed by all parties in April 2018.

TABLE 1.1: KEY STAFF

TPB Staff	Title	Role
Kanti Srikanth	Executive Director	Staff Director for the Transportation Planning Board (TPB)
Lyn Erickson	Chief Program Director	Contributor
Tim Canan	Program Director	Contributor
Mark Moran	Program Director	Contributor
Andrew Meese	Program Director	Contributor
Cristina Finch	Principal Transportation Planner	Contributor

Role of TPB Subcommittees

The TPB Technical Committee oversees and supports all subcommittees of the TPB in addition to other joint external committees. The TPB Steering Committee is composed of 10 TPB members including the current and immediate past TPB chairperson. Steering Committee members facilitate work program planning and management of the transportation planning process. The TPB Access for All (AFA) Advisory Committee and TPB Community Advisory Committee (CAC) support and advise the planning board. The AFA identifies issues of concern to traditionally underserved populations to determine whether and how these issues might be addressed within the TPB process. The CAC is a

group of people from throughout the region who represent diverse viewpoints on long-term transportation policy.

ROLE OF KEY PLANNING AGENCIES

Within the National Capital Region, no single government or agency dominates transportation decision-making. Federal, state, and local government entities, as well as transit agencies and other bodies, all have important functions and roles in transportation planning. Collectively, they represent a group of partners, each contributing a unique purpose and ability to influence the region's transportation system.

While the United States Department of Transportation (USDOT) does not directly own or operate roadways and transit systems, the federal government exerts a powerful influence over transportation funding and planning. Federal laws and regulations ensure that national standards are applied in planning and constructing transportation projects. These regulations are primarily administered by two federal agencies, FHWA and FTA, both of which are housed at the USDOT. In large part, federal requirements drive the work of the TPB.

State DOTs, which typically employ thousands of people, are led by the governor's appointee. The DOTs are the main recipients of federal Highway Trust Fund dollars and state transportation funds, which are distributed among all modes of transportation.

WMATA, known as Metro, was created in 1967 by an agreement among the District of Columbia, Maryland, and Virginia to plan, finance, construct, and operate a comprehensive mass transit system for the metropolitan area. The board of directors that governs Metro includes elected and appointed officials from throughout the service area.

Local governments in the region operate according to different rules in various places. Virginia's counties and cities have distinct functions and political systems than those in Maryland. All local governments are essential players in regional transportation. Nine jurisdictions fund their own local bus services in addition to the Metrobus system that serves the central core and inner suburbs of the region.

In addition to the agencies and jurisdictions mentioned earlier, several other organizations are involved in regional transportation decision making. These include Metropolitan Washington Airports Authority, National Park Service, National Capital Planning Commission, Northern Virginia Transportation Authority, Northern Virginia Transportation Commission, Potomac and Rappahannock Transportation Commission, and the Maryland-National Capital Park and Planning Commission.

Interest groups are active in advocating for their causes promoting their agendas at many diverse levels of transportation decision-making. Some groups are formed to support or oppose individual projects. Other groups are formed to support transportation modes, including bicycling, transit, and roads. Still other groups are concerned with transportation issues that relate to broader goals.

PUBLIC ENGAGEMENT

The TPB conducts a variety of public engagement activities which assist the TPB and member agencies in understanding the public's perspectives on transportation and related issues. The TPB conducted a statistically significant public engagement survey in 2020 called Voices of the Region. The purpose of the survey was to capture a regional snapshot of public opinion on transportation issues, including travel changes due to the COVID-19 pandemic and transportation improvements that residents would like to see in the future. The survey also measured public opinion on various factors affecting transportation. In 2023, 2024, and 2025, the TPB offered three public comment

opportunities during which community members provided requested feedback and also shared their concerns about transportation and related issues in the National Capital Region. More information about these public engagement opportunities may be found in Part 2: Public Engagement & Communications.

TPB POLICY FRAMEWORK DEVELOPMENT

The policy framework for Visualize 2050 was built over time beginning in the late 1990s with several key milestones:

- The TPB Vision (1998)
- Region Forward (2010)
- Regional Transportation Priorities Plan (2014)
- TPB Aspirational Initiatives (2018)

The following sections explain these major policy milestones that culminated in the TPB's Synthesized Policy Framework in 2023, the guiding policy document for Visualize 2050.

The Vision (1998)

Adopted in 1998, The Vision[1] is a document that provides a comprehensive set of policy goals, objectives, and strategies that guide transportation planning and investment decisions in the metropolitan Washington region. The TPB Vision was developed by TPB members and technical staff from throughout the region through a collaborative effort that involved consideration and inclusion of the transportation, land-use, environmental, and economic sectors.

Region Forward (2010)

COG developed Region Forward[2] in 2010 to help guide local and regional decision-making and make the region more Prosperous, Accessible, Livable, and Sustainable. It identifies shared goal areas, one of which is transportation, and numerous objectives and targets for assessing progress toward achieving each of the Region Forward goals:

- We seek a broad range of public and private transportation choices for our region which maximizes accessibility and affordability to everyone and minimizes reliance upon single occupancy use of the automobile.
- We seek a transportation system that maximizes community connectivity and walkability and minimizes ecological harm to the region and world beyond.
- We seek transit-oriented and mixed-use communities emerging in regional Activity Centers that will capture new employment and household growth.
- We seek a significant decrease in greenhouse gas emissions, with substantial reductions from the built environment and transportation sector.
- We seek a diversified, stable, and competitive economy, with a wide range of employment opportunities and a focus on sustainable economic development.
- We seek to minimize economic disparities and enhance the prosperity of each jurisdiction and the region as a whole through balanced growth and access to high-quality jobs for everyone.

[1] National Capital Region Transportation Planning Board (October 15, 1998). *The Vision.* https://www.mwcog.org/documents/tpbvision/
[2] Metropolitan Washington Council of Governments (January 28, 2010). *Region Forward Vision.* https://www.mwcog.org/documents/2010/01/28/region-forward-vision/

The Greater Washington 2050 Coalition developed Region Forward. The Greater Washington 2050 Coalition was established by the COG to create a comprehensive, regional approach to solving regional challenges like population growth, aging infrastructure, traffic congestion, energy costs, environmental restoration and protection, the need for more affordable housing and sustainable development, and education, economic and health disparities. The Coalition was comprised of a diverse group of public officials and business and civic leaders. They built on recent regional plans, studied efforts in other parts of the country, and asked for input from experts and area residents.

Coalition members found broad agreement on common goals that create a comprehensive vision for the region. The goal categories include land use, transportation, environmental, climate and energy, economic, housing, education, health, and public safety. Further, members created a voluntary Compact Agreement representing a new approach to regional challenges, laying out the goals, and calling for more engagement of state and federal partners to improve regional cooperation. COG regularly conducts progress reports to see if the region is moving closer to achieving its shared goals.

Regional Transportation Priorities Plan (2014)

The TPB adopted the Regional Transportation Priorities Plan[3] (RTPP) in January 2014 with a focus on a handful of transportation priorities and feasible strategies with the greatest potential to advance regional goals rooted in the TPB Vision. The goals in the RTPP are frequently referenced in TPB planning activities, including the work of the Long-Range Plan Task Force which shaped the TPB's Aspirational Initiatives included in Visualize 2045 and carried forward to guide Visualize 2050 as priority strategies.

The RTPP goals are also used for the submission forms for projects in the financial plan. Pursuing the investment priorities outlined in the financial plan will lead to greater economic vitality and a higher quality of life for people that live in the metropolitan Washington region. Priorities identified in the RTPP:

Meet Our Existing Obligations: Funding for maintenance and state-of-good-repair needs should continue to be prioritized over system expansion.

Strengthen Public Confidence and Ensure Fairness: Efforts to increase accountability and address the needs of historically transportation disadvantaged populations should be considered in all stages of project planning, design, and implementation.

Move More People and Goods More Efficiently: Improvements to the transportation system should seek to do more with less—to make more efficient use of existing infrastructure and promote greater use of more efficient travel modes for both people and goods.

The idea to develop a priorities plan originated from the then TPB Citizens Advisory Committee (renamed the TPB Community Advisory Committee). In 2010, the CAC recommended that the TPB develop a financially unconstrained regional vision for transportation operations and investment. The TPB convened regional stakeholders to participate in the "Conversation on Setting Regional Transportation Priorities," an event that led to the development of a scope and process for developing the Priorities Plan. Since then, the TPB and its staff engaged in extensive technical work and public outreach—including listening sessions with key stakeholder groups and engaged citizens, a citizen forum in June 2012, and a public opinion survey in spring 2013—to refine the challenges and strategies in the Plan and to identify the key priorities for moving the region closer to achieving its goals.

[3] National Capital Region Transportation Planning Board (January 14, 2014). *Regional Transportation Priorities Plan.* https://www.mwcog.org/rtpp/

The following two years involved identifying the key continuing transportation challenges the Washington region faced in achieving six of the major policy goals articulated in the TPB Vision. Those goals are:

- Provide a comprehensive range of transportation options for everyone
- Promote a strong regional economy, including a healthy regional core and dynamic regional Activity Centers
- Ensure adequate maintenance, preservation, and safety of the existing system
- Maximize operational effectiveness and safety of the transportation system
- Enhance environmental quality, and protect natural and cultural resources
- Support inter-regional and international travel and commerce

Identifying the region's most significant transportation challenges relied on using the adopted National Capital Region Transportation Plan as a baseline. The adopted plan, which included only those projects and programs that were realistically expected to be built or implemented by 2040—and which considered forecasts of future population and job growth, and where that growth is expected to occur—provides the best assessment of what our transportation future will look like under current planning and funding trajectories.

The public reviewed and commented on the challenges developed through the TPB's technical work in the early listening sessions, the citizens forum in June 2012, the public opinion survey in spring 2013, and in comment periods on the draft National Capital Region Transportation Plan.

TPB Aspirational Initiatives (2018)

In 2018, the TPB identified numerous challenges in its plan and studies. Some of the region's primary transportation challenges included, but were not limited to, roadway congestion, including travel time and bottlenecks, transit crowding, insufficient bus service, and unsafe walking and biking. Other challenges included the need for more development where multimodal transportation options can be made available, such as in Activity Centers and near high-capacity transit stations. Ensuring safety for all users on the transportation system was another significant challenge that matters to all.

In that same year, the TPB responded to these challenges with the endorsement of seven initiatives that have potential to improve the performance of the region's transportation system compared to previously adopted long-range transportation plans. The projects, policies, and programs that make up these initiatives were identified based on their ability to make more progress toward achieving the goals laid out in previously adopted TPB and COG governing policy documents. The following were the adopted TPB Aspirational Initiatives:

- Bring jobs and housing closer together
- Expand bus rapid transit and transitways
- Increase telecommuting and other options for commuting
- Improve walk and bike access to transit
- Complete the National Capital Trail Network
- Move more people on Metrorail
- Expand the express highway network

TPB Synthesized Policy Framework (2023)

The TPB Synthesized Policy Framework[4] was shared with the TPB in 2022 and included in the Visualize 2050 Technical Inputs Solicitation and approved by the TPB in January 2023, superseding the previous work described in this section. This document synthesizes TPB policy priorities into a short document that reflects the ideas of The Vision, Region Forward, the goals and challenges documented in The Vision, the Regional Priorities Plan, and the Aspirational Initiatives.

This document is being used for the Visualize 2050 plan update by sponsor agencies as they re-examine/re-submit projects, programs, and policies in the "zero-based budgeting approach" being utilized. Specifically, the intent is to enable the submissions for Visualize 2050 and the Transportation Improvement Program's to better reflect TPB planning priorities, be more aligned with the TPB's enhanced policy framework, and be more reflective of TPB scenario findings.

As described in the Overview of TPB Policy Evolution section, the Policy Framework is structured to define principles, goals, strategies, and performance outcomes. The Policy Framework has been incorporated into Visualize 2050 Chapter 1 (Vision, Principles, and Goals), Chapter 5 (Priority Strategies), Chapter 6 (Priority Strategies), and Chapter 7 (TPB Goals and Performance Measures and Targets) reflecting how the TPB will work to improve transportation and related challenges and aim for a better future.

CHALLENGES IDENTIFICATION

The region's transportation system is imperfect which is why there is ongoing work to make improvements. Following the adoption of the region's 2040 metropolitan transportation plan in 2016, the TPB members were unsatisfied with the long-term performance of the region's transportation system, particularly in relation to regional traffic congestion. As a result, the TPB undertook a concerted effort to explore ways to substantially improve the region's future transportation system performance by enhancing the current mix of projects, programs, and policies in the 2040 plan and setting a foundation for a new way of developing the next and subsequent transportation plans.

Discussed in greater detail in the System Performance Planning section, the TPB assesses performance around key transportation and related topics. Some measures are federally required and utilized mainly to assess current system performance and others are region-specific primarily applied towards future system performance.

Data helps TPB members and staff determine whether the level/severity of the region's issues or challenges meet adopted targets or generally are acceptable or not. The TPB and member planners are able to dive more deeply into the data around unmet targets to determine what may be contributing to challenges that exceed performance targets. In addition, the TPB has dedicated staff and planning efforts around many commonly cited issues surrounding safety, congestion, freight, transit, climate change mitigation and greenhouse gas emissions, air quality and others for which planning activities are detailed in their respective parts of this document. As noted earlier in the Public Engagement section, the TPB is made aware of ongoing challenges people experience as they travel or that are related to transportation through various engagement activities.

Aside from public engagement conducted through the TPB, transit agencies, local governments, and state transportation agencies all conduct engagement activities to understand from the public what transportation and related issues or concern they are experiencing. The feedback each member agency receives is reviewed. The timing and extent to which each agency is able to address challenges is determined by the respective agency through the TPB's regional priorities

[4] National Capital Region Transportation Planning Board (February 6, 2024). *The TPB's Synthesized Policy Framework.* https://www.mwcog.org/documents/2024/02/06/tpb-synthesized-policy-framework/

and performance measures. These priorities provide guidance towards more significant issues. Through the project and service investments listed in Visualize 2050, TPB member agencies aim to address many issues to improve transportation in the future.

Member agencies notify TPB staff of key issues that are being studied and may be incorporated into future iterations of the Visualize plan along with possible solutions and financial resources. In the meantime, Visualize 2050 outlines key challenges that have the potential to greatly impact the region if more work is not dedicated to addressing them; thus, their inclusion in the plan reflects regional consensus on continuing to seek ways to address these challenges.

VISION, PRINCIPLES, AND GOALS DEVELOPMENT

The TPB's actions on establishing a vision and setting regional goals and priorities informs regional planning and serves to influence the decision-making process of its member agencies as to the most effective projects, programs, and policies in which to invest. In February 2023, a zero-based budgeting approach for the technical inputs solicitation of Visualize 2050 and the FY 2026-2029 TIP was established to accept projects from member jurisdictions that better reflect TPB planning priorities. This process also included the approval of the TPB's Synthesized Policy Framework which seeks to better inform regional planning by aligning the TPB's vision with its stated goals. These actions have led to concerted efforts to develop processes aligning TPB's Vision with its stated goals and identifying strategies that can be tracked with indicators of performance.

Vision Statement

Originally approved as part of The Vision in October 1998 after three years of extensive stakeholder engagement, the vision statement included in The Vision continues to reflect the TPB's desired future state of transportation. The vision statement has been minimally refreshed for Visualize 2050 as it continues to guide regional transportation planning efforts.

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

Principles

Guiding the TPB's decision making are a set of five Principles that reaffirm many of the TPB's long-standing efforts its Vision aims to accomplish while highlighting important present-day transportation challenges. These guiding principles stem from three resolutions on safety, equity, and climate change approved by the TPB in 2020. The TPB's equity resolution affirms that equity, as a foundational principle will be woven throughout TPB's analyses, operations, procurement, programs, and priorities.[5] The safety resolution established that safety for all modes of transportation is a regional priority which will be monitored and analyzed through performance-based planning and programming with an emphasis on aspirational safety goals associated with

[5] National Capital Region Transportation Planning Board. (July 22, 2020). *Resolution R1-2021: Resolution to Establish Equity as a Fundamental Value and Integral Part of all Transportation Planning Board's Work Activities.* https://www.mwcog.org/file.aspx?&A=3vnghmtxpVzzI07Hk70XtnA7yHSFcGCPDW9AbqskDEk%3d

Vision Zero and Towards Zero Deaths.[6] The TPB endorsed new interim greenhouse gas (GHG) reduction goals and new climate resiliency goals.[7] The TPB Principles as included in the TPB's Synthesized Policy Framework:

Equity
The TPB has adopted equity as a key principle to promote fairness and justice. The TPB sees equity considerations as an integral part of all its principles, goals, and strategies. Equity in transportation includes affordable and readily available multimodal travel options throughout the region that enable safe, efficient, and equitable access to jobs, housing, services, and other destinations.

Accessibility
All people who use the transportation system in the region, including residents, visitors, and people with disabilities, should be granted reasonable physical and affordable access to travel by road, transit, biking, walking, micromobility, ferry, and to housing choices. The TPB seeks a broad range of public and private transportation options that maximize physical access and affordability for everyone and minimize reliance on a single mode.

Sustainability
Transportation infrastructure and programs in the region should be financially, structurally, and environmentally sustainable. Sustainability occurs through reducing GHG and promoting regional connectivity and longevity based on growth patterns, projected demand, capacity, and technology. This includes efficient use of energy, meeting or exceeding standards for air, water, land quality, and environmental protection. Also, retaining and preserving appropriate green space, public space, and historic and cultural resources are integral to a sustainable transportation network.

Prosperity
The National Capital Region's prosperity depends on growing a diversified, stable, and competitive economy that offers a wide range of employment opportunities. The regional transportation network should be an asset to attract high quality employers. It should minimize economic disparities and enhance the prosperity of each jurisdiction and the region through balanced growth and access to high quality jobs and education for all levels.

Livability
Vibrant, healthy, and safe neighborhoods are the heart of the region's livability. Livability revolves around a range of travel and housing choices that are affordable and accessible to all community resources, including services that promote health and wellness. The region's transportation network should continue partnerships within and between jurisdictions to manage emergencies, protect public health and safety, and support economic well-being.

Since the release of the TPB's Synthesized Policy Framework to guide the development of Visualize 2050, new federal executive orders and verbal guidance received from the TPB's federal partners required adjustments to these principles in 2025 particularly to avoid use of the words equity and

[6] National Capital Region Transportation Planning Board (July 22, 2020). *Resolution R3-2021: Resolution to Establish a Regional Roadway Safety Policy, and Associated Roadway Safety and Equity Policy Statements, to Reduce Fatalities and Serious Injuries on the National Capital Region's Roadways.* https://www.mwcog.org/assets/1/28/Resolution_R3-2021_TPB_Safety_Resolution_Final.pdf

[7] National Capital Region Transportation Planning Board (October 21, 2020). *Resolution R8-2020: Resolution on the Metropolitan Washington Council of Governments' Regional Multi-Sector Interim Goals for Reducing Greenhouse Gases.* https://www.mwcog.org/documents/2021/03/24/r8-2021---resolution-on-the-regional-multi-sector-interim-goals-for-reducing-greenhouse-gases-air-quality-conformity-tpb/

climate change.[8] TPB staff adjusted the principles to comply. The five principles, referred to as values in Visualize 2050, serve as continued guidance for ongoing planning work.

Goals

The Goals in the TPB's Synthesized Policy Framework look to codify what the TPB aims to accomplish as it puts the TPB's Vision and Principles into operation within the context of National Capital Region transportation planning processes. It is expected to be used for plan updates by sponsor agencies as they reexamine/re-submit projects, programs, and policies. Specifically, the intent is to enable submissions to uphold The Vision and planning principles, advance one or more regional goals, and then be implemented through TPB priority strategies with desired performance outcomes. The Goals coalesces elements from TPB's historic policy framework documents: Region Forward, Regional Transportation Planning and Priorities, Aspirational Initiatives, and Climate Change Mitigation Strategies. It is meant to advance regional goals rooted in the TPB Vision that is then focused on a limited number of specific strategies with the greatest potential to improve transportation.

Safety
The safety of all users, including travelers and maintenance and operations personnel alike, should be ensured on all parts of the transportation system at all times.

Maintenance
All aspects of the transportation system's infrastructure should be maintained in a state of good repair to provide reliable, safe, and comfortable mobility to all its users. Maintaining the existing system is a top priority that takes precedence over creating new systems.

Reliability
Any and all options of travel available should be reliable to get the user to their destination on time every time.

Affordable and Convenient
Provide affordable, realistic multimodal options.

Efficient System Operations
Implement transportation systems management and operations.

Environmental Protection
Provide, facilitate, and incentivize methods that build, operate, and maintain the transportation system in a manner that provides for healthy air, water, and other environmental factors, and mitigates the climate change crisis.

Resilient Region
The region's transportation system should remain able to move people in the face of one or more major obstacles to normal function. These obstacles could include extreme weather events, major crashes and incidents, and equipment or infrastructure failures.

Livable and Prosperous Communities
Support regional economic competitiveness, opportunity, and a high quality of life for all people.

The TPB's regional transportation planning process is not wholly independent but required to meet various metropolitan planning Federal Planning Factors as noted in the Code of Federal Regulations (23 CFR 450.306(b)). And while the Goals in TPB's Synthesized Policy Framework summarizes documents created by regional leaders to establish a path forward through various transportation challenges, it helps to inform how the TPB considers and responds to these federal factors. A crosswalk of TPB's Goals with Federal Planning Factors follows:

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[8] *The White House. January 21, 2025. EO 14173: "Ending Illegal Discrimination and Restoring Merit-Based Opportunity."* https://www.whitehouse.gov/presidential-actions/2025/01/ending-illegal-discrimination-and-restoring-merit-based-opportunity/
US Department of Transportation. April 24, 2025. "Follow the Law Letter to Applicants." https://www.transportation.gov/sites/dot.gov/files/2025-04/Follow%20the%20Law%20Letter%20to%20Applicants%204.24.25.pdf

TABLE 1.2: FEDERAL PLANNING FACTORS ALIGNMENT WITH TPB GOALS

Federal Planning Factors (23 CFR 450.306(b))	TPB Goals
Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency	Livable and Prosperous Communities
Increase the safety of the transportation system for motorized and nonmotorized users	Safety
Increase the security of the transportation system for motorized and nonmotorized users	Safety
Increase the accessibility and mobility of people and for freight	Affordable and Convenient Reliability
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, housing, and economic development patterns	Environmental Protection
Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight	Affordable and Convenient Reliability
Promote efficient system management and operation	Efficient System Operations
Emphasize the preservation of the existing transportation system	Maintenance
Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation	Resilient Region
Enhance travel and tourism	Livable and Prosperous Communities

PRIORITY STRATEGIES DEVELOPMENT

The TPB's priority strategies are identified in the TPB's Synthesized Policy Framework. They were developed over many years with input from multiple efforts, notably the 2017 Long-Range Plan Task Force, the 2020 Regional Roadway Safety Study, and the 2021 Climate Change Mitigation Study.[9]

Priority strategies in the TPB's Synthesized Policy Framework were developed to codify how the TPB intends to accomplish its goals through multimodal transportation projects, programs, policies, and technologies. Most of the priority strategies were examined in scenario studies and then endorsed by the TPB over the last decade. These include regional roadway safety, the Aspirational Initiatives, and GHG reduction and have identified the most effective strategies (projects, programs, and policies) to achieve its goals as reflected in its metropolitan transportation plans.

[9] National Capital Region Transportation Planning Board (December 20, 2017). *Transportation Planning Board Long-Range Plan Task Force Reports.* https://www.mwcog.org/documents/2017/12/20/long-range-plan-task-force-reports-projects-regional-transportation-priorities-plan-scenario-planning-tpb/; National Capital Region Transportation Planning Board (July 22, 2020). *Transportation Planning Board Safety Study Resources & Safety Policy.* https://www.mwcog.org/documents/2020/07/22/tpb-safety-study-resources--safety-policy-federal-performance-measures-highways--roads-traffic-safety/; National Capital Region Transportation Planning Board (January 7, 2022). *Transportation Climate Change Mitigation Study of 2021.* https://www.mwcog.org/tpb-climate-change-mitigation-study-of-2021/

The TPB established a Long-Range Plan Task Force in 2017 to explore regional strategies that could improve system performance and support development of the next transportation plan update. The 18-member Task Force was comprised of local officials and State-level department of transportation officials representing the District of Columbia, Maryland, and Virginia; a representative of the Washington Metropolitan Area Transit Authority (WMATA); and representatives of the citizen advisory committee and the traditionally underserved population groups.

As a first step, the Task Force compiled over 80 different projects, programs and policy ideas that had not been included in the current plan. From this larger set of strategies, the Task Force refined and selected ten improvement initiatives for further analysis. Each of these ten initiatives represented a comprehensive bundle of project, program and policy ideas intended to realize the full potential of improvement. The goal of analyzing these ten initiatives was to discover whether any of them could make significant progress towards achieving the region's transportation performance goals. Based on the results of the analysis, the Task Force agreed upon five of the ten initiatives to recommend as part of an aspirational component of the 2045 plan. In December 2017, the TPB endorsed these five initiatives and called on its member jurisdictions and agencies to fully explore specific implementation actions, both individually and collectively, that could be taken to make them part of the region's next transportation plan. The TPB subsequently added two additional initiatives in January 2018 based on findings and recommendations from a concurrent analysis of non-motorized projects of regional significance conducted by TPB's Bicycle and Pedestrian Subcommittee. All seven of these aspirational initiatives were integrated into the next transportation, called Visualize 2045, which was formally adopted by the TPB in October 2018.

This effort involved a shift from simply compiling the priorities of the District of Columbia, Maryland, Virginia, and WMATA in the plan toward a more consensus and analysis-based approach to identify regional priority strategies with a focus on improving regional transportation performance.

Priority Strategies

Informing Visualize 2050, below are the TPB's priority strategies:

- *Apply best practices to maintain the transportation system such as bridge and pavement management and transit asset management.*
- *Apply the endorsed safety strategies to design and operate safer infrastructure and encourage safer behavior.*
- *Increase frequency and capacity of transit by expanding Bus Rapid Transit and Transitways.*
- *Reduce travel times on all public transportation bus services.*
- *Move more people on Metrorail and commuter rail.*
- *Bring jobs and housing closer together by focusing growth and adding housing units in Activity Centers and near High-Capacity Transit stations.*
- *Provide more telecommuting and other options for commuting such as vanpool or carpool and alternative work schedules.*
- *Expand the express highway network, with rapid transit, and allow carpool/vanpool ride free.*
- *Improve walk and bike access to transit, especially within TPB identified High-Capacity Transit station areas, through the application of Complete Streets and Green Streets policies.*
- *Complete the National Capital Trail Network.*
- *Implement Transportation Systems Management and Operations (TSMO) measures at all eligible locations.*

- *Apply effective technologies that advance the TPB's goals.*
- *Convert vehicles to clean fuels: 50 percent of new light-duty vehicles, 30 percent of medium and heavy-duty trucks sold; 50 percent of all buses on the road.*

Applying the Priority Strategies

When implemented by TPB member agencies, some strategies must be documented in the National Capital Region transportation plan and TIP. These include any project, program or policy that impacts roadway or transit capacity—and could therefore affect air quality. Any project or program slated to receive federal funding must also be included.

However, the TPB's priority strategies cannot all be reflected in the financial plan. Examples include teleworking and land-use policies. Many such strategies are reflected in other planning activities and the outcomes documented at the state, regional, transit agency, and local jurisdictions. The TPB will continue supporting priority strategies through feasible means.

TPB's Priority Strategies development also helps to inform COG's Department of Transportation Planning's planning, programming, and policy activities, including those connected to the National Capital Region Transportation Plan or whose requirements—federal or otherwise—fall outside the direct purview of the plan.

For example, the TPB's Congestion Management Process is a systematic process in Transportation Management Areas (TMAs) that provides for safe and effective integrated management and operation of the multimodal transportation system. The process is based on a cooperatively developed metropolitan-wide strategy of new and existing transportation facilities. Its Technical Report provides updated congestion information and congestion management strategies on the region's transportation systems aimed at providing greater insight and interpretation to the TPB's Priority Strategies. Further, the 2022 Technical Report most directly influenced member agency project inputs submitted in 2023 and 2024 for inclusion in Visualize 2050.[10]

SYSTEM PERFORMANCE PLANNING

The TPB's achievement of its goals is assessed through performance measures which provide data that is either a) qualified based on its relationship, exceeding or achieving a set target, or b) where no target exists, is open to interpretation. The TPB tracks current system performance through federal performance measures and associated targets as required by the federal government. Targets tend to be short-range such as annual, every two or every four years.

Additionally, the TPB gauges the anticipated future system performance by reporting on regional performance measures within every National Capital Region Transportation Plan. The regional travel demand model is used for this future performance analysis to calculate anticipated outcomes of the Visualize plan. More information about the federal and regional performance measures are shared in this section while the following sections discuss their relationship with Visualize 2050.

Performance-based planning for Visualize 2050 is based on member agency reflections on the future performance reported in Visualize 2045 using regional performance measures as well as the current system performance based on federal performance measures that were most recent prior to member agency technical inputs submissions in 2023/2024.

[10] National Capital Region Transportation Planning Board (November 19, 2024). Congestion *Management Process (CMP) Technical Report.* https://www.mwcog.org/documents/2024/11/19/congestion-management-process-cmp-technical-report-congestion-congestion-management-process/

Federal Performance Measures

Under the Moving Ahead for Progress in the 21st Century Act (MAP–21) and reinforced in the Fixing America's Surface Transportation (FAST) Act, federal surface transportation regulations require the implementation of a performance management process through which states and MPOs will "transition to a performance-driven, outcome-based program that provides for a greater level of transparency and accountability, improved project decision-making, and more efficient investment of federal transportation funds."

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have issued a set of rulemakings for the implementation of performance-based planning and program (PBPP), sometimes also referred to as transportation performance management (TPM) with regard to the setting of targets and tracking of progress. Each rulemaking laid out the goals of performance for a particular area of transportation, established the measures for evaluating performance, specified the data to be used to calculate the measures, and established requirements for the setting of targets.

Under the PBPP process, state DOTs, MPOs, and providers of public transportation must link federal investments to the achievement of performance targets in each of the performance areas.

The final *Statewide and Metropolitan Planning Rule*, published May 27, 2016, provides direction and guidance for the implementation of PBPP, including specified measures and data sources, forecasting performance, target-setting, documentation in the statewide long-range transportation plans, metropolitan transportation plans, and Transportation Improvement Programs (TIPs), and reporting requirements. The PBPP process requires coordination and written agreement on specific responsibilities for each applicable agency in accordance with the planning rule.

MAP-21, signed into law in 2012, placed increased emphasis on performance management within the federal-aid highway program, including development of national performance measures to be used by state DOTs and MPOs in setting targets. The law specifically called for the use of performance-based decision-making within metropolitan transportation planning processes. PBPP involves integrating performance management concepts into established federally required transportation planning and programming processes.

The Federal Performance Measures and Visualize 2050 section discusses the performance of an area of the PBPP performance measures. A brief description of the methodology for forecasting future performance and setting the new targets found in Visualize 2050 and the FY 2026-2029 TIP is described. In general, the methodology for setting targets was to assess the trends in recent performance for each performance measure and then forecast performance based on the trend as well as the predicted impact of the projects in the Visualize plan and TIP, using relevant indicators from the travel demand model. This reflected the anticipated effect of the projects toward achieving the TPB's performance targets. Performance compared to targets informs the projects, programs, and policies to be implemented by the TPB member agencies, linking investments to the performance targets.

Regional Performance Measures

Regional Performance Measures helps the region consider how well the anticipated transportation system will accommodate current and forecast travel demand and address topics of interest to regional decision-makers including mobility, accessibility, and environmental challenges. It also examines how future expected changes to the transportation system advance regional goals and strategies in the TPB's Policy Framework. The results of the analysis can help decision-makers and the public better understand what changes to current plans and funding might be needed to achieve different future outcomes.

The measures use data outputs from the TPB's travel demand model, which forecasts where, when, and how people will travel around the region in coming decades. To make its predictions, the model relies on the latest regional population and job growth forecasts from the Metropolitan Washington Council of Governments, information on existing travel patterns from the TPB's Household Travel Survey, and the future transportation system laid out in Visualize 2050. The analysis examines more than twenty performance measures to understand how typical travel and commuting characteristics will change over time, and it examines how the existing highway and transit networks serve the region and the impact of planned projects. The future performance analysis uses the following inputs and model:

- **Land Use:** Round 10.0 COG/TPB Cooperative Forecast of Land Activity
- **Travel Demand Model:** COG/TPB Gen2/Version 2.4.6 Travel Demand Forecasting Model
- **Vehicle Fleet Data:** 2023 Vehicle Registration Data

Results of this analysis use a 2025 base year "Today" scenario and a 2050 forecast year and are for the TPB Planning Area. These findings are based on regional model estimates that come with a degree of uncertainty.

Regional Performance Measures can be generally categorized as examining current and future travel demand, mode choice, congestion, accessibility, and mobility. Travel demand and mode choice explores the number of trips being taken and how the forecast expects those trips to be taken by mode. Congestion examines various measures of delay and roadway congestion. Accessibility examines the ability of travelers to reach destinations across the region, particularly jobs, while mobility examines the ease in which travelers can reach destinations. Finally, for over a decade, the TPB has been tracking emissions, land use and transportation options as part of its regional performance measures. Below are the principal measures used but may be updated with new or modified measures as the analysis develops:

Travel Demand and Mode Choice

- Daily Mode Share – Single Occupancy Vehicle (SOV), High-Occupancy Vehicle (HOV), Transit, and Walk/Bike – Region
- Daily Mode Share - Single Occupancy Vehicle, High-Occupancy Vehicle, Transit, and Walk/Bike - Sub-Regional
- Vehicle Miles Travelled Daily and Per Capita
- Travel on Reliable Modes (High-Occupancy Vehicle and Transit)
- Work Mode Share - Single Occupancy Vehicle, High-Occupancy Vehicle, Transit, and Walk/Bike – Regional
- Work Mode Share - Single Occupancy Vehicle, High-Occupancy Vehicle, Transit, and Walk/Bike - Sub-Regional

Congestion

- Percent of Lane Miles Congested
- Vehicle Hours of Delay

Access

- Mode Analysis by Geography for All Trips and Work Trip Access
- Average and Change in Jobs Accessible by Transit
- Average and Change in Jobs Accessible by Auto

Vehicle Emissions and Air Quality Conformity

- Mobile Source Emissions and Mobile Emissions Budgets Ozone Season: Volatile Organic Compounds (VOC)
- Mobile Source Emissions and Mobile Emissions Budgets Ozone Season: Nitrogen Oxides (NO_x)

Land Use and Transportation Options

- Regional Activity Centers Proximity to High-Capacity Transit Stations
- Population Proximity of High-Capacity Transit Stations – Regional and Sub-Regional
- Employment Proximity to High-Capacity Transit Stations – Regional and Sub-Regional
- Population Growth within Regional Activity Centers
- Employment Growth within Regional Activity Centers
- Number of Regional Activity Centers and High-Capacity Transit Stations by Geography

FEDERAL PERFORMANCE MEASURES AND VISUALIZE 2050

The federal government mandates certain performance measures be tracked to assess the transportation system's performance periodically and set short-range targets for the future. The sections below describe the federal performance measures, how the TPB works with member agencies to track them, and how they help the TPB understand the current state of performance.

Highway Safety Performance

This chapter summarizes the federal requirements related to the establishment of regional highway safety performance targets and describes the methodology used to develop the National Capital Region's highway safety targets. The targets described in this report meet federal performance-based planning and programming (PBPP) requirements and are consistent with the target setting approaches of Maryland, Virginia, and the District of Columbia.

The FHWA published the *National Performance Management Measures: Highway Safety Improvement Program; Final Rule* on March 15, 2016, with an effective date of April 24, 2016, followed by one year for implementation. Under the Highway Safety rule, state DOTs establish and report annual targets for five highway safety performance measures by August 31 of each year. MPOs then set targets specific to the metropolitan planning area within 180 days.

The goal of the implementation of the highway safety rule is to improve both the quantity and quality of safety data pertaining to serious injuries and fatalities. State DOTs and MPOs are expected to use the information generated by these regulations to make investment decisions that result in the greatest possible reductions in fatalities and serious injuries. Implementation of the rule is expected to promote greater transparency by disseminating the data publicly. In addition, aggregation of targets and progress at the national level will become possible through improved data consistency among the states and MPOs.

The TPB adopted the first set of highway safety targets for the National Capital Region in January of 2018. Since then, the TPB has devoted considerable effort to:

1) better understand the factors driving the unacceptably high numbers of fatal and serious injury crashes in the region,

2) identify countermeasures and strategies that are proven to be effective in reducing fatal and serious injury crashes, and

3) encourage TPB member jurisdictions and agencies to implement countermeasures and strategies to significantly reduce fatalities and serious injuries on the region's roadways.

Progress has been made in each of these areas over the past four years. In the spring of 2020, the TPB reviewed the findings of a regional crash data analysis and considered the recommendations resulting from a consultant-led regional safety study that began in 2019. This work led to the adoption of a major safety resolution during the TPB's July 2020 meeting. A key element of this resolution was the establishment of the Regional Roadway Safety Program (RRSP) to assist member jurisdictions and the region to develop and/or implement projects, programs, or policies to equitably improve safety outcomes for all roadway users; two sets of RRSP projects have been approved since.

The TPB anticipates that the RRSP, combined with the continued safety improvement efforts of member agencies and jurisdictions, will result in improved performance that will be reflected in the federally required regional safety measures in future years.

HIGHWAY SAFETY PERFORMANCE MEASURES

Annual safety measures are defined as five-year rolling averages. The five required safety performance measures, along with the prescribed data sources, are outlined in Table 1.3.

TABLE 1.3: SUMMARY OF HIGHWAY SAFETY PERFORMANCE MEASURES

Performance Measure	Description	Data Source
Number of Fatalities *(5 year rolling average)*	Total number of fatalities during a calendar year	FARS1
Rate of Fatalities per 100 million VMT *(5 year rolling average)*	Ratio of total fatalities to VMT	FARS and HPMS2 (or MPO estimate)
Number of Serious Injuries *(5 year rolling average)*	Total number of serious injuries during a calendar year	State reported serious injury data
Rate of Serious Injuries per 100 million VMT *(5 year rolling average)*	Ratio of total serious injuries to VMT	State reported serious injury data and HPMS
Number of Non-Motorized Fatalities and Serious Injuries *(5 year rolling average)*	Total number of fatalities and serious injuries during a calendar year	FARS and State serious injury data

MPO Coordination with State DOTs

MPOs are required to establish their performance targets in coordination with their state partners and these targets should be data-driven and realistic. The requirement for these safety targets to be evidence based and predictive of anticipated outcomes does not supersede or diminish any aspirational targets to which local, regional, or state jurisdictions are committed. Coordination is essential between these two entities in setting highway safety targets. Both should work together to share data, review strategies, and understand outcomes.

TPB staff have developed the regional highway safety targets in close coordination with the Maryland Highway Safety Office of the Maryland Motor Vehicle Administration and the State Highway Administration's Innovative Performance Planning Division; the Transportation Operations Administration of the District of Columbia Department of Transportation (DDOT); and the Highway Safety Analysis Program at the Virginia Department of Transportation (VDOT). Each state's unique target setting approach was incorporated into the methodology used to develop the regional targets.

Target Reporting

State DOTs must report their targets to the FHWA within the state's HSIP (Highway Safety Improvement Program) annual report due each year on August 31.

MPOs do not report their targets to the FHWA, but rather to their respective state DOTs in a manner that is documented and mutually agreed upon. MPOs also report progress toward achieving their targets within the System Performance Report portion of their metropolitan transportation plan. In addition, MPO TIPs must include a discussion of how the implementation of the TIP will further the achievement of the targets.

FHWA Determination of Significant Progress

States do not have to meet each of their safety targets to avoid the consequences outlined in the rule but must either meet the target or make significant progress toward meeting the target for four of the five performance measures. The FHWA determines that the significant progress threshold is met if the performance measure outcome is better than the "baseline", defined as the five-year rolling average for that performance measure for the year prior to the establishment of the target. MPO progress is not evaluated by the FHWA.

Consequences for Failing to Meet Targets of Making Significant Progress

State DOTs that have not met or made significant progress toward meeting their safety performance targets lose some flexibility in how they spend their HSIP funds and are required to submit an annual implementation plan that describes actions the DOT will take to meet their targets.

There are no consequences outlined in the rule for MPOs not meeting their targets. However, the FHWA will review how MPOs are incorporating and discussing safety performance measures and targets in their metropolitan transportation plans and TIPs during MPO certification reviews.

REGIONAL HIGHWAY SAFETY TARGET SETTING APPROACH

To account for and incorporate the different target setting approaches used by the District of Columbia, Maryland, Virginia into targets for the entire National Capital Region (NCR), staff has applied the following target setting methodology to develop the TPB approved targets:

- Identify a "sub-target" for the Maryland portion of the NCR by applying MDOT's target setting approach to the NCR safety data
- Identify a "sub-target" for the Virginia portion of the NCR by applying VDOT's target setting approach to the NCR safety data
- Identify a "sub-target" for the District of Columbia portion of the NCR by directly incorporating DDOT's targets;
- Compare each performance measure's sub target with the corresponding target adopted last year; and
- Select the lower (more aggressive) of the two targets as the current year's target.

Overview of Member States' Target Setting Methodologies

District of Columbia

The District of Columbia analyzed their safety data using a combination of annual and five-year average data and polynomial trend lines to determine their targets. TPB staff directly incorporated the District of Columbia targets, as published in their HSIP Annual Report, into the NCR target setting methodology.

Maryland

In previous years Maryland set quantifiable and data driven highway safety targets that supported their Toward Zero Deaths (TZD) approach by developing interim targets to reduce overall fatalities and serious injuries by at least 50 percent by 2030.

In 2021 Maryland adopted a new methodology to set highway safety targets. Unlike the TZD approach, annual targets for 2021 were set using a two-pronged approach. Targets that are experiencing a decreasing trend over time are set using five-year rolling averages and an exponential trend without a fixed endpoint to calculate future targets. For those targets experiencing increasing trends, however, projections are based on a two percent decrease from the 2016-2020 five-year average, continuing with a two percent decrease for each successive five-year average.

Maryland officials provided TPB staff with trend lines and interim targets for each of the five performance measures based on the safety data for the Suburban Maryland portion of the NCR.

Virginia

The method used by Virginia to set annual targets is based on a model that forecasts future fatalities and serious injuries based on a broad range of factors. VDOT then estimated the collective impact of their planned and programmed countermeasures and reduced the model forecast by the projected impacts of their engineering and behavioral efforts. This process is only viable at a statewide level and cannot be used effectively to determine targets for smaller regions within the state. To assist their MPOs, VDOT advised MPOs to apply linear regression techniques to make projections for each of the numeric performance measures to calculate the 2021-2025 regional targets. For the rate performance measures, VDOT advised MPOs to divide the annual forecasts for fatalities and serious injuries by projected VMT (vehicle miles traveled) to make 2024 and 2025 projections which were then used to calculate the 2021-2025 regional targets.

CALCULATION OF THE NATIONAL CAPITAL REGION HIGHWAY SAFETY TARGETS

Numerical Targets

The NCR targets for the number of fatalities, number of serious injuries, and number of non-motorist fatalities and serious injuries were calculated by summing the sub-targets for the District of Columbia, Suburban Maryland, and Northern Virginia portions of the region. This is a straightforward mathematical addition.

As a final step, the calculated numerical targets were compared to the corresponding targets adopted by the TPB last year and the lower (more aggressive) target for each performance measure was selected.

Rate Targets

Determination of rate targets (fatality rate and serious injury rate) are somewhat more complicated and involve mathematically combining the effects of the District of Columbia, Suburban Maryland, Northern Virginia (NOVA)) targets according to their respective proportions of total regional VMT.

The following steps illustrate the process for the fatality rate (a similar process was used for the serious injury rate):

- Number of fatalities, number of serious injuries, and number of non-motorist fatalities plus serious injuries
- Fatality rate per 100 million VMT and serious injury rate per 100 million VMT

1. Determine the percent fatality rate reduction represented by each sub target.

Fatalities per 100 MVMT	2019-2023 Average	2021-2025 Average (sub target)	Percent Change
Suburban MD	1.049	0.881	-16.03%
NOVA	0.562	0.563	0.09%
DC	1.093	0.660	--39.62%

2. Determine the proportion of total regional VMT attributable to Suburban Maryland, Northern Virginia, and DC.

Sub Region	100 MVMT (2020)	Proportion
Suburban MD	208.40	47.85%
NOVA	192.30	44.15%
DC	34.81	7.99%
Sum	366.51	100.00%

3. Determine the percent change for the regional rate by multiplying the percent change (from step 1) by the VMT proportion (from step 2).

Sub Region	A: Percent change in fatality rate (from step 1)	B: Proportion (from step 2)	A x B
Suburban MD	-16.03%	47.85%	-7.672%
NOVA	0.08%	44.15%	0.039%
DC	-39.62%	7.99%	-3.167%
Sum			-10.800%

4. Apply the percent change for the regional rate calculated in step 3 to the 2019-2023 average fatality rate. This is the regional fatality rate target for 2021-2025.

Fatalities per 100 MVMT	2019-2023 Average	Regional Percent Change (from step 3)	2019-2025 Average (regional target)
NCR	0.842	-10.800	0.751

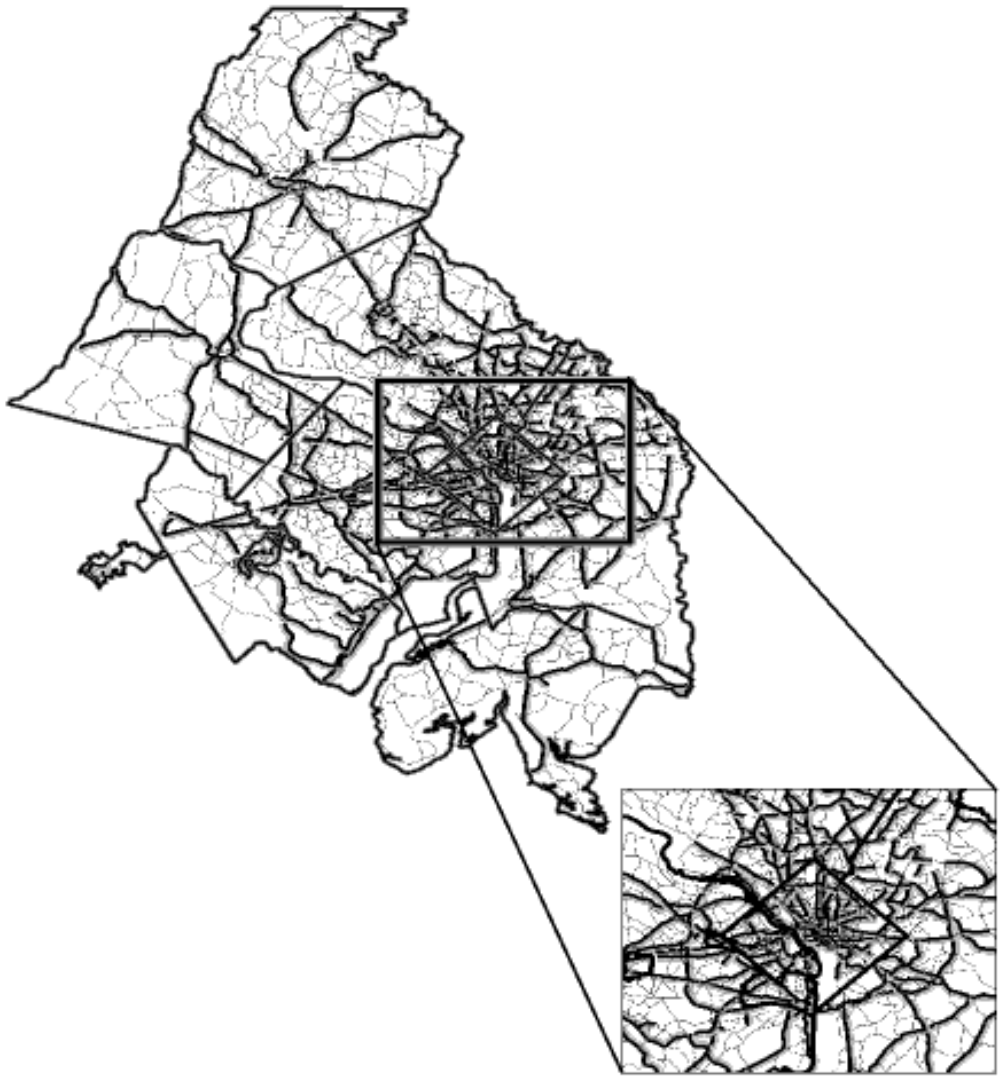
As a final step, the calculated rate targets were compared to the corresponding targets adopted by the TPB last year and the lower (more aggressive) target for each performance measure was selected. Since the previous fatality rate target of 0.588 set is lower than the 0.751 figure calculated by mathematically combining the three sub-regional targets, the staff-recommended target is 0.588 (and not 0.751).

Pavement and Bridge Condition Performance

The *National Performance Management Measures; Assessing Pavement Condition for the National Highway Performance Program and Bridge Condition for the National Highway Performance Program* final rule addresses requirements established by MAP-21 and the FAST Act. This section describes the TPB's methodology for determining the performance targets and coordination with the departments of transportation of the District of Columbia, Maryland, and Virginia. Targets for the quadrennial period 2022 through 2025 were approved by the TPB on October 19, 2022, in Resolution R3-2023.

Several of the MAP-21 performance measures directly involved the NHS. The NHS includes the Interstate Highway System as well as other roads important to the nation's economy, defense, and mobility. The NHS was developed by the United States Department of Transportation (DOT) in cooperation with the states, local officials, and MPOs. With the adoption of MAP-21 on October 1, 2012, the NHS became the "enhanced-NHS" by adding roads that were previously classified as principal arterials but not yet part of the system. These Interstate and Non-Interstate roadways on the NHS are the primary roadways for the assessment of the PBPP measures, shown in Figure 1.2.

FIGURE 1.2: NATIONAL HIGHWAY SYSTEM NETWORK IN THE TPB PLANNING REGION



When performance measures are referring to the Interstate or Non-Interstate roadways on the NHS, it is the MAP-21 "enhanced-NHS."

State DOTs can make modifications to the NHS by either removing or adding additional roadways. This can be done in writing to the FHWA Division Office. Supporting documents must be included such as maps and documentation of coordination with the effected jurisdictions. The FHWA Division Office will review, summarize, and move changes for recommendation to FHWA Headquarters. FHWA Headquarters will approve any modifications to the NHS.

PAVEMENT AND BRIDGE CONDITION PERFORMANCE MEASURES

The Pavement and Bridge Condition Performance Measures final rule, published in the Federal Register on January 18, 2017, established measures for state DOTs to assess the condition of pavements on the non-Interstate NHS; pavements on the Interstate System; and bridges carrying the NHS, including on- and off-ramps connected to the NHS. Targets must be set for six particular areas; 1) Percent of pavements on the Interstate System in good condition, 2) Percent of pavements on the Interstate in poor condition, 3) Percent of pavements on the NHS (excluding Interstate) in good condition, 4) Percent of pavements on the NHS (excluding Interstate) in poor condition, 5) Percentage of NHS bridge deck classified in good condition, 6) Percentage of NHS bridge deck classified in poor condition.

Data for these performance measures are available through databases overseen by the FHWA: the Highway Performance Monitoring System (HPMS) and the National Bridge Inventory (NBI). State DOTs have the responsibility to report data to the HPMS and the NBI annually.

Interstate Pavement

- Percentage of pavements on the Interstate System in Good condition
- Percentage of pavements on the Interstate System in Poor condition

NHS (Non-Interstate) Pavement

- Percentage of pavements on the NHS (excl. Interstate) in Good condition
- Percentage of pavements on the NHS (excl. Interstate) in Poor condition

Bridges

- Percentage of NHS Bridges Classified as in Good Condition
- Percentage of NHS Bridges Classified as in Poor Condition

Pavement Condition

The HPMS database includes the data needed for calculating good and poor metrics. The data includes roughness, cracking, rutting for asphalt pavement, and faulting for concrete pavement. The measures are aggregated by lane miles. In addition, HPMS pavement data collection requirements have been revised to require more comprehensive collection of data for the NHS network.

State DOTs must establish targets, regardless of ownership, for the full extent of the Interstate and non-Interstate NHS. The initial statewide two and four-year targets for the non-Interstate NHS and four-year targets for the Interstate were required to be adopted by May 20, 2018, with subsequent reporting to FHWA by October 1, 2018, for the baseline quadrennial period of 2018 through 2021. MPOs can either support the relevant state DOTs four-year target or establish their own within 180 days after the state DOT's target are established.

The current applicable round of target setting for this PBPP area covers the quadrennial calendar year period 2021 through 2025, for which targets were required to be set and reported by October 1, 2022.

Bridge Condition

For the bridge condition performance measures, the measures are calculated based on deck area and a classification of the bridge structure condition. The classification is based on NBI condition ratings for the Deck, Superstructure, Substructure, and Culvert. Condition is determined by the lowest rating of deck, superstructure, substructure, or culvert. If the lowest rating is greater than or equal to 7, the bridge is classified as good; if is less than or equal to 4, the classification is poor. (Bridges rated below 7 but above 4 are classified as fair; there is no related performance measure.) Deck area is computed using NBI criteria of Structure Length, Deck Width or Approach Roadway Width (for some culverts).

State DOTs must establish targets for all bridges carrying the NHS, which includes on- and off-ramps connected to the NHS within a state, and bridges carrying the NHS that cross a State border, regardless of ownership. As with the pavement performance measures, MPOs can either support the relevant state DOT(s) four-year target or establish their own within 180 days after the state DOT's targets are established.

Pavement and Bridge Penalties

If FHWA determines that a state DOT's Interstate pavement condition falls below the minimum level for the most recent year, the state DOT must obligate a portion of National Highway Performance Program (NHPP) and transfer a portion of Surface Transportation Program (STP) funds to address Interstate pavement condition. If for three consecutive years more than 10.0 percent of a state DOT's NHS bridges' total deck area is classified as Structurally Deficient, the state DOT must obligate and set aside National Highway Performance Program (NHPP) funds for eligible projects on bridges on the NHS.

PAVEMENT AND BRIDGE CONDITION TARGET SETTING APPROACH

The following approaches were used by the region's state DOTs in developing the quadrennial 2022-2025 pavement and bridge condition targets.

District of Columbia

Targets in the District of Columbia were established by use of historical data, future programmed projects, and future budgets appropriated to maintain pavement in a state of good repair. It should be noted that the District of Columbia has a number of bridges and roadways that are not maintained by DDOT but rather by other agencies including the National Park Service (NPS) and the Architect of the Capitol. Though DDOT has no ability to impact the condition of bridges owned by other entities, such as the NPS-owned Arlington Memorial Bridge or parkways, the condition of these bridges is factored into the overall bridge condition in the District of Columbia.

Maryland

Within the TPB planning area for the state of Maryland, targets were established by use of historical data, future programmed projects, and future budgets appropriated to maintain pavement in a state of good repair.

Virginia

For Virginia, through coordination between TPB staff and VDOT staff it was determined that, contrary to the case in Maryland, a forecast for Northern Virginia alone was not feasible. Statewide targets were established by use of historical data, future programmed projects, and future budgets appropriated to maintain pavement in a state of good repair.

REGIONAL PAVEMENT AND BRIDGE TARGETS

MPOs have two options for setting targets for the pavement and bridge performance measures. The first option is to support the statewide targets established by the state DOTs. The second option is for the MPO to establish their own quantifiable four-year targets for these measures. The TPB chose the latter option and has set its own targets for these performance measures for the metropolitan planning area. The coordination for the establishment of these targets was closely linked to the information provided by the states as well as information obtained from the HPMS and the NBI.

Pavement

As a first step in forecasting performance in four years for pavement conditions for the TPB planning area, data was obtained and analyzed for the HPMS database using the field manual inventory, which contains metrics for rutting, faulting, cracking, and international roughness index (IRI). Next, TPB staff were able to calculate the number of lane miles within the planning area for the District of Columbia, Maryland, and Virginia. Table 1.4 gives the lane mileage for each state or part of the state, as well as the regional total number of lane miles in the TPB region. Finally, the statewide targets for the District of Columbia and Virginia were applied to their respective lane miles within the TPB region. For the state of Maryland, forecasted targets for the portion of the state in the TPB planning area were provided and applied to the lane miles.

TABLE 1.4: SUMMARY OF THE 2022 LANE MILES FOR INTERSTATE AND NON-INTERSTATE ROADWAYS IN THE TPB REGION

Bridges	Interstate Lane Miles	Non-Interstate Lane Miles
DC	53.5	472.5
MD*	863.8	2259.0
VA*	756.0	1917.8
National Capital Region	1673.3	4649.3

* Lane miles within the TPB's metropolitan planning area

Bridges

In forecasting the 2022-2025 four-year performance for bridge conditions within the TPB region, a similar methodology to that of pavement was used. TPB staff collected data from the NBI, analyzing the condition of the surface area as the applicable metric. Next, the deck areas of bridges within the District of Columbia and the portions of Maryland and Virginia that are within the TPB planning area were calculated. Table 1.5 provides a breakdown of the surface area of bridges within the TPB planning area in 2022. Finally, the statewide targets were applied to the respective deck areas for each state in the planning area and four-year targets for the region were calculated.

TABLE 1.5: SUMMARY OF THE 2022 TOTAL DECK AREA OF BRIDGES IN THE TPB REGION

Bridges	Deck Areas (square feet)
DC	4,905,373
MD*	10,085,421
VA*	14,107,218
National Capital Region	29,098,012

Highway System Performance

This section summarizes the federal requirements for the TPB in the establishment of performance targets associated with Highway System Performance. This includes performance concerning Travel Time Reliability (TTR) on both the Interstate and Non-Interstate roadways as well as the Truck Travel Time Reliability (TTTR) Index on Interstate roadways. The targets described in this report meet the MAP-21/FAST PBPP requirements and are consistent with the target setting approaches of Maryland, Virginia, and the District of Columbia. The four-year targets for the period 2022 through 2025 were approved by the TPB on October 19, 2023, in Resolution R3-2023.

HIGHWAY SYSTEM PERFORMANCE MEASURES

The FHWA published the *System Performance: Highway and Freight, Congestion Mitigation and Air Quality (CMAQ)* final rule on January 18, 2017, with an effective date of May 20, 2017, followed by one year for implementation. Accordingly, state DOTs had until May 20, 2018, to initially set targets. The rule requires state DOTs to set targets for four performance measures concerning Highway and Freight: 1) Interstate Travel Time Reliability (TTR), 2) National Highway System (NHS) TTR, and 3) Freight Reliability (Truck Travel Time Reliability (TTTR))[11], shown in Table 1.6 In addition, the FHWA requires state DOTs to set three performance measures under the CMAQ Program: 1) Peak Hour Excessive Delay (PHED), 2) Mode Share (Non-SOV), and 3) Emission Reductions, which are covered in the next chapter.

This section of the report covers the Highway and Freight Performance Measures, specifically, TTR and TTTR, and provides an overview of the measures, data collection, and the methodology and forecasting methods used for target setting. Performance Measures

TABLE 1.6: SUMMARY OF TRAVEL TIME RELIABILITY PERFORMANCE MEASURES

National Highway System	(1) Interstate Travel Time Reliability (TTR) - Percent of person-miles traveled on the Interstate System that are reliable (2) NHS (Non-Interstate) Travel Time Reliability (TTR) - Percent of person-miles traveled on the non-Interstate National Highway System (NHS) that are reliable
Freight Movement	(3) Freight Reliability (TTTR) - Measurement of travel time reliability on the Interstate System using a Truck Travel Time Reliability (TTTR) Index.

Travel Time Reliability and Truck Travel Time Reliability

The TTR measure assesses the reliability of roadways on the Interstate and Non-Interstate (NHS) systems. TTR is defined by the FHWA as the percent of person-miles on the Interstate/NHS that are reliable. Concerning freight, reliability is the ratio of the Interstate System Mileage providing for reliable TTTR. Data are derived from the travel time data set found in the National Performance Management Research Data Set (NPMRDS). Performance data for the measures for the region are obtained from the NPMRDS. This data was collected by INRIX using a widget created for the Regional Integrated Transportation Information System (RITIS). RITIS is an automated data sharing, dissemination, and archiving system that includes many performance measures, dashboards, and

[11] *An additional performance measure for Greenhouse Gas Emissions was repealed on May 31, 2018.*

visual analytics tools that help agencies gain situational awareness, measure performance, and communicate. To create a measure, the data from this is calculated by the University of Maryland Center for Advanced Transportation Technology Laboratory (CATT Lab). The RITIS widget is designed to provide historical data and baseline metrics. The metrics used are Level of Travel Time Reliability (LOTTR) and the TTTR Index.

For each quadrennial performance period state DOTs are required to establish two and four-year targets for the Interstate and for the non-Interstate NHS. The statewide targets are included in the state DOT's baseline performance period reports submitted to the FHWA by October 1 of the first year of the quadrennial period. As with other performance measures, MPOs then have 180 days following to establish their own targets or endorse the statewide targets.

REGIONAL HIGHWAY SYSTEM PERFORMANCE TARGET SETTING APPROACH

As all state DOTs and MPOs are required to do for this group of performance measures, TPB staff obtains data from the NPMRDS and utilizes RITIS with the MAP-21 widget. This enables staff to review the observed TTR and TTTR for the TPB Planning Area for previous years. With this collection of data, staff considered three general methodologies to determine performance forecasting: the extrapolation of measured performance, the use of travel demand model data, or the average of the two.

- Extrapolation of Measured Performance
  - For this approach, measured data for the previous years is extrapolated, via polynomial regression, through the year quadrennial period.
- Travel Demand Model
  - For the regional transportation plan conformity updates, the TPB uses a travel demand model which produces congestion/related outputs for modelled years: 2020, 2025, 2030, etc. Forecasts for TTR and TTTR are made by applying such outputs as the Percentage of Congested AM Peak Hour VMT estimates to forecast changes in congestion, applying the percentage changes to previous measured performance.
- Averaging
  - Taking the average of both the extrapolation of measured performance and the utilization of the Travel Demand Model as a means of forecasting the targets.

The averaging approach was selected by TPB staff to forecast future performance for 2022-2025 and to develop the targets adopted by the board.

Congestion Mitigation and Air Quality Program Performance

This section summarizes the federal requirements for the TPB in the establishment of performance measure targets associated with the Congestion Mitigation and Air Quality (CMAQ) Program. These include unified urbanized targets for the performance measures of Peak Hour Excessive Delay (PHED) and Mode Share in the area of traffic congestion and targets for Emissions Reduction for applicable pollutants and precursors for the nonattainment/maintenance area within the TPB planning area boundary.

The targets for the quadrennial 2022-2025 period of performance were approved by the TPB on June 15, 2022, in Resolution R19-2022. The targets met federal requirements and were consistent with the target setting approaches of Maryland, Virginia, and the District of Columbia.

CMAQ PROGRAM PERFORMANCE MEASURES

The FHWA published the *System Performance: Highway and Freight, Congestion Mitigation and Air Quality (CMAQ)* final rule on January 18, 2017, with an effective date of May 20, 2017. The state DOTs then had one year until May 20, 2018, to set their initial targets. The rule requires states to

set targets for three performance measures concerning CMAQ: 1) PHED, 2) Mode Share (Non-SOV), and 3) Emissions Reduction. Table 1.7 summarizes these three performance measures.

This section covers the two CMAQ Programs: Traffic Congestion performance measures and the CMAQ Program: Emissions Reduction performance measure. It provides an overview of the measures, data collection, and the methodology utilized for target setting. Additionally, information concerning the CMAQ Program in general is presented, as well as details concerning CMAQ project selection and programming for the District of Columbia and the states of Maryland and Virginia.

TABLE 1.7: SUMMARY OF CMAQ PROGRAM PERFORMANCE MEASURES PERFORMANCE MEASURES

CMAQ Program: Traffic Congestion	Peak Hour Excessive Delay – Annual hours of peak hour excessive delay per capita
Mode Share – Percent of Non-SOV Travel on the NHS	
CMAQ Program: Emissions Reduction	Emissions – CMAQ-funded projects on-road mobile source total emissions reduction for each applicable criteria pollutant and precursor

CMAQ PROGRAM TARGET SETTING AND COORDINATION

Peak Hour Excessive Delay (PHED)

Applicable state DOTs and MPOs are required to collectively establish a single PHED target for each applicable urbanized area, both two-year and four-year. After the state DOTs establish their targets, MPOs have 180 days to adopt targets. DOTs and MPOs are required to coordinate and exchange information with the development of these targets. The current applicable urban area for the TPB's metropolitan planning area is the Washington DC-MD-VA urbanized area. In future, if either the Frederick, MD, or Waldorf, MD, urban areas were to exceed 200,000 population, the TPB would need to set targets for those urban areas as well.

Mode Share (Non-SOV)

Applicable State DOTs and MPOs must collectively establish a single, unified two-year and four-year mode share target for each applicable urbanized area for each quadrennial performance period. A baseline report is required at the beginning of each performance period, which must include the two and four-year targets and a description of the data collection method used. As with the PHED measure, the Mode Share target for the applicable urbanized area must be unified, and both DOTs and MPOs should have coordinated and exchanged information with the development of these targets. As with the PHED measure, the current applicable urban area for the TPB's metropolitan planning area is the Washington DC-MD-VA urbanized area.

Emissions Reduction

State DOTs, with coordination from the MPO, must establish statewide two- and four-year targets for total emissions reduction of on-road mobile source emissions for each performance period for all nonattainment and maintenance areas within the state boundary, for each applicable criteria pollutants and precursors. MPOs, in coordination with state DOTs, must similarly establish two and four-year emissions reduction targets for all nonattainment and maintenance areas within the metropolitan planning area. Targets are to be set within 180 days after state DOTs have set their targets. In both cases, the targets shall reflect the anticipated cumulative emissions reductions to

be reported by state DOTs in the CMAQ Public Access System (PAS) for CMAQ projects included in the Statewide Transportation Improvement Program (STIP).

The applicable nonattainment area is the Washington, DC, ozone nonattainment area. Emissions reduction targets must be set for this area, which also includes Calvert County, MD. However, the county is not part of the TPB planning area and Maryland DOT has the responsibility for developing targets for that county's forecast emissions reductions.

It is important to note that in contrast to all other performance measures and targets, the emissions reductions targets are measured by federal fiscal year (October 1 – September 30) to align with the data in CPAS. In addition, emissions reductions performance is measured additively, with two-year targets summing all emissions reductions achieved across two-year and four-year targets summing all emissions reductions achieved across the full four years of the performance period.

MPO COORDINATION WITH STATE DOTS

MPOs are required to establish their performance targets in coordination with their state partners and these targets should be data-driven and realistic. The requirement for these targets to be evidence based and predictive of anticipated outcomes does not supersede or diminish any aspirational targets to which local, regional, or state jurisdictions are committed. Coordination is essential between the MPO and state DOTs in setting the CMAQ Program targets. Both are to work together to share data, review strategies, and understand outcomes.

TPB staff worked in close coordination with DDOT, MDOT and VDOT in the development of the quadrennial performance targets. The TPB and these state DOTs also signed Letters of Agreement (LOAs) which detail the guidelines and expectations in terms of coordination on data sharing and the development of these targets. This is in accordance with 23 CFR 450.208 which sets forth the requirements for coordination between applicable states and MPOs.

PEAK HOUR EXCESSIVE DELAY AND MODE SHARE TARGET SETTING APPROACH

In developing a method that could be utilized for the target setting of these two performance measures, TPB staff followed the same approach as used for the travel time reliability (TTR) measure as described in the previous section, averaging factors from the TPB Travel Demand Model and an extrapolation of past performance.

Peak Hour Excessive Delay (PHED)

PHED is based on the calculation of all segments of the NHS. PHED is defined as the extra amount of time spent in congested conditions defined by speed thresholds that are lower than a normal delay threshold. For this measure, the speed threshold is 20 miles per hour or 60 percent of the posted speed limit, or whichever is greater. The FHWA requires that the data collected must occur during the weekdays (Monday through Friday), with a required morning peak timeframe of 6:00 A.M. – 10:00 A.M., and a choice between two evening peak timeframes: 3:00 P.M. – 7:00 P.M. or 4:00 P.M. – 8:00 P.M. TPB staff selected the earlier PM peak (3:00 P.M. – 7:00 P.M.) for all calculations; the same P.M. peak is also being used by the coordinating state DOTs. Data was collected for the region from the NPMRDS, using the INRIX data available in the RITIS widget.

Mode Share (Non-SOV)

Mode Share is a calculation of the percent of Non-SOV Travel within the urbanized area. Non-SOV Travel, defined by the FHWA, applies to travel occurring on modes other than driving alone in a motorized vehicle and includes travel avoided by telecommuting. It is a measure of the percentage

of all surface transportation occurring in an urbanized area with a population of at least 1 million. For the TPB region, this includes the Washington DC-MD-VA urbanized area.

The FHWA has provided three data collection models as a means of estimating the required performance targets. Model A allows use of the U. S. Census Bureau's American Community Survey (ACS) data found in the table titled "Journey to Work." Model B allows for data collected from localized surveys. Model C involves estimating the percent of non-SOV based on volume measurements of actual use for each mode of transportation, including telework. For purposes of this region's measure, Model A is utilized.

In selecting this model, explicit guidelines are detailed on how to utilize the ACS data. Data is to be obtained from the "Journey to Work" dataset, labeled *DP03*. These data sets contain the five-year estimates of the economic characteristics of those surveyed. Within, this dataset is a breakdown on how people commute to work, either by driving alone (SOV) or car-pooling, public transportation, walking, other means, or working at home (Non-SOV).

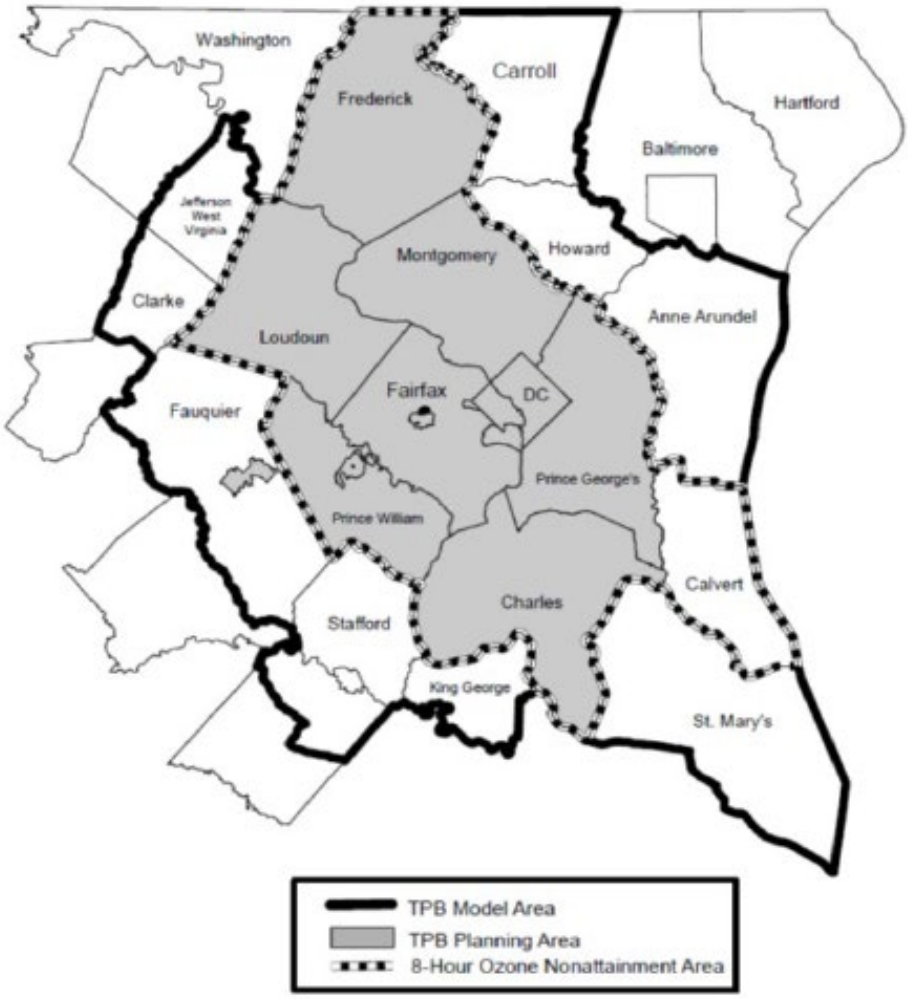
The target data was created from the "Journey to Work" DP03 dataset. The TPB is responsible for setting both two-year and four-year unified targets with DDOT, MDOT, and VDOT. In determining the unified targets for both two and four years, there is no formula or calculation specified. The FHWA only requires estimations for target projections. TPB staff developed forecasts and targets using the averaging method previously described, combining recent performance trends with the short-term predictions of the TPB's travel demand model.

Emissions Reduction

Emissions reduction is defined as the total on-road mobile source emissions reduction for each applicable criteria pollutant and precursor for a nonattainment area. For the nonattainment area in the TPB region, the applicable criteria pollutants are Volatile Organic Compounds (VOCs) and Nitrogen Oxides (NOx). This performance measure applies to projects that receive or are programmed for CMAQ funding. Data was collected from the CMAQ PAS, as specified in the federal rulemaking. State DOTs report emissions reductions information in the PAS for CMAQ funded projects in their Statewide Transportation Improvement Program (STIP).

As previously noted, the regional nonattainment area includes Calvert County; however, this county is not part of the TPB planning area. MDOT and Calvert County conduct a separate performance measure analysis for emissions reduction for that portion of the nonattainment area. The TPB Ozone Nonattainment Area is shown in Figure 1.3.

FIGURE 1.3: TPB OZONE NONATTAINMENT AREA



Federal Requirements for CMAQ Project Funding

The CMAQ program supports two important goals of the USUSDOT: improving air quality and relieving congestion. While these goals are not new elements of the program, they were strengthened in SAFETEA-LU and further bolstered in provisions added to the MAP-21. Growing highway congestion continues to rise at a faster rate than transportation investments. Reducing congestion is a key objective of federal surface transportation policy, and one that has gathered increasing importance in the past several years. The costs of congestion can be an obstacle to economic activity. In addition, congestion can hamper quality of life through diminished air quality, lost personal time, and other negative factors. Accordingly, the CMAQ Program includes federal funds programmatically allocated to each state for funding applicable projects.

The state DOTs each receive CMAQ funding and allocate it annually to fund applicable projects. Each state follows its own selection process for identifying and funding CMAQ projects; for Maryland and Virginia many such projects are funded elsewhere in the state than the TPB planning area. Projects are selected on various criteria, only one of which is estimated emissions reduction benefits. Projects are not required to have quantifiable emissions reduction benefits; a qualitative assessment is sufficient. All projects awarded annually must be entered into the CMAQ Public Access System (PAS). Data for the CMAQ Emissions Reduction performance measure for the region is taken from the quantified benefits included in the projects listed in the PAS that have been

funded in the region. Further information on each state's CMAQ project process and methodology for forecasting future performance and setting targets follows.

CMAQ Project Programming

Three state jurisdictions share the Washington DC-MD-VA Ozone Nonattainment area. All three of these states have different internal processes concerning the selection and programming of CMAQ projects. These separate processes are detailed as follows:

District of Columbia

DDOT does not have any additional steps in determining CMAQ programming beyond the federal requirements and internal project planning processes. In the past, a majority of the CMAQ programs that have been funded have involved bike lanes and transportation demand management (TDM).

Maryland

The Maryland Consolidated Transportation Program (CTP) is a six-year capital budget for transportation projects, where CMAQ programming is determined during the one-year development process. CMAQ projects are selected for programming based on criteria provided by the CTP. Projects should meet all federal and legal requirements; support departmental program priorities; meet all federal match requirements to maximize federal revenue; support State plans and objectives; support existing project commitments and uphold intergovernmental agreements; and support alternative modes of transportation (transit, bike, pedestrian). Projects selected for programming must be included in the STIP and must also be consistent with local plans and be included in the regional MPO long-range plan.

In the past, a majority of the CMAQ funding in Maryland has been used for transit projects (bus replacements, MARC, and light rail). CMAQ funding has also been used for park and ride projects, traffic flow improvement projects, such as signal synchronization and the Coordinated Highways Action Response Team (CHART) program.

Virginia

Within the region, the Northern Virginia Transportation Authority (NVTA) coordinates Northern Virginia's annual programming of federal CMAQ projects as well as Regional Surface Transportation (RST) funds. CMAQ funds contribute to the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS).

The recommendation of programming is done through the NVTA's Regional Jurisdiction and Agency Coordinating Committee (RJACC). Final approval is given by the Commonwealth Transportation Board (CTB). VDOT provides local matches for approved CMAQ projects, but only if the project utilizes the funds within an established timeline. Recipients have 24 months to obligate the funds and then 48 months to expend the funds. CMAQ projects are eligible for potential funding after an application submission, a Transportation Emissions Estimation Models (TEEM) worksheet submittal for air quality benefit calculation, and a resolution of support from the respective governing bodies. VDOT encouraged the use of the FHWA CMAQ calculator tool kit for all applicable project types.

REGIONAL EMISSIONS REDUCTIONS TARGETS

In developing the quadrennial emissions reduction performance targets, TPB staff used a method that incorporated the states' respective methodologies for state targets to create regional emissions reductions targets for the applicable portion of the Washington DC-MD-VA nonattainment area. In terms of developing a methodology that could be utilized for target setting, TPB staff has considered four techniques: (1) taking the average past years' data and setting

targets reflective of those averages, (2) setting a trend line based on past years' data and setting targets based on those projections, (3) using the percentage of CMAQ funding in the TIP and the cost-effectiveness (kg/ton), created by a ratio, of quantified CMAQ projects in the CMAQ Public Access System to forecast future emissions and thereby creating targets, and (4)listing the expected CMAQ projects for the next four years and summing the forecast emissions reduction benefits forecast by each state for CMAQ projects planned in the region. The combined emissions reduction could then be used to develop the two-year and four-year targets for the two applicable pollutants. This fourth method was suggested from FHWA presentations and webinars; however, it is not a requirement. The TPB staff have used the fourth method for target setting, using information provided by the three state DOTs.

Based on the available quantified data and the information provided by the District of Columbia, Maryland, and Virginia departments of transportation, the TPB sums the forecast emissions reduction benefits forecast by each state for CMAQ projects planned in the region. The combined emissions reductions are then used to forecast future performance and set the two-year and four-year targets for the two applicable pollutants: Volatile Organic Compounds (VOCs) and Nitrogen Oxides (NOx).

Transit Asset Management Performance

This section presents the transit asset management (TAM) targets adopted by the National Capital Region Transportation Planning Board for 2025. The final Transit Asset Management rule was published in the Federal Register on July 26, 2016, and became effective October 1, 2016.[12] Transit asset management (TAM) is "a strategic and systematic process of operating, maintaining, and improving public transportation capital assets effectively through the life cycle of such assets."

Under the final TAM rule, transit providers must collect and report data for four performance measures, covering rolling stock, equipment, infrastructure, and facility condition. For these measures, transit providers must annually set targets for the fiscal year, develop a four-year TAM plan for managing capital assets, and use a decision support tool and analytical process to develop a prioritized list of investments.

Each provider of public transportation was required to adopt annual targets for the performance of their transit assets, initially by January 1, 2017. Subsequently, MPOs have 180 days to adopt updated transit asset targets for their metropolitan planning area, but FTA policy is that there is no requirement for MPOs to set annual targets or revise existing targets. While MPOs do not submit performance targets to the FTA, regional targets must be included in each metropolitan transportation plan and TIP. Accordingly, the TPB has been updating and adopting new TAM targets during the development of each metropolitan transportation plan (usually every four years) and every TIP (usually every two years). The latest TAM targets were adopted by the TPB on February 19, 2025, with Resolution R8-2025. These targets will be included in Visualize 2050 and the FY 2026-2029 TIP, anticipated to be adopted in late 2025.

TRANSIT ASSET PERFORMANCE MEASURES

As shown in Table 1.8, there are four transit asset performance measures, two of which are age-based and two of which are condition-based:

- Rolling stock (Age)
- Equipment: (non-revenue) service vehicles (Age)
- Infrastructure: rail fixed-guideway track, signals, and systems (Condition)

[12] Federal Register (July 26, 2016). *49 CFR Parts 625 and 630 Transit Asset Management; National Transit Database.* https://www.gpo.gov/fdsys/pkg/FR-2016-07-26/pdf/2016-16883.pdf

- Stations/Facilities (Condition)

Within each of the performance measures, assets are further divided into asset classes. For example, distinct asset classes for buses can be articulated buses, standard buses, or minibuses. Each asset class is measured separately for performance and for target-setting.

For the age-based performance measures, providers set their own standard — the useful life benchmark (ULB) — for each asset class. The ULB is the anticipated useful lifetime of the asset. Accordingly, each provider in the region can set a different standard for its buses as well as different targets for the anticipated percentage of buses that will exceed those standards, to reflect different degrees of usage and operating conditions, variations in maintenance efforts, etc. This affects the feasibility of comparison among agencies and the integration of data to measure regional performance and set regional targets.

Providers of public transportation measure their performance in accordance with the definitions and requirements of federal rulemaking, including the TAM final rule and the final rule on National Transit Database (NTD) Asset Inventory Reporting. The FTA also published a Guideway Performance Assessment Guidebook and a Facility Performance Assessment Guidebook to provide guidance to providers of public transportation on how to collect data and measure performance for these assets.

TABLE 1.8: TRANSIT ASSET MANAGEMENT PERFORMANCE MEASURES

Performance Measure	Asset Classes	
Rolling Stock (Age)	Percentage of revenue vehicles within a particular asset class that have met or exceeded useful life benchmark (ULB)	Standard 40' bus, articulated 60' bus, vans, automobiles, locomotives, rail vehicles
Equipment – (non-revenue) service vehicles (Age)	Percentage of vehicles that have met or exceeded their ULB	Cranes, prime movers, vehicle lifts, tow trucks
Infrastructure-rail fixed-guideway track, signals, and systems (Condition)	The percentage of track segments, signal, and systems with performance restrictions	Signal or relay house, interlockings, catenary, mechanical, electrical and IT systems
Stations/ Facilities (Condition)	The percentage of facilities rated below 3 on the Transit Economic Requirements Model (TERM) scale (i.e., in marginal or poor condition)	Stations, depots, administration, parking garages, terminals

The final TAM rule applies to all recipients and subrecipients of federal transit funds (e.g., Section 5307 funds) that own, operate, or manage capital assets used in the provision of public transportation and requires accounting for all assets used in the provision of public transportation service, regardless of funding source, and whether used by the recipient or subrecipient directly, or leased by a third party.

The federal TAM rulemaking defines two tiers of providers of public transportation. Tier 1 providers are those that operate rail service or more than 100 vehicles in regular service. Tier 2 providers are those operating less than 100 vehicles in regular service. Tier 1 providers must set transit

asset targets for their agency, as well as fulfill other additional reporting and asset management requirements. Tier 2 providers can set their own targets or participate in a group plan with other Tier 2 providers whereby targets are set for the entire group. Note that a parent organization can operate several services, such as bus service and paratransit service, that combined exceed 100 vehicles.

REGIONAL TRANSIT ASSET TARGET SETTING APPROACH

The region has eight Tier 1 providers of public transportation as defined in the federal rulemaking:

1. WMATA: Metrorail, Metrobus, MetroAccess
2. District of Columbia: Streetcar
3. Fairfax County: Connector, Community and Neighborhood Services
4. Montgomery County: Ride On
5. Prince George's County: TheBus, Call-A-Bus
6. Potomac and Rappahannock Transportation Commission (PRTC): OmniRide
7. Virginia Railway Express (VRE)
8. Maryland Transit Administration (MTA; MARC and Commuter Bus only)

The region has twelve Tier 2 providers as defined in the federal rulemaking, including several small paratransit providers and non-profit providers:

Northern Virginia

1. Alexandria: DASH, DOT
2. Arlington: ART
3. Fairfax City: CUE
4. Loudoun County Transit
5. Virginia Regional Transit (VRT)
6. The Arc of Greater Prince William
7. Every Citizen Has Opportunities, Inc. (ECHO)
8. Independence Center of Northern VA
9. Weinstein Jewish Community Center
10. Prince William Area Agency on Aging

Suburban Maryland

11. Charles County: VanGo
12. Frederick County: Transit

All the Tier 2 providers in the region have chosen to participate in a group plan with their respective state agency: the Maryland Transit Administration (MTA) or the Virginia Department of Rail and Public Transportation (DRPT), with the exception of the CUE system. Accordingly, there are eleven reporting entities in the TPB's metropolitan planning area.

Providers of public transportation operating within the region but with publicly owned assets based outside of the TPB's metropolitan planning area, such as MTA Commuter Bus and MARC commuter rail, do not need to be included.

Transit asset management targets for the metropolitan planning region have been developed by collecting the targets and asset data from each provider of public transportation in the region.

Targets for the region are calculated by adding the individual agency targets, which considers the differences in targets and standards among the individual providers of public transportation. The metric for the performance measures and for the targets is a threshold for the maximum allowed or the observed percentage of assets at or exceeding acceptable standards.

Transit Safety

FTA published the Public Transportation Agency Safety Plan (PTASP) final rule on July 19, 2018, with an effective date of July 19, 2019, followed by one year for implementation. The PTASP final rule applies to providers of public transportation that are recipients and sub-recipients of FTA Section 5307 funding and that fall under the safety jurisdiction of the FTA. Applicable providers of public transportation are required to develop Public Transportation Agency Safety Plans, which include the process and procedures for implementing Safety Management Systems (SMS); they were required to certify their safety plan by July 20, 2020. In addition, they were required to set initial targets for the four transit safety measures by July 20, 2020 (thereafter annually), following which MPOs must set transit safety targets for the metropolitan planning area within 180 days.

The most recent transit safety targets were adopted by the TPB on December 18, 2024, with Resolution R4-2025.

TRANSIT SAFETY PERFORMANCE MEASURES

The issuance of the transit safety final rulemaking served as a capstone for a collection of rules making up the Public Transportation Safety Program, including the National Public Transportation Safety Plan Rule which defined the four transit safety performance measures for which providers of public transportation and MPOs must set targets. These measures include the number and rate of fatalities, injuries, safety events (derailments, collisions, fires, and evacuations), and system reliability (mean distance between major and other mechanical system failures). The measures shown in Table 1.9 are calculated for each mode:

- Number of Fatalities/Serious Injuries/Safety Events: total number for all providers of that mode.
- Rate of Fatalities/Serious Injuries/Safety Events: total number for all providers of the mode divided by the total number of Vehicle Revenue Miles (VRM) for that mode (reported in rate per 100,000 VRM). VRM are the miles that vehicles are scheduled to be or actually traveled while in revenue service (i.e., doors open to customers, from first stop to last stop).
- Mean Distance Between Failure (MDBF): the total number of VRM for that mode divided by the total number of failures for all providers of the mode.

TABLE 1.9: TRANSIT SAFETY PERFORMANCE MEASURES

Performance Measure	
Fatalities	Total number of reportable fatalities and the rate per total vehicle revenue miles by mode
Injuries	Total number of reportable injuries and the rate per total vehicle revenue miles by mode
Safety Events	Total number of reportable events and the rate per total vehicle revenue miles by mode
System Reliability	Mean distance between major mechanical failures by mode

When regional targets are established, the TPB must collect data and report the performance outcomes in the metropolitan transportation plan. The results of this monitoring effort are intended to inform future funding decisions on projects and programs that affect transit safety.

REGIONAL TRANSIT SAFETY TARGET SETTING APPROACH

Transit safety targets for the region are based on those adopted by each applicable provider of public transportation. The following providers of public transportation in the region are required to set transit safety targets in accordance with the PBPP requirements. These targets are required for each mode operated by the provider, including heavy rail, streetcar, commuter bus, bus, and paratransit (demand response).

Regional recipients of FTA Section 5307 funding and the modes they operate include:

- WMATA: Metrorail, Metrobus, MetroAccess
- DDOT: DC Streetcar
- MDOT-MTA: MTA Commuter Bus
- PRTC OmniRide: commuter bus, local bus, and paratransit

Regional sub-recipients of FTA Section 5307 funding include:

- VanGo (Charles Co.)
- Transit (Frederick Co.)
- Ride On (Montgomery Co.)
- The Bus (Prince George's Co.)

Note that while local bus systems in suburban Maryland are sub-recipients of FTA funds through the State of Maryland's Locally Operated Transit Systems (LOTS) funding programs, the local bus systems operated by jurisdictions in Northern Virginia do not receive federal funds and the PTASP rule is not applicable to them. In addition, commuter rail systems including MARC and VRE have their safety regulated by the Federal Railroad Administration (FRA) and the PTASP rule does not apply to them.