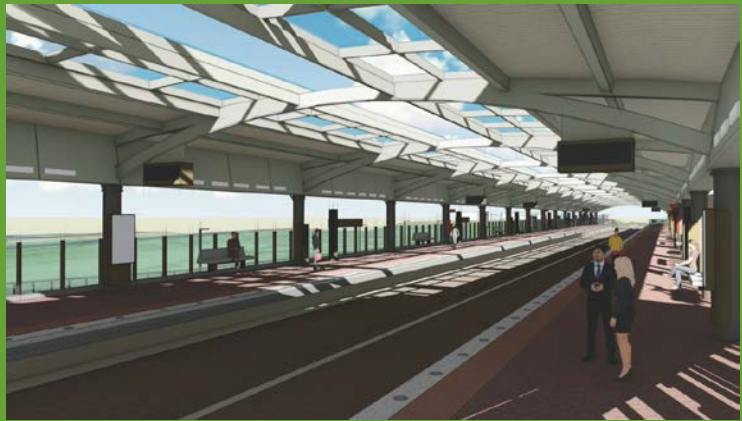


FY 2021–2024 TRANSPORTATION IMPROVEMENT PROGRAM

for the National Capital Region

Adopted on MARCH 18, 2020



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FY 2021–2024 TRANSPORTATION IMPROVEMENT PROGRAM

Adopted by the Transportation Planning Board on March 18, 2020

ABOUT THE TPB

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

The preparation of this report was financially aided through grants from the District of Columbia Department of Transportation, the Maryland Department of Transportation, the Virginia Department of Rail & Public Transportation, the Virginia Department of Transportation, Federal Highway Administration, and the U.S. Department of Transportation, Federal Transit Administration, under the Urban Mass Transportation Act of 1964, as amended.

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This document makes multiple references to its own appendices and to the appendices of the Visualize 2045 plan document. For clarification purposes:

- **References to sections, tables, and appendices of the FY 2021–2024 TIP document are in bold blue type, and**
- *References to the Visualize 2045 document appendices are in green, italicized type.*

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1. INTRODUCTION

What is a Transportation Improvement Program?

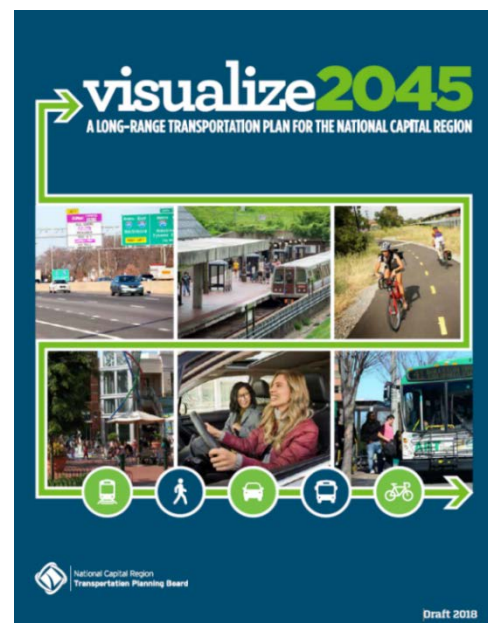
The Transportation Improvement Program (TIP) is a federal obligation document which describes the planned schedule in the next four years for distributing federal, state and local funds for state and local transportation projects. The TIP represents an agency's intent to construct or implement specific projects in the short term and identifies the anticipated flow of federal funds and matching state or local contributions. It is a multimodal list of projects that includes highway projects, rail, bus and streetcar projects, and bicycle and pedestrian improvements. It also includes roadway and transit maintenance projects, operational programs, and many other transportation-related activities. The TPB's FY 2021–2024 TIP contains over 300 project records and more than \$15 billion in funding across the region. The TIP is a dynamic budget document and is amended and modified on a weekly/monthly basis.

The Transportation Improvement Program and Visualize 2045

Visualize 2045 is the federally required long-range transportation plan for the National Capital Region. It identifies all regionally significant transportation investments planned through 2045 in the financially constrained element. It also includes an aspirational element to show projects not yet funded and to highlight the TPB's seven aspirational initiatives showing what the region aspires to do. Visualize 2045 also provides detailed analysis to help decision-makers and the public "visualize" the future.

Visualize 2045 and the TIP were developed according to the provisions of the metropolitan planning regulation of record in October 2017. The TPB has determined that Visualize 2045 and the FY 2021–2024 TIP are financially constrained and meet the federal requirements to demonstrate that the proposed project costs are consistent with the available and committed projected sources of transportation revenues and the existing transportation system has been demonstrated to be adequately operated and maintained.

As a product of the metropolitan transportation planning process, the TIP outlines the staged development of Visualize 2045 with priority projects selected for programming by the states and the transit agencies presented in the first and second year of the four-year program. The TPB officially updates the program every two years with a call for projects. State, regional, and local transportation agencies update the TIP on a more frequent basis by amending or modifying the TIP to reflect their latest obligation plans. The TPB maintains a database of TIP projects which is updated regularly after any actions to amend or modify the TIP.



MOVING FROM A SIX-YEAR TIP TO A FOUR-YEAR TIP

The TIP reflects the individual programming schedules for the District of Columbia, and portions of the Commonwealth of Virginia and the State of Maryland, each of which are driven by different sets of state laws and legislative processes resulting in programming documents that covered both different years and different time-spans from the TPB’s TIP. The state of Maryland updates its four-year Statewide Transportation Improvement Program (STIP) every two years. The Virginia Department of Transportation develops a new four-year STIP on a three-year cycle. In order to more closely align with two out of the three DOT’s and to take advantage of a sync-point where both MDOT and VDOT’s STIPs would cover FY 2021-2024, staff suggested that the TPB reconfigure its TIP to cover four years, instead of six. In the District, DCOT has tried a variety of schedules and formats, before aligning its process in step with the TPB’s to develop its own FY 2021-2024 STIP. More about the STIPs and source documents for projects in the TIP are legislatively approved and a description of each can be found in [Section 2 – Project Development Process](#).

2. DEVELOPMENT OF THE FY 2021–2024 TIP

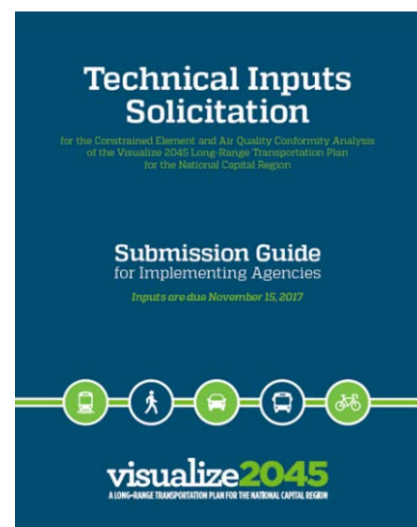
On May 3, 2019, the TPB began developing the FY 2021–2024 TIP by issuing a call for projects with the Technical Inputs Solicitation (TIS) Submission Guide for Visualize 2045 and the FY 2021–2024 TIP. The TPB held a Public Forum on the TIP on January 16, 2020. TPB Staff and member agencies reviewed draft project tables in January 2020 and a 30-day public comment period was held from January 31 through March 1, 2020. *The TPB approved the FY 2021–2024 TIP on March 18, 2020.*

Table 1: TIP Development Milestones

May 3, 2019	December 20, 2019	January 16, 2020	January 31 – March 1, 2020	March 18, 2020
TPB staff issues TIS Submission Guide	FY 2021–2024 TIP Inputs due	Public Forum on the TIP	Public Comment Period on TIP	TIP approved

The Technical Inputs Solicitation Submission Guide

The Technical Inputs Solicitation Submission Guide was first used by the TPB during the development of Visualize 2045 and the FY 2019-2024 TIP and it was approved by the TPB in October 2017. In 2019, TPB staff updated the document to serve as an ongoing guide for submitting amendments to visualize 2045 and the TIP. This update was timed to coincide with the next TIP, covering fiscal years 2021 through 2024. This call for projects defined the schedule for developing and approving the new TIP and amendments to the plan and specified which agencies are eligible to submit projects. It asked agencies to consider a regional policy framework and federal requirements when selecting and prioritizing projects. The Technical Inputs Solicitation also provided instructions on how to submit project data for Visualize 2045, the FY 2021-2024 TIP and the air quality conformity analysis of those documents. The Submission Guide can be found in its entirety in [Appendix E](#) of this document.



Any municipal, county, state, regional, or federal agency with the fiscal authority to fund transportation projects is responsible for providing required project and program inputs for the FY 2021-2024 TIP. Inputs are required to be submitted by one of the TPB member jurisdictions or agencies listed in [Table 2](#).

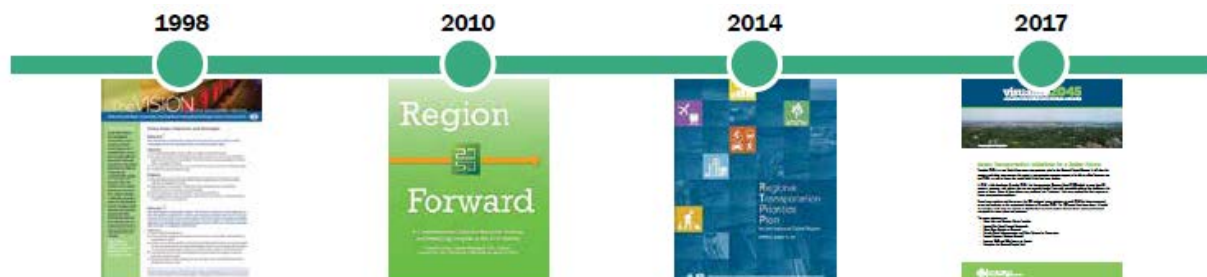
Table 2: TPB Member Agencies Responsible for TIP Programming

District of Columbia	Northern Virginia
District Department of Transportation (DDOT)	Virginia Department of Transportation (VDOT) Virginia Department of Rail and Public Transportation (VDRPT) Virginia Railway Express (VRE) Potomac and Rappahannock Transportation Commission (PRTC) Northern Virginia Transportation Authority (NVTA) Northern Virginia Transportation Commission (NVTC) Arlington County Department of Environmental Services* Fairfax County Department of Transportation* Fauquier County Department of Community Development* Loudoun County Department of Transportation and Capital Infrastructure* Prince William County Department of Transportation* City of Alexandria Department of Transportation and Environmental Services* City of Fairfax Department of Public Works* City of Falls Church Department of Public Works* City of Manassas Public Works Department* City of Manassas Park Public Works Department*
Suburban Maryland	
Maryland Department of Transportation <i>State Highway Administration (MDOT SHA)</i> <i>Maryland Transit Administration (MTA)</i> <i>Maryland Transportation Authority (MDTA)</i> Charles County Department of Public Works Frederick County Department of Public Works Montgomery County Department of Transportation Prince George's County Department of Public Works and Transportation Maryland-National Capital Park and Planning Commission (M-NNCPPC) City of Frederick Planning Department Gaithersburg Public Works Department	
Regional	
Washington Metropolitan Area Transit Authority (WMATA) Eastern Federal Lands Highway Division Metropolitan Washington Airports Authority (MWAA)	

*Virginia local jurisdictions submit through VDOT but are still responsible for providing required information

Regional Policy Framework

The Technical Inputs Solicitation asked agencies to document how their projects and programs support or advance a set of regional goals and priorities, collectively referred to as the TPB's policy framework. This framework is a culmination of a 20-year evolution that began with a visioning process in 1998. This framework includes comprehensive strategies that promote a strong regional economy and help improve quality of life for all residents. The policy statements and documents that make up the framework encourage the region's transportation agencies to consider regional goals,



priorities, and needs when developing and selecting projects to fund and implement. The policy framework consists of the TPB Vision, the Region Forward vision adopted by the Metropolitan Washington Council of Governments (COG) in 2010, the 2014 Regional Transportation Priorities Plan, and the seven aspirational initiatives recently endorsed by the TPB.

Federal Requirements

Visualize 2045 and the TIP also must meet federal planning requirements including the consideration of ten specific planning factors, financial constraint, air quality conformity, public involvement, Title VI of the Civil Rights Act of 1964, a Congestion Management Process and Performance-Based Planning and Programming. The federal planning requirements are described in more detail in [Section 3](#). This is the first TIP for this region to be approved since the Performance-Based Planning and Programming requirements introduced in MAP-21 and the FAST Act have gone into effect. There are six national goals that have been defined by the FAST Act under Performance-Based Planning and Programming:

1. Highway Safety
2. Highway Assets
3. Highway System Performance
4. Vehicular Emissions
5. Transit Asset Management
6. Transit Safety

This TIP will provide a baseline against which progress on targets under these goals will be measured.

Project Development Process

The TPB Vision and the federal metropolitan planning requirements exert a direct influence on the types of projects that are developed and submitted to the TPB for inclusion in Visualize 2045 and the TIP. However, project development typically occurs at the state and local levels. Each state, locality, the District of Columbia, and the Washington Metropolitan Area Transit Authority (WMATA) controls its own funding stream and each has its own system for moving projects forward. Within each state, projects may be pursued for a variety of reasons and may have multiple sponsors.

Identifying Needs

Needs are identified through a variety of mechanisms throughout the region. Solutions are promoted by a number of different players. Here are some basic ways in which projects originate:

Local Government Plans

Transportation projects are often first identified through local planning, which is performed by county or municipal governments. Local comprehensive plans usually include a transportation element identifying specific projects that a local government has determined will be needed over the period of the plan, which is usually 20-25 years.

FEDERAL REQUIREMENTS

- Ten Planning Factors
- Financial Constraint
- Air Quality
- Public Participation
- Title VI/Environmental Justice
- Congestion Management Process
- Performance-Based Planning and Programming

Project Identification at the State Level

The state DOTs each have methods for identifying projects needed to maintain the integrity of the transportation system, enhance safety or improve mobility. In accordance with state law, the states give highest priority to maintenance needs or structural deficiencies. Project recommendations are often based upon each state's regular analysis of pavements, bridges, congestion levels and safety issues. The states propose other projects that are system "enhancements" including trails or landscaping, or projects to serve air quality improvement goals, such as park-and-ride lots or ridesharing programs. In other cases, the states recommend "new capacity"- new or widened roads, or transit extensions. However, construction of new facilities has become less frequent as the region's transportation system matures and funding tightens.

Regional Transit Plans and Studies

WMATA regularly assesses the needs of the Metrorail, Metrobus, and MetroAccess systems, and identifies new service and projects. Like the state DOTs, WMATA places a priority on keeping the system in a state of good performance, including replacement of rail cars and buses, escalator and elevator repair and track maintenance. WMATA also studies and identifies system enhancements, such as bus service improvements and station access improvements. The Maryland Transit Administration, the Virginia Department of Rail and Public Transportation and local transit agencies also perform their own studies, in addition to working with WMATA.

WMATA's capital needs are identified in WMATA's 10-year Capital Needs Inventory and Prioritization report, released in November 2016, and GM/CEO Wiedefeld's plan to "Keep Metro Safe, Reliable, and Affordable," released on April 19, 2017. Capital needs are divided into two categories: 1) State of Good Repair needs, which include projects that maintain and replace assets on a regular life cycle basis in order to deliver the same level of service; and 2) Future Compliance needs, which include projects that help meet growing ridership and improve the rider's experience.

Corridor and Sub-Area Studies

Major projects go through studies that look at a variety of transportation alternatives for particular "transportation corridors" or specific areas of the region. State agencies generally perform these studies, in cooperation with the TPB and in accordance with federal procedures.

Federal regulations require corridor or sub-area studies to be performed when major metropolitan highway or transit investments are being considered. In particular, the National Environmental Policy Act (NEPA) requires a type of corridor study known as an Environmental Impact Statement (EIS) before certain types of major projects may be constructed.

Corridor and sub-area studies typically examine the costs and benefits of various alternatives, and how effectively the different options would "get the job done." They also measure other social, economic or environmental impacts. Federal law requires adequate public involvement opportunities.

Just because a preferred alternative is selected, however, does not mean it will be built. Project funding involves policy and budget decision making-usually at the state level.

Long-Range Planning at the State Level

Each state has a long-range planning process that brings together project recommendations from local governments, the state DOTs, WMATA and other sources. A project does not have to appear in a state long-range plan in order to receive funding. However, the priorities established in these state plans often determine which projects get built. Unlike the constrained element of Visualize 2045, the long-range plans of the states and WMATA usually are not constrained by funding availability and may or may not list individual projects.

District of Columbia

In October 2014, the District Department of Transportation (DDOT) released moveDC, a multimodal long-range transportation plan. The new plan, which has a horizon year of 2040, has an emphasis on expanding transportation choices and providing better access to a wide variety of transportation modes. In addition, it focuses on maximizing safety and public space quality in major transportation corridors.

The D.C. Comprehensive Plan (the District's land use plan), which is the responsibility of the Office of Planning, promotes policies to increase the city's population. Accommodating additional travel demands will be a key element of the new Strategic Transportation Plan.

Maryland

The 2040 Maryland Transportation Plan (MTP) establishes policy goals for state transportation services and infrastructure over the next 20 years. The MTP is a starting point for the development of strategic plans, programs and projects by MDOT's different agencies.

The 2040 MTP identifies five goals that support MDOT's mission and vision: Quality of Service, Safety & Security, System Preservation & Performance, Environmental Stewardship, and Connectivity for daily Life. Each project also identifies which goals it supports. An update to this plan is expected to be adopted in January 2019.

Virginia

Virginia has a number of long-range planning efforts that serve as the basis for project development. A 20-year statewide transportation plan, called VTrans, provides policy guidance for all transportation modes. The VTrans final report identified policy recommendations in the areas of funding and investment, land use, connectivity, priority setting, and sustaining the VTrans vision. The state is currently updating this plan.

VDOT also develops a State Highway Plan that recommends specific road improvements for the next 20 years. VDOT has also launched a prioritization process for the Highway Plan that uses a quantitative methodology to rank projects and recommend priorities for short-term funding.

Finally, the Northern Virginia Transportation Authority (NVTA) has its own long-range transportation plan. The most recent version of this plan, called TransAction, was adopted in 2017. TransAction contains an ambitious multimodal list of projects, which are prioritized within 11 transportation corridors. The plan identified more than \$35 billion in unfunded needs.

The priorities in TransAction, together with VTrans and the State Highway Plan, serve as the basis for Virginia's project submissions for the TPB's Constrained Long-Range Plan.

WMATA

WMATA's Momentum strategic plan, approved in 2013, proposed an ambitious long-term program of projects, including new rail lines and expanded bus service. Current Board policy requires expansion projects to be funded by the local jurisdiction. Examples of such projects include the Dulles Rail Extension in Virginia and the Potomac Yard station in Alexandria. Because WMATA does not have a funding source that it alone controls, the recommendations of the Expansion Plan were intended to guide the decisions made by WMATA's funding partners - the states, local governments and the federal government. Significant changes to the transit network are submitted for inclusion in Visualize 2045.

Six-Year Programming at the State Level

Each state also has its own procedure for developing transportation programs – lists of projects to be funded in the next six years. These short-range programs are dependent upon the legislative approval of transportation budgets. At the conclusion of the budgeting and programming process in each state, the projects are submitted to the TPB for inclusion in the regional TIP.

District of Columbia

The D.C. Council approves the annual Capital Improvement Program budget for transportation.

Every year, the mayor submits the draft Capital Improvement Program (CIP) to the D.C. Council for approval. The CIP is a six-year program that includes all capital expenditures for the District, including transportation projects. The D.C. Council, acting as a state legislature, holds hearings on the draft CIP, which it can amend. As with other District legislation, both the Council and the Mayor must approve the CIP for it to move forward.

The U.S. Congress must enact the D.C. budget.

The District presents its proposed budget (both the CIP and the operating budget) to Congress for approval every summer. After a review process, Congress introduces and enacts federal legislation constituting the District's budget as part of the federal appropriations process.

D.C.'s six-year transportation program is submitted to the TPB for inclusion in the regional TIP.

Using the CIP as a basis for development, the District develops a list of projects for inclusion in the TPB's TIP.

Maryland

During the Secretary's "Annual Tour," Maryland DOT officials get feedback about their draft six-year Consolidated Transportation Program (CTP) from county and local officials, and from the public. The Tour occurs every Fall.

Every year, each county and its state legislative delegation identify local transportation priorities and officially transmit them to MDOT in the form of their annual "Priority Letter." Using the Priority Letters along with needs identified in the previous year, MDOT develops a draft Consolidated Transportation Program (CTP), which is a six-year program of transportation projects.

Each fall, MDOT goes on the road to get feedback on the draft CTP. In a process commonly called the Annual Tour, MDOT officials visit each county and present the draft six-year program. After considering the input received from local and county officials during the Annual Tour, MDOT revises the CTP and submits it first to the Governor and then to the General Assembly for budget approval.

The Maryland General Assembly approves the six-year program.

MDOT annually submits the State Report on Transportation to the Maryland General Assembly. This report, consisting of the long-range MTP and the six-year CTP (described above), forms the basis for the governor's annual transportation funding request, which the General Assembly must approve. Maryland law does not permit the General Assembly to add projects to the governor's funding request, although the legislature may delete projects or funding.

Maryland annually submits a list of projects to the TPB for inclusion in the regional TIP.

Using the six-year CTP as a basis for development, Maryland develops a list of projects for inclusion in the regional Transportation Improvement Program (TIP), which is approved by the TPB.

Virginia

The General Assembly approves funding for transportation in a two-year Appropriation Act.

Every two years, the Virginia General Assembly approves the two-year (biennial) Appropriation Act, which contains all statewide funding, including transportation spending. The revenues in the act are based largely upon estimates provided in the governor's Budget Bill. The estimates for transportation revenues are prepared by the Department of Taxation and the Virginia Department of Transportation.

The Appropriation Act generally allocates funding for broad transportation categories, not for individual projects, although the General Assembly sometimes earmarks funding for projects. After the first year of the biennial budget cycle is completed, the General Assembly has an opportunity to amend the budget.

The Virginia Commonwealth Transportation Board (CTB) annually approves the Six-Year Improvement Program.

Every year, the Commonwealth Transportation Board, which guides the work of the Virginia DOT much like a board of directors, develops the Six-Year Improvement Program (SYIP). This program allocates money for transportation projects that are proposed for construction (including engineering and right-of-way acquisition), development or study in the next six fiscal years. In developing the SYIP, the Board considers the priorities identified by VDOT from the State Highway Plan, as well as needs identified in VTrans and Northern Virginia's TransAction.

The program is updated annually. Funding for the Six-Year Improvement Program is based upon the two-year Appropriation Act approved by the General Assembly and anticipated revenues for the remaining years of the plan. The SYIP must include all projects earmarked by the General Assembly.

Virginia annually submits a list of projects to the TPB for inclusion in the regional TIP.

Using the Six-Year Program as a basis for development, Virginia develops a list of Northern Virginia projects for inclusion in the regional Transportation Improvement Program (TIP), which is approved by the TPB.

The WMATA Capital Improvement Program (CIP)

Projects programmed by the transit authority use funding from the federal government, and from state and local jurisdictions. WMATA recently updated their capital needs inventory which will serve as the foundation for future capital programs and support the development of a regional funding strategy for Metro. Capital needs are divided into two categories: 1) Performance needs, which include projects that maintain and replace assets on a regular life cycle basis in order to deliver the same level of service; and 2) Customer/Demand needs, which include projects that help meet growing ridership and improve the rider's experience.

Every year, WMATA's general manager submits an annual budget to the WMATA Board Finance, Administration, and Oversight (FAO) Committee. The proposed program may be revised by the committee, and then is reviewed and approved by the WMATA Board of Directors. The projects in this capital budget are then submitted for inclusion in the regional TIP. The FY 2021-2024 funding in this TIP is based on the preliminary funding levels in WMATA's draft FY 2021-2026 CIP, as it was released for public comment in February 2020. The WMATA board approved the FY 2021-2026 CIP on April 2, 2020, two weeks after the TPB's approval of the FY 2021-2024 TIP. Any adjustments required for the final numbers will be processed via administrative modification or amendment if necessary.

Other Project Programming

Other agencies, such as the National Park Service, and some counties, cities and towns develop projects using federal funds outside the state or WMATA programming processes. These projects also must be submitted to the TPB for inclusion in the regional TIP and plan.

The TIP integrates projects proposed by state and local transportation agencies into a program consistent with the current regional long-range transportation plan and policies. In the development of this program, individual agency inputs are evaluated for consistency with the plan and policies. The TIP includes projects within the boundary of the Washington Metropolitan Area.

TPB Actions in the Project Selection Process

The TPB carried out several actions during the development of the TIP to impact the project selection process. This TIP update cycle began by issuing and approving the Technical Inputs Solicitation Submission Guide. In response, agencies submitted information on new and existing projects. The TPB approves these project inputs in July 2019 and spent several months reviewing and analyzing the data to ensure that the project inputs are consistent with the region's air quality

requirements. Once the analysis is complete, the TPB makes a final approval of Visualize 2045, the TIP, and the Air Quality Conformity Analysis.

Each agency reviews its projected revenues and project expenditures over the fiscal year span of the TIP and programs funding accordingly. TPB staff reviews the data and produces a financial summary for each agency that details funding totals by source and project type.

Several subcommittees of the TPB develop lists of projects to champion for inclusion in the TIP. In the past, the Bicycle and Pedestrian Subcommittee has presented their list of priority projects to the TPB. Similarly, the Freight subcommittee developed a list of highlighted projects and corridors that would enhance the movement of goods throughout the region. This list was presented to the TPB and was the subject of a discussion session at the TPB's Freight Forum. Other lists are also developed by the Regional Public Transportation Subcommittee and the Aviation Technical Subcommittee. The implementing agencies are encouraged to review these lists and consider which projects can be included in the next TIP cycle.

The TPB is the designated recipient for the Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities Program. As established under MAP-21 and continued through the FAST Act, the Enhanced Mobility of Seniors and Individuals with Disabilities Program aims to "improve mobility for seniors and individuals with disabilities throughout the country by removing barriers to transportation services and expanding transportation mobility options available." The TPB reviews applications from independent agencies and selects which projects will be awarded funds. The TPB is responsible for programming these funds in the TIP.

Under the federal Transportation Alternatives Set Aside (TA Set Aside) Program, the TPB is responsible for selecting projects using sub-allocated funding for Suburban Maryland, Northern Virginia, and the District of Columbia. The TA Set Aside, which is part of the Surface Transportation Block Grant Program, was previously known as the Transportation Alternatives Program (TAP) and that name is commonly still used. Each implementing agency will program these funds in the TIP when those projects are ready for implementation.

STATE TRANSPORTATION IMPROVEMENT PROGRAMS AND THE TIP

Much as the TPB is responsible for developing a TIP for the Metropolitan Washington region, each state (and the District) must develop a Statewide Transportation Improvement Program, or STIP.

Once the TPB approves a long-range plan update, a new TIP, and the air quality analysis of those, the documentation for each of those entities is provided to the Federal Highway Administration (FHWA), Federal Transit Administration (FTA) under the United States Department of Transportation (UD DOT), and the Environmental Protection Agency (EPA) and to each TPB member agency or jurisdiction. The EPA reviews the air quality



Bosom Buddies: TIP and STIPPY

Upon learning that the TPB "adopts" rather than "approves" the plan and TIP, current TPB Chair Kelly Russell imagined a puppy in need of adoption. In 2018, to celebrate the adoption of the FY 19-24 TIP, she presented staff with "TIP" (left, above) the official mascot of the TIP. For the approval of this TIP, Chair Russell presented staff with a second mascot, "STIPPY" TIP's adoptive brother, seen here to his right.

conformity analysis transmits its approval to the FHWA and FTA. Then the two US DOT agencies issue a joint finding that the long-range plan and TIP meet all federal financial and environmental requirements, thus approving the plan. The TIP, as it is produced by the TPB does not get approved by any federal agency. Rather, once the conformity determination of the plan and TIP is made, each agency responsible for developing a STIP takes the tables from their respective sections of [Appendix A of this document](#) and incorporates that into their STIP documents, which are then submitted to FHWA and FTA for approval.

In the District of Columbia, DDOT adds the tables for other agencies located within the District: WMATA, the TPB, and the Eastern Federal Lands Highway Division of the Federal Highway Administration and these become the programming element of DDOT's STIP. DDOT has developed its FY 2021-2024 STIP alongside the TPB's TIP. As soon as the TPB receives its conformity determination, DDOT will submit its STIP for federal approval.

MDOT takes the State Highway Administration, Maryland Transit Administration, and the Maryland Transportation Authority's tables, and the tables from Charles, Frederick, Montgomery, and Prince George's counties and combines those with the programming content from six other MPOs across the state to develop its STIP. MDOT will develop its FY 2021-2024 STIP in time for federal approval in the fall of 2020 to coincide with the start of federal FY 2021.

Regardless of the lead agency, all projects in the Commonwealth of Virginia are programmed in the TPB's TIP by VDOT. Virginia time the kick-off for developing of its FY 2021-2024 STIP to coincide with the conformity analysis of this TIP and plan amendment, since that would occupy the largest block of time within its process. VDOT is expected to approve its FY 2021-2024 STIP in mid 2020.

Amendment and Administrative Modification Procedures

The TPB officially updates the program every two years with a call for projects. State, regional and local transportation agencies update the TIP on a more frequent basis by amending or modifying the TIP to reflect their latest obligation plans. Please see [Appendix B](#) of this document for the TPB's approved TIP Amendment and Administrative Modification Procedures.

3. FEDERAL REQUIREMENTS

In the course of developing Visualize 2045 and this TIP, the TPB and the transportation implementing agencies also must comply with the following federal planning and programming requirements.

Federal Planning Factors

In 1998 the Transportation Equity Act for the 21st Century (TEA-21) established eight planning factors which must be considered in the development long-range plans and TIPs. In 2015, the Fixing America's Surface Transportation Act (FAST Act) reaffirmed those eight factors and added two more:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- Increase the safety of the transportation system for motorized and non-motorized users;
- Increase the security of the transportation system for motorized and non-motorized users;
- Increase the accessibility and mobility of people and for freight;
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- Promote efficient system management and operation; and
- Emphasize the preservation of the existing transportation system.
- Improve resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation (New under the FAST Act); and
- Enhance travel and tourism. (New under the FAST Act)

The goals, objectives and strategies in the TPB Vision and the Regional Transportation Priorities Plan incorporate the ten federal planning factors. Each planning factor is covered by one or more of the goals, objectives and strategies, except for security, which is covered implicitly by the TPB Vision.

Financial Constraint

The Visualize 2045 financial plan was adopted by the TPB on October 17, 2018. The financial plan demonstrates that the region has forecast revenues which are reasonably expected to be available to cover the estimated costs of adequately maintaining, operating, and expanding the highway and transit system. This analysis is a required element of the TPB's long-range transportation plan. [Appendix A: Financial Plan of Visualize 2045](#) contains the full financial analysis, while this section provides a summary. Given the limited scope of amendments permitted for this update to Visualize 2045, no new financial analysis was conducted.

The financially constrained element of Visualize 2045 is fiscally realistic, balancing all proposed new project investments and system maintenance and operating costs with reasonable revenue

expectations, as agreed upon by TPB and its implementation agency partners in the metropolitan transportation planning process. The sources of revenues for the region are shown in **Figure 1**.

A total of \$291.1 billion¹ in transportation revenues and expenditures is projected for the National Capital Region for the 27-year period of 2019 to 2045. **Figure 2** shows total expenditures, separated by mode and type. Transit expenditures include those for WMATA, local transit, and commuter rail. Over the 27-year period of Visualize 2045, public transportation is projected to absorb 66 percent of the total expenditures of \$291.1 billion. WMATA expenditures are forecast at \$139.3 billion (48 percent of the total) and match the available revenues. Highway expenditures and revenues total \$99.5 billion (34 percent). The majority of future transportation revenues will be devoted to the operation and maintenance of the current public transportation and highway systems. More information about the current financial plan is available at visualize2045.org/document-library.

The TIP is financially constrained by year and includes projects that can be implemented using current revenue sources. The TIP financial plan in **Section 4** provides the total dollars in year of expenditure

dollars programmed by the District of Columbia, Maryland, Virginia, and the Washington Metropolitan Area Transit Authority (WMATA) for the FAST Act funding categories for each year. The TIP plan shows the funding programmed for the priority projects in the first and second years, which is consistent with the anticipated federal funding for FY 2021 and FY 2022 that each state has authorized for the region. It also shows the funding programmed for the third and fourth years that is reasonably expected to be available.

Air Quality Conformity

The financially constrained element of Visualize 2045 must demonstrate that future emissions under the plan are consistent or “in conformity” with emissions levels set forth in air quality plans adopted by the states. Since the Washington region does not currently meet federal standards for ground-level ozone, the TPB must demonstrate that future vehicle-related emissions of ozone-forming pollutants will, under the proposed constrained element plan, remain below the approved limits.

Figure 1: Visualize 2045 Expenditures by Funding Source

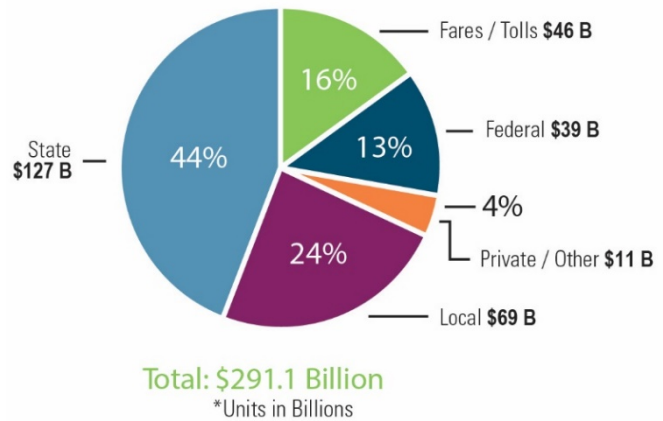
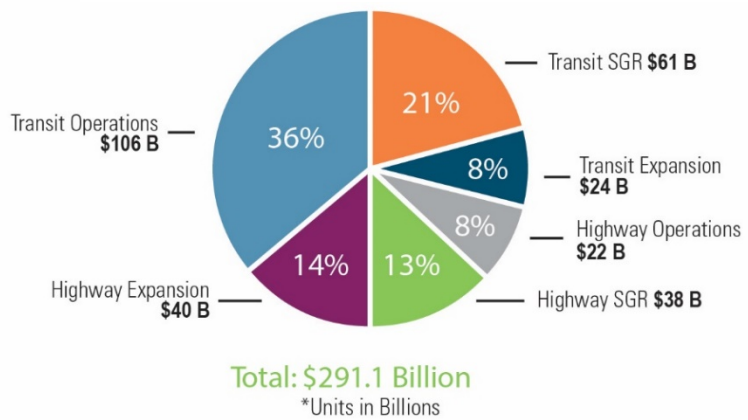


Figure 2: Visualize 2045 Expenditures by Type and Mode



¹ Because federal planning regulations require that the financial analysis show reasonably anticipated revenues and expenditures in year of expenditure (YOE) dollars, this report provides estimates in year of expenditure dollars. Year of expenditure dollars include inflation rates in the future years.

Under the constrained element of Visualize 2045, mobile emissions are expected to drop steadily mainly due to tougher fuel and vehicle efficiency standards. The plan's air quality conformity assessment included comparing forecasted mobile source emissions to the region's mobile emissions budgets for volatile organic compounds (VOC) and nitrogen oxides (NOx). The conformity analysis found that forecasts of mobile emissions for VOC and NOx are within required budgets for all analysis years of the plan.

Public Participation

In December 2007, the TPB adopted its first Participation Plan as required by the final planning regulations. The Participation Plan was updated and approved by the TPB on September 17, 2014. This TIP and Visualize 2045 were developed under procedures in the participation plan to involve citizens, affected public agencies, representatives of transportation agency employees, private providers of transportation, bicyclists, pedestrians, people with disabilities, and other members of the public. Copies of the TIP and major project submissions were accessible on the COG/TPB web page and were available for no charge at the COG Information Center.

On January 16, 2020 the TPB hosted a Public Forum on the development of the FY 2021-2024 TIP, which included a preview of projects and funding levels in the TIP. The forum was broadcast on Facebook Live and a link to the recorded forum can be found at mwcog.org/TIPforum.

On January 31, 2020, the draft FY 2021-2024 TIP document, the amendments to Visualize 2045, and the draft Air Quality Conformity Analysis were released for a 30-day public comment period which closed on March 1, 2020. Public comments could be submitted on-line, by e-mail, regular mail or by voice mail. An opportunity for public comment was provided at the beginning of the February 18 TPB meeting. Documentation of the public involvement and comment process on the FY 2021-2024 TIP is included in [Appendix D](#).

Congestion Management Process

TPB has an important role to play in understanding and identifying the full range of strategies to address traffic congestion in the region. Federal law requires the TPB to provide for "safe and effective integrated management and operation of the multimodal transportation system... through the use of travel demand reduction and operational management strategies."

The Congestion Management Process (CMP) provides for a systematic approach to monitoring the performance of the region's transportation system and identifying and evaluating the benefits that various congestion management strategies may have. Through various programs, the CMP monitors the performance of the transportation system. With accurate and reliable data, the TPB and regional partners work to establish strategies and initiatives to help alleviate congestion. Both demand management and operational management strategies are pursued. Demand management seeks to reduce congestion by reducing the number of vehicles (especially single occupant vehicles) on the road during high-volume time periods while operational management focuses on incident management, technology advances, and, when necessary, capacity increases.

CMP activities benefit strongly from regional participation. The TPB Technical Committee, the Systems Performance, Operations, and Technology Subcommittee, and the Commuter Connections

Subcommittee consult regularly on staff’s work. Further, TPB’s Commuter Connections program plays a critical role in implementing the most impactful strategies for demand management.

More information on the CMP can be found in [Appendix E: Congestion Management Process Federal Compliance and Impact on Plan Development](#), or online at mwkog.org/cmp.

Performance Based Planning and Programming

Performance-based planning and programming (PBPP) is a new process requiring states and MPOs to “transition to a performance-driven, outcome-based program that provides for a greater level of transparency and accountability, improved project decision-making, and more efficient investment of federal transportation funds.”² In coordination with partners, the TPB is tasked with setting targets for 25 performance measures. Table 2 lists eight performance areas along with their related measures and metrics that the TPB will track. As PBPP progresses over the years, performance compared to the targets will help inform funding decisions and help achieve targets.

Table 3: Performance-Based Planning and Programming Measures and Metrics

Performance Area	Measure	Metric
Highway Safety	5-Year Rolling Average	<ul style="list-style-type: none"> • # of Fatalities • Rate of Fatalities • # of Serious Injuries • Rate of Serious Injuries • # of Non-Motorized Fatalities and Serious Injuries
Highway Asset Management	Percent of Pavement Lane Miles*	<ul style="list-style-type: none"> • In Good Condition • In Poor Condition
	Percent of Bridge Deck Area	<ul style="list-style-type: none"> • In Good Condition • In Poor Condition
Performance of National Highway System	Percent of Person Miles Traveled	Level of Travel Time Reliability
Freight Movement Reliability	Index	Truck Travel Time Reliability
Roadway Congestion	Annual Hours Per Capita	Peak Hour Excessive Delay
	Percent of	Non-Single Occupancy Travel
Vehicular Emissions	Total Emissions Reduction	Volatile Organic Compounds and Nitrogen Oxides
Transit Asset Management	Percent of	<ul style="list-style-type: none"> • Service Vehicles exceeding Useful Life • Revenue Vehicles exceeding Useful Life • Track Segments with Performance Restrictions • Facilities rated Marginal or Poor
Transit Safety	Number and Rate (per Revenue Vehicle Mile)	<ul style="list-style-type: none"> • Fatalities by Mode • Reportable Injuries by Mode • Reportable Safety Events by Mode
	Mean Distance	Between Major Mechanical Failures by Mode

As included in the Metropolitan Planning Agreement (3C Agreement) approved by the Transportation Planning Board on April 18, 2018 in accordance with the latest federal metropolitan planning requirements as adopted in the FAST Act, the TPB’s TIP includes a description of how the

² Federal Register, Vol. 81, No. 103, Friday, May 27, 2016, page 34051, Section B.1.

investments in the TIP make progress toward achievement of the targets. See [Section 6](#) for an analysis of projects and funding in the TIP as they pertain these performance measures.

4. TIP FINANCIAL PLAN

This section presents the financial plan for the Washington region's TIP. FAST Act funding for the region is provided under either Title I, Surface Transportation, or Title III, Transit. Within each title are several programs or funding categories, such as the National Highway Performance Program and the Surface Transportation Block Grant Program under Title I, and the Section 5307 transit capital program under Title III. In addition to federal funding, there is state and local funding as well as private sector and other sources of funding in the TIP.

With the exception of some FTA Section 5310 funding, all federal funding is apportioned to states. To verify that the projected funding authorized in the FAST Act is consistent with the funding programmed on projects in the Washington region's TIP, financial summaries are prepared for the District of Columbia, Maryland and Virginia, WMATA, and the region as a whole. The summaries provide each source's federal and total (with state and/or local match) funding amounts for each fiscal year individually. Each summary table provides the federal and total funding amounts across the four-year span of the TIP.

The funds programmed in the TIP for each state by FAST Act program category have been compared with FAST Act and state funding that has been authorized by each state for the region. The funding programmed for the projects in the first years and second years is consistent with the anticipated FAST Act funding authorized for FY 2021 and FY 2022. The funding programmed for the third and fourth years is consistent with the projected federal dollars to be authorized by the states.

Financial Summaries for the Region by Funding Source

The tables on the next several pages summarize the federal and non-federal funding planned to be spent on projects and programs across the region over the next four years. As previously noted, the amounts summarized here reflect the funding that the states have programmed to date. There will be monthly and weekly amendments and modifications made to adjust these funding levels over the next two years. Additionally, the state of Maryland is expected to submit an amendment in mid-to-late 2020 to bring the TIP funding in alignment with their new FY 2021-2024 STIP.

Table 4 shows the Title I and Title III funding along with state, local and other sources programmed throughout the region for fiscal years 2021 through 2024, totaling about \$15.96 billion. The four columns under each fiscal year heading show the amount of "Federal" funding by source for each year next to the "Total" amount which includes any required matching contributions from state or local sources. The final column sums up the federal amounts programmed for each source between FY 2021 and FY 2024 along with the total for that same time span.

Of the \$15.96 billion programmed around the region, only \$6 billion is coming from federal Title I or Title III sources. The largest component of the regional total is \$7.8 billion in state and local funding. More than \$5 billion of that are contributions from DC, Maryland and Virginia to WMATA.

Table 5 shows a similar breakdown of about \$2.3 billion in funding for projects and programs implemented by DDOT. More than half of that total, \$1.3 billion comes from Title I sources and their

required matching funds, while only \$1.6 million is programmed from FTA's Title III sources. DC funding along with Grant Anticipated Revenue Vehicle (GARVEE) bonds make up most of the rest of the program total. In the District, GARVEE bonds are only being used to pay for part of the South Capitol Street Corridor project.

Table 6 shows funding in suburban Maryland for fiscal years 2021 through 2024. Maryland's financial summary tables are divided up between MDOT agencies: State Highway Administration (SHA), Maryland Transit Administration (MTA), and the Maryland Transportation Authority (MdTA), and the TPB member counties: Charles, Frederick, Montgomery, and Prince George's. Just under half of MDOT's four-year program total of \$3.1 billion comes from federal sources. Title I funding amounts for SHA projects are programmed without state and local matching formulas, so the federal amounts shown equal the total amounts and the matching funds are included in the State/Local grouping underneath the Title III group.

Table 7 shows \$865 million in funding programmed in Northern Virginia, with just under half of that - \$400 million - from federal sources. VDOT's inputs to the FY 2021-2024 TIP are derived from its FY 2018-2021 STIP. While the first two years of the TIP are programmed and verified, the limited three-year overlap makes for an incomplete picture of funding in Northern Virginia at the time of this analysis.

In contrast, **Table 8** shows almost \$8.5 billion in funding programmed by WMATA between FY 2019 and FY 2024. About \$3 billion of this comes from FTA Title III sources and matching funds, but the bulk of it - more than \$5 billion - comes from state and local contributions, including the new, long-term dedicated funding stream from the District of Columbia, Maryland and Virginia in the amount of \$500 million per year.

Table 4: FY 2021–2024 Financial Summary for the National Capital Region

Source	2019		2020		2021-2022		2023-2024		2021-2024	
	Federal	Total	Federal	Total	Federal	Total	Federal	Total	Federal	Total
Title I - FHWA										
CMAQ	42.39	51.22	37.52	45.76	49.99	61.06	26.03	31.67	155.93	189.71
DEMO	1.02	1.27							1.02	1.27
EB/MG	0.16	0.20								
HPP	14.96	38.56	5.83	15.42	8.52	10.78	1.26	2.72	30.56	67.48
HBRRP	4.19	4.19	4.60	4.60	6.00	6.00	0.00	0.00	14.79	14.79
HSIP	19.09	20.77	17.18	18.41	31.56	33.87	23.74	25.84	91.57	98.89
NHFP	6.24	6.24	5.99	5.99	10.55	10.55	0.00	0.00	22.77	22.77
NHPP	288.82	307.82	226.50	237.68	370.32	407.81	289.05	326.90	1,174.69	1,280.20
RSTP	21.24	26.55	9.82	12.28	4.70	5.88	0.00	0.00	35.77	44.71
SPR	4.78	5.98	4.78	5.98	9.32	11.65	6.84	8.55	25.72	32.15
STIC	0.10	0.13	0.10	0.13	0.20	0.25	0.20	0.25	0.60	0.75
STBG	249.32	277.11	241.38	259.89	292.43	318.70	228.08	261.39	1,011.22	1,117.09
TAP	1.57	1.96	2.72	3.40	3.68	4.60	2.76	3.45	10.38	13.42
Title I - FHWA Total:	653.88	741.99	556.43	609.52	787.27	871.14	577.95	660.77	2,575.53	2,883.42
Title III - FTA										
Section 5303	0.33	0.42	0.33	0.42					0.66	0.83
Section 5304	0.54	0.68	0.09	0.11					0.63	0.79
Section 5307	187.68	239.55	191.14	241.67	359.98	456.49	314.70	393.38	1,053.51	1,331.09
Section 5309	116.00	145.00	116.00	145.00	232.00	290.00			464.00	580.00
Section 5310	3.31	3.48	2.83	2.83	6.14	6.31			12.28	12.63
Section 5311	0.74	1.44	0.74	1.44	1.49	2.89			2.97	5.78
Section 5337	181.96	231.94	191.57	240.59	353.62	442.02	327.92	409.91		
Section 5339(a)	10.05	12.56	2.42	3.03	12.95	16.19			25.42	31.78
Section 5333(b)	3.60	4.50	11.32	14.16	11.32	14.16	22.65	28.31	48.90	61.12
Section 5339(c)	3.52	4.40							3.52	4.40
PRIIA	148.50	297.00	148.50	297.00					297.00	594.00
ARRA/TIGER	2.60	10.00							2.60	10.00
Title III - FTA Total:	658.83	950.97	664.96	946.25	977.50	1,228.05	665.28	831.60	2,966.56	3,956.87
State/Local										
Local		796.17		740.30		2,060.60		2,296.27		5,893.33
NVTA		45.64		9.11		12.10				66.85
State/District Funding		326.78		443.94		893.26		178.16		1,842.14
State/Local Funding		11.30		2.09		13.45		1.63		28.48
State/Local Total:		1,179.88		1,195.44		2,979.41		2,476.06		7,830.79
Other										
AC	53.00	58.40	51.91	57.49	27.55	30.58			132.46	146.47
ACC	50.69	59.35	67.97	81.03	40.95	46.77			159.60	187.15
DOD - OEA	5.21	5.21	5.97	5.97	4.04	4.04			15.21	15.21
GARVEE	128.00	160.00	53.25	66.56	54.53	68.16				
NPS	0.20	0.25							0.20	0.25
NRT	0.25	0.30	0.25	0.30	0.50	0.60	0.25	0.30	1.25	1.50
P3		17.33		17.33		34.66				69.32
PRIV		160.01		23.37		173.50				356.88
Revenue Sharing		5.62				16.70				
WIP		30.49		46.12		100.43		16.53		7.00
Other Total:	237.34	496.95	179.35	298.17	127.56	475.43	0.25	16.83	544.49	1,287.37
Regional Total:	1,550.04	3,369.78	1,400.73	3,049.38	1,892.33	5,554.03	1,243.48	3,985.26	6,086.58	15,958.45

See [Appendix C](#) for key to funding source codes.

Table 5: Financial Summary for the District of Columbia

Source	2019		2020		2021-2022		2023-2024		2021-2024	
	Federal	Total	Federal	Total	Federal	Total	Federal	Total	Federal	Total
Title I - FHWA										
CMAQ	5.49	6.86	21.80	27.25	21.26	26.57	7.05	8.81	55.60	69.50
HSIP	13.75	15.30	12.32	13.47	24.97	27.27	19.06	21.16	70.08	77.19
NHPP	111.24	130.04	67.68	77.76	224.68	262.17	254.33	292.18	657.93	762.14
SPR	4.78	5.98	4.78	5.98	9.32	11.65	6.84	8.55	25.72	32.15
STIC	0.10	0.13	0.10	0.13	0.20	0.25	0.20	0.25	0.60	0.75
STBG	87.96	105.16	90.59	108.53	133.25	159.52	163.60	196.89	475.39	570.09
TAP	1.25	1.56	2.72	3.40	3.68	4.60	2.76	3.45	10.41	13.01
Title I - FHWA Total:	224.56	265.01	199.99	236.51	417.35	492.02	453.83	531.29	1,295.74	1,524.84
Title III - FTA										
Section 5303	0.33	0.42	0.33	0.42					0.66	0.83
Section 5304	0.5424	0.678	0.088	0.11					0.63	0.79
Section 5339			0.80	1.00					0.80	1.00
Title III - FTA Total:	0.87	1.09	1.22	1.53					2.09	2.62
State/Local										
District Funds		75.55		113.30		165.74		146.01		500.60
State/Local Total:		75.55		113.30		165.74		146.01		500.60
Other										
GARVEE	128.00	160.00	53.25	66.56	54.53	68.16			235.77	294.72
NPS	0.20	0.25							0.20	0.25
NRT	0.25	0.30	0.25	0.30	0.50	0.60	0.25	0.30	1.25	1.50
Other Total:	128.45	160.55	53.50	66.86	55.02	68.76	0.25	0.30	296.47	296.47
Grand Total:	353.88	502.21	254.71	418.19	472.38	726.52	454.08	677.60	1,535.05	2,324.52

See [Appendix C](#) for key to funding source codes.

Table 6: FY 2019-2022 Financial Summary for Suburban Maryland

Source	2019		2020		2021-2022		2019-2022	
	Federal	Total	Federal	Total	Federal	Total	Federal	Total
Title I - FHWA								
CMAQ	7.09	7.09	4.59	4.59	5.69	5.69	17.37	17.37
HPP	4.19	4.19	4.60	4.60	6.00	6.00	14.79	14.79
HSIP	4.18	4.18	4.18	4.18	6.52	6.52	14.87	14.87
NHFP	6.24	6.24	5.99	5.99	10.55	10.55	22.77	22.77
NHPP	168.88	168.88	144.88	144.88	142.12	142.12	455.88	455.88
STBG	119.86	119.86	119.91	119.91	130.44	130.44	370.21	370.21
Title I - FHWA Total:	310.43	310.43	284.14	284.14	301.31	301.31	895.89	895.89
Title III - FTA								
Section 5307	24.30	33.74	19.55	27.79	42.72	60.12	86.57	121.65
Section 5309	116.00	145.00	116.00	145.00	232.00	290.00	464.00	580.00
Section 5310	0.47	0.65			0.47	0.65	0.95	1.30
Section 5311	0.74	1.44	0.74	1.44	1.49	2.89	2.97	5.78
Section 5337	14.98	18.73	19.41	24.27	25.08	31.35	59.47	74.34
ARRA/TIGER	2.60	10.00					2.60	10.00
Title III - FTA Total:	159.10	209.56	155.70	198.51	301.75	385.00	616.56	793.06
State/Local Funds								
State		250.84		330.23		720.12		1,301.19
Local		20.71		3.69		4.25		28.65
State/Local Total:		271.55		333.92		724.37		1,329.84
Other Funds								
DOD - OEA	5.21	5.21	5.97	5.97	4.04	4.04	15.22	15.21
P3	0.00	17.33	0.00	17.33	0.00	34.66	0.00	69.32
Other Total:	5.21	22.54	5.97	23.30	4.04	38.70	15.22	84.53
MDOT Total:	474.74	814.08	445.82	839.87	607.10	1,449.37	1,527.66	3,103.32
Charles, Frederick, Montgomery and Prince George's County Projects								
Title I - FHWA								
HBRRP	14.96	38.56	5.83	15.42	8.52	10.78	29.31	64.76
Title III - FTA								
Section 5307	1.60	1.60	1.60	1.60			3.20	3.20
Section 5339(c)	3.52	4.40					3.52	4.40
State/Local/Private Funds								
State and Local		239.05		224.39		126.19	0.00	589.63
Private		1.50		1.50		3.00		6.00
Maryland Counties Total:	20.07	285.10	7.43	242.92		139.97	36.02	667.99

See [Appendix C](#) for key to funding source codes.

Table 7: FY 2021–2024 Financial Summary for Northern Virginia

Source	2019		2020		2021-2022		2023-2024		2021–2024	
	Federal	Total	Federal	Total	Federal	Total	Federal	Total	Federal	Total
Title I - FHWA										
CMAQ	23.89	29.86	7.53	9.41	14.48	18.11	9.94	12.42	55.84	69.80
DEMO	1.02	1.27							1.02	1.27
EB/MG	0.16	0.20								
HSIP	1.17	1.30	0.69	0.77	0.08	0.09			1.93	2.15
NHPP	8.71	8.90	13.94	15.04	3.51	3.51			26.16	27.46
RSTP	21.24	26.55	9.82	12.28	4.70	5.88			35.77	44.71
STBG	41.50	52.10	30.89	31.45	28.75	28.75			101.14	112.29
TAP	0.32	0.40							0.32	0.40
Title I - FHWA Total:	98.01	120.58	62.87	68.94	51.53	56.33	9.94	12.42	222.34	258.28
Title III - FTA										
Section 5307	10.78	15.46	4.72	5.69	2.56	2.99			18.06	24.14
Section 5339	1.62	2.03	1.62	2.03	1.62	2.03			4.87	6.09
Section 5337	21.47	31.33	8.20	11.37	0.62	0.77			30.28	43.47
Title III - FTA Total:	33.87	48.82	14.54	19.09	4.80	5.79			53.21	73.70
State/Local Funds										
Local Funds		10.77				8.73				19.50
NVTA		45.64		9.11		12.10				66.85
State Funds						7.40				7.40
State/Local		10.69		0.06		10.60				
State/Local Total:		67.09		9.18		38.83				115.10
Other Funds										
Adv. Construction	53.00	58.40	51.90	57.49	27.55	30.58			132.45	146.47
Adv. Construction Conversion	50.69	59.35	67.97	81.03	40.95	46.77			159.60	187.15
Private		158.51		21.87		170.50			0.00	350.88
Revenue Sharing		5.62				16.70			0.00	22.31
Other Total:	103.68	281.87	119.87	160.39	68.50	264.55			292.05	706.81
Virginia Total:	235.56	518.37	197.28	257.60	124.83	365.50	9.94	12.42	567.60	1,153.89

See [Appendix C](#) for key to funding source codes.

Table 8: FY 2021–2024 Financial Summary for WMATA

Source	2019		2020		2021-2022		2023-2024		2021–2024	
	Federal	Total	Federal	Total	Federal	Total	Federal	Total	Federal	Total
Title I - FHWA										
CMAQ	5.92	7.40	3.60	4.50	8.56	10.70	5.60	7.00	23.68	29.60
<i>Title I - FHWA Total:</i>	<i>5.92</i>	<i>7.40</i>	<i>3.60</i>	<i>4.50</i>	<i>8.56</i>	<i>10.70</i>	<i>5.60</i>	<i>7.00</i>	<i>23.68</i>	<i>29.60</i>
Title III - FTA										
Section 5307	151.00	188.75	165.27	206.59	314.70	393.38	314.70	393.38	945.68	1,182.10
Section 5337	145.51	181.89	163.96	204.95	327.92	409.91	327.92	409.91	965.32	1,206.65
Section 5339(a)	8.42	10.53				14.16			8.42	24.69
Section 5339(b)	3.60	4.50	11.32	14.16		14.16	22.65	28.31	37.57	61.12
PRIIA	148.50	297.00	148.50	297.00		0.00			297.00	594.00
<i>Title III - FTA Total:</i>	<i>457.04</i>	<i>682.67</i>	<i>489.06</i>	<i>722.70</i>	<i>642.63</i>	<i>831.60</i>	<i>665.28</i>	<i>831.60</i>	<i>2,254.00</i>	<i>3,068.57</i>
State/Local										
State		530.65		514.65		1,924.28		2,220.16		5,189.73
<i>State/Local Total:</i>		<i>530.65</i>		<i>514.65</i>		<i>1,924.28</i>		<i>2,220.16</i>		<i>5,189.73</i>
Other Funds										
Insurance Proceeds	0.00	30.49	0.00	46.12	0.00	100.43	0.00	16.53		193.56
<i>Other Funds Total:</i>		<i>30.49</i>		<i>46.12</i>		<i>100.43</i>		<i>16.53</i>		<i>193.56</i>
<i>Grand Total:</i>	<i>462.96</i>	<i>1,251.20</i>	<i>492.66</i>	<i>1,287.97</i>	<i>651.19</i>	<i>2,867.00</i>	<i>670.88</i>	<i>3,075.28</i>	<i>2,277.68</i>	<i>8,481.45</i>

See [Appendix C](#) for key to funding source codes.

5. SUMMARY AND ANALYSIS OF PROJECTS

There are approximately 300 project records in the FY 2021–2024 TIP. Of those, 179 are location or corridor specific projects, while the remainder are either groupings of smaller, non-regionally significant projects or are jurisdiction or sub-area-wide ongoing projects. **Table 8** provides an at-a-glance look at some of the big-ticket projects across the region in the TIP. **Table 9** shows how the funding in the TIP breaks down across facility types and modes.

Table 9: Major Project Costs in the FY 2021–2024 TIP

Project Title	TIP ID	Total Cost	FY 21-24	Complete
District of Columbia				
South Capitol Street Corridor	3423	\$823 M	\$419 M	2024
Benning Rd. Reconstruction/Streetcar Extension	5754	\$348 M	\$158 M	2030
H Street Bridge over Railroad	6039	\$230 M	\$198M	2025
Suburban Maryland				
I-495 and I-270 Traffic Relief Plan	6432	\$7.6 B	\$39 M	2025
Purple Line	2795	\$2.4 B	\$391 M	2022
Governor Harry W. Nice/Senator Thomas "Mac" Middleton Bridge Replacement Project	5527	\$769 M	\$685 M	2023
Northern Virginia				
Transform I-66 Outside the Beltway	6585	\$3,031 M	\$3,031 M	2021
I-395 Express Lanes Northern Extension	6593	\$462 M	\$462 M	2020
Alexandria Potomac Yard Metro Station	6671	\$370 M	\$254 M	2023
Washington Metropolitan Area Transit Authority				
Rail Line Segment Rehabilitation	5856		\$1,123 M	2045

Table 10: Funding for the National Capital Region by Project Type

Project Type	District of Columbia		Suburban Maryland		Northern Virginia		Regional Total	
	FY 21	FY 21-24	FY 21	FY 21-24	FY 21	FY 21-24	FY 21	FY 21-24
Interstate	11.77	47.07	92.95	107.16	3,791.98	3,854.47	3,896.70	4,008.70
Primary	122.16	318.71	253.49	758.77	782.76	1,216.65	1,158.41	2,294.13
Secondary			49.44	199.29	334.73	522.54	384.17	721.83
Urban					10.48	10.48	10.48	10.48
Bridge	33.12	208.67	25.74	59.99	151.00	270.04	209.86	538.70
Roadways:	167.05	574.45	421.62	1,125.21	5,070.85	5,874.17	5,659.62	17,663.73
Transit:	79.21	274.18	241.18	476.81	396.97	724.38	5,659.52	7,175.24
Bike/Ped:	41.95	97.55	19.02	57.65	16.27	16.27	717.36	1,475.37
Maintenance/Other:	197.19	872.15	276.53	691.46	182.65	544.18	77.24	171.47
Total Funds:	570.61	2,075.09	1,098.46	3,770.59	296.86	865.81	3,155.76	15,673.47

Complete Streets Documentation

On May 16, 2012, the TPB approved resolution R15-2012, approving the Complete Streets Policy for the National Capital Region. Section IV, Documentation and Reporting, in that policy states that “implementation of member jurisdiction and agency Complete Streets policies will be documented in the regional Transportation Improvement Program.” Every submitting agency reported that their jurisdiction had a Complete Streets policy (see [Table 11](#)). Responses were only provided for 15 records at the time of this draft analysis. TPB staff are following up with implementing agencies to achieve a higher response rate.

Table 11: Projects That Advance Complete Streets Goals

TIP ID	Project Title
District of Columbia	
6636	Bus Priority Plan and Program
Suburban Maryland	
6367	Addison Road I
6375	Bus Mass Transit/Metro Access 2
6365	Montgomery County Bicycle and Pedestrian Priority Area Improvements
6364	Montgomery County Transportation Improvements for Schools
6369	Prince George’s County Cherry Hill Road III
6372	Street Lights and Traffic Signals 2
6373	Traffic Congestion Improvements
6397	US 29 BRT
Northern Virginia	
6542	Embark Richmond Highway Comprehensive Plan

Bicycle and Pedestrian Accommodations

The TPB has set a goal to increase the rate of construction of bicycle and pedestrian facilities in the region. Of the 300 TIP projects, 28 are identified as being “primarily a bicycle and/or pedestrian project.” Of those 28, about half are project groupings or area-wide programs. In total, the region currently has \$187 million programmed for bicycle and pedestrian projects, almost a third of that (\$58 million) is programmed in the first year of the FY 2021–2024 TIP. [Table 12](#) summarizes the funding for projects in the TIP that are identified exclusively as bicycle and/or pedestrian projects around the region.

Table 12: Funding for Bicycle and Pedestrian Projects Around the Region

Jurisdiction	FY21	FY21-24
District of Columbia (9 projects)	\$ 42 M	\$98 M
Suburban Maryland (17 projects)	\$19 M	\$58 M
Northern Virginia (2 projects)	\$16 M	\$16 M
Regional Total:	\$77 M	\$172 M

This does not provide a complete picture of the region’s planned investments in bicycle and pedestrian infrastructure, however. Many roadway and transit projects include accommodations for cyclists and/or pedestrians, and it can be difficult to parse out the cost of those accommodations from the total project cost.

6. PERFORMANCE-BASED PLANNING AND PROGRAMMING

This is the second TIP where Performance-Based Planning and Programming (PBPP) activities will be reflected per the federal requirements of MAP-21 and the FAST Act. 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 calls for the use of performance-based decision-making by integrating performance management concepts into the existing federally required transportation planning and programming processes. The performance measures and targets summarized here will provide a baseline for comparison with future TIPs. In addition, this TIP contains comparable performance versus targets for the Highway Safety and Transit Asset Management performance targets. At this time, the TPB has approved targets for 21 out of 25 measures, and this analysis will reflect information on those measures. For more information on these measures, targets and the region’s transportation system performance, please see the System Performance Report which can be found in [Appendix D of the Visualize 2045 document](#).

Highway Safety Performance

The Highway Safety Performance Measures pertain to both the national and regional objective of reducing the instances of serious injuries or death on roadways. Highway Safety consists of five performance measures, listed in [Table 13](#), that were adopted by the TPB in December of 2019. The five-year (2016 – 2020) rolling targets are embolden, and the five-year (2015 -2020) rolling target also shown to illustrate the difference between the two targets.

Table 13: Summary of Regional Highway Safety Performance Measures and Targets

	2015-2019 Target	2016-2020 Target	Percent Difference
# of Fatalities	253.0	253.0	0.0%
Fatality Rate (per 100 MVMT)	0.588	0.588	0.0%
# of Serious Injuries	2919.6	2692.1	-7.8%
Serious Injury Rate (per 100 MVMT)	6.564	6.157	-6.2%
# Non-motorist Fatalities and Serious Injuries	508.6	508.6	0.0%

Table 14 illustrates a comparison between actual performance and the performance targets set for the 2014 – 2018 five-year rolling average. The region has met the 2014 -2018 targets for the number of serious injuries and serious injury rate performance measures. However, the region did not meet the targets set for the number of fatalities, the number of nonmotorist fatalities and serious injuries, and the fatality rate targets.

Table 14: 2014 – 2018 Actual versus Performance Targets

	2014-2018 Actual	2014-2018 Target	Status
# of Fatalities	282.0	253.0	Not Met
Fatality Rate (per 100 MVMT)	0.642	0.588	Not Met
# of Serious Injuries	2700.8	3007.3	Met
Serious Injury Rate (per 100 MVMT)	6.154	6.791	Met
# Non-motorist Fatalities and Serious Injuries	554.8	528.8	Met

Table 15 contains information on the regional TIP projects that will be implemented to assist in achieving the listed targets involving highway safety. Funds from the Federal Highway Administration’s Highway Safety Improvement Program (HSIP) have been programmed on nine projects in the FY 2021–2024 TIP, totaling \$120.3 million. Please note that while these federal requirements are meant to specifically track the federal funding contribution to these types of projects, there are other projects that do not use federal funding but do support the safety outcomes that the TPB is specifically looking to achieve.

Table 14: HSIP Funded Projects in the FY 2021–2024 TIP

TIP ID	Project Name	FY21	FY21-24
District Department of Transportation			
3212	Safety Improvements Citywide	\$5,359	\$24,270
3216	Traffic Operations Improvements Citywide	\$2,000	\$8,000
5316	Guiderrails and Attenuators	\$2,625	\$13,325
6315	East Capitol Street Corridor Mobility & Safety Plan		\$25,000
6491	Connecticut Ave. NW Multimodal Study		\$25,000
Maryland Department of Transportation			
3038	Areawide Environmental Projects	\$342	\$1,188
3082	Areawide Resurfacing and Rehabilitation	\$1,377	\$4,608
3084	Areawide Safety and Spot Improvements	\$1,530	\$5,400
Virginia Department of Transportation			
5506	TIP Grouping project for Construction: Safety/ITS/ Operational Improvements	\$1,749	\$13,464
Regional Total		\$14,982	\$120,315

Pavement and Bridge Condition Performance

This section provides information on the performance measures concerning the condition of bridges and pavements within the Washington metropolitan planning area. The region's infrastructure is a critical component of economic development and increased livability. As stated in the TPB Vision and reaffirmed by Priority 1 in the Regional Transportation Priorities Plan, the TPB encourages all jurisdictions to strive towards maintaining infrastructure in a state of good repair. **Table 16** lists four performance measures and targets for pavement conditions and **Table 16** lists two measures and targets for bridge conditions that were adopted by the TPB in July 2018. For more information on these performance measures and targets, please see the System Performance Report in **Appendix D of the Visualize 2045 document**.

Funds from the Federal Highway Administration's Highway Bridge Replacement and Rehabilitation Program (HBRRP) have been programmed on 27 projects in the FY 2021–2024 TIP, totaling \$113.3 million. Please note that while these federal requirements are meant to specifically track the federal funding contribution to these types of projects, there are other projects that do not use federal funding that also support the safety outcomes that the TPB is specifically looking to achieve.

Table 15: Summary of Regional Pavement Condition Measures & Targets

Interstate	CY 2018 – 2021 Four Year Target
(1) Percentage of Pavements on the Interstate System in Good Condition	52.7%
(2) Percentage of Pavements on the Interstate System in Poor Condition	1.7%
NHS (Non-Interstate)	CY 2018 – 2021 Four Year Target
(3) Percentage of Pavements on the NHS (excl. Interstate) in Good Condition	31.1%
(4) Percentage of Pavements on the NHS (excl. Interstate) in Poor Condition	7.0%

Funds from the National Highway Performance Program (NHPP) have been programmed on 73 projects in the FY 2021–2024 TIP totaling \$925 million. Not all 73 projects will necessarily support pavement and bridge conditions. In addition to those that improve pavement and bridge conditions on the National Highway System (NHS), many other types of projects are eligible for NHPP funding, including (but not limited to) some of the following:

- Bicycle transportation and pedestrian walkways
- Highway safety improvements on the NHS
- Capital and operating costs for traffic and traveler information
- Infrastructure-based ITS capital improvements.
- Environmental mitigation related to NHPP projects.
- Installation of vehicle-to-infrastructure communication equipment

For a complete list of NHPP-eligible project types, see FHWA's NHPP fact sheet at: <https://www.fhwa.dot.gov/fastact/factsheets/nhppfs.cfm>.

Table 16: Summary of Regional Bridge Conditions, Measures & Targets

Bridges	CY 2018 – 2019 Two Year Target	CY 2018 – 2021 Four Year Target
(5) Percentage of NHS Bridges Classified as in Good Condition	27.1%	29.4%
(6) Percentage of NHS Bridges Classified as in Poor Condition	5.2%	3.9%

Highway System Performance

This section contains information on the overall performance of the National Highway System (NHS), Interstate System (IS) and Freight Movement; collectively known as Highway System Performance. A summary of performance measures associated with this area are listed in [Table 17](#).

Table 17: Summary of the Highway System Performance Measures

	Performance Measures
National Highway System	(1) Interstate (IS) Travel Time Reliability (TTR) – Percent of person-miles traveled on the Interstate System that are reliable
	(2) NHS (Non-Interstate) TTR – Percent of person-miles traveled on the non-Interstate NHS that are reliable
Freight Movement	(3) Freight Reliability Truck Travel Time Reliability (TTTR) – Percent of the Interstate System Mileage providing for Reliable Truck Travel Times

The TPB adopted the Highway System Performance measures and targets listed in [Table 18](#) in July 2018. The TPB encourages every jurisdiction in the region to adopt similar goals of making reliability improvements to roadways and calls on the transportation agencies of the region to redouble their efforts to develop projects, programs and policies to achieve increased reliability on roadways. More information on these measures and targets can be found in the [System Performance Report in Appendix D of the Visualize 2045 document](#).

Table 18: Regional Travel Time Reliability & Truck Travel Time Reliability Measures & Targets

	CY 2018 – 2021 Four Year Target
TTR – Interstate Percent of person-miles traveled on the Interstate System that are reliable	58.5%
TTR – Non-Interstate NHS Percent of person-miles traveled on the non-Interstate NHS that are reliable	72.7%
TTTR Index Ratio of the Interstate System Mileage providing for Reliable Truck Travel Times	2.12

There is no federal funding source directly tied to travel-time reliability on Interstate and National Highway System facilities. Funds from the National Highway Freight Program (NHFP) are programmed on three projects in the FY 2021–2024 TIP for a total of \$5 million. There are other projects with non-federal funding sources that should also improve freight movement in the region.

Congestion Mitigation and Air Quality Program Performance

This section contains information of the performance of the Congestion Mitigation and Air Quality Program (CMAQ) measures. [Table 19](#) provides a summary of each of the performance measures. More detailed information concerning the CMAQ Program, the performance measures, details concerning CMAQ projects, and programming for the states of Virginia, Maryland, and the District of Columbia, can be found in [Appendix D – System Performance Report](#).

Table 19: Summary of Congestion Mitigation and Air Quality Program Performance Measures

CMAQ Program	Performance Measures
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
Emissions Reduction	Emissions – CMAQ-funded projects on-road mobile source total emissions reduction for each applicable criteria pollutant and precursor

The TPB adopted CMAQ Performance Measures and targets in June 2018. [Tables 20 and 21](#) illustrate the regional traffic congestion and emission reduction targets.

Table 20: Regional Traffic Congestion Measures and Targets

Performance Measures for the Washington DC-MD-VA urbanized area	CY 2018 – 2019 Two Year Target	CY 2018 – 2021 Four Year Target
Peak Hour Excessive Delay (PHED)	Not Required	26.7 Hours
Mode Share (Non-SOV)	36.9%	37.2%

Table 21: Regional Emissions Reduction Measure and Targets

	Type of Emissions	FFY 2018 – 2019 Two Year Target	FFY 2018 – 2021 Four Year Target
Total Emissions Reduction for the TPB portion of the Washington DC-MD-VA nonattainment area	Volatile Organic Compounds (VOCs)	1.838 Kg/Day	2.195 Kg/Day
	Nitrogen Oxides (NOx)	4.019 Kg/Day	4.703 Kg/Day

CMAQ funding is programmed on 36 projects in the FY 2021–2024 TIP in the amount of \$267 million.

Transit Asset Management Performance

This section presents the transit asset management (TAM) performance measures and targets adopted by the TPB in February 2020. [Table 22](#) provides a summary of the performance measures designated as TAM. For more information on TAM measures and targets, see the [System Performance Report in Appendix D of the Visualize 2045 document](#).

Table 22: 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).	40-foot bus, 60-foot 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)	Percentage of track segments, signal, and systems with performance restrictions.	Signal or relay house, interlockings, catenary, mechanical, electrical and IT systems
Stations/Facilities (Condition)	Percentage of facilities within an asset class, rated below 3 on the TERM scale.	Stations, depots, administration, parking garages, terminals

The nine reporting entities for provision of public transportation provided their targets to the TPB, as shown in [Table 23](#). The targets for the metropolitan planning region are presented in tabular form to account for the differences in targets and standards among the providers of public transportation. Targets are the threshold for the maximum percentage of assets at or exceeding acceptable standards. In most cases for the 2020 target-setting process, providers set targets that are approximately equivalent to their current performance. It should be noted in the 2019 TAM targets, Arlington County reported individually, however with the 2020 TAM targets, Arlington County opted to join the Virginia group plan administered by DRPT. TPB staff will continue to work with the providers of public transportation to collate performance.

Table 23: Regional Transit Asset Management Measures & Targets for 2020

Reporting Entity	Rolling Stock	Service Vehicles	Rail Infrastructure	Station/Facility Condition
WMATA	0% Rail, 3% Bus	16% ^d	3.8%	7% ^f
DDOT	0% Rail, 0% Bus	n/a	5%	0%
Fairfax County	10%	10% ^d	n/a	0%
Montgomery County	8%	50% ^d	n/a	0%
Prince George's County	34%	n/a	n/a	0%
PRTC	29% ^b	0% ^e	n/a	0% ^g
VRE	0% Rail	0% ^e	n/a	0%
Maryland Tier 2 (MTA)	11.5% ^a	37.5% ^e	n/a	4% ^g
Virginia Tier 2 (DRPT)*	10%	25% ^e	n/a	10% ^g

a: heavy-duty buses; b: 45-foot buses; c: autos; d: trucks; e: service vehicles; f: maintenance/administrative facilities

*: Arlington County has joined the Virginia Tier 2 group plan

There are 31 projects in the FY 2021–2024 TIP with \$2.457 billion in §5307, §5309, §5311, §5337, §5339, and CMAQ funding that specify the maintenance or replacement of transit assets.

Included in this TIP for the first time TAM performance targets and actual performance are provided for a comparison in Table 24. Additionally, transit providers were required to provide a written narrative report to the FTA with explanations of their performance. This narrative report was also shared with the TPB.

Table 24: Regional Transit Asset Management Measures: 2019 Targets versus 2019 Performance

Reporting Entity	Rolling Stock	Actual	Service Vehicles	Actual	Rail Infrastructure	Actual	Station/Facility Condition	Actual
WMATA	0% Rail, 0% Bus	0% Rail, 3% Bus	11% ^d	31%	2.1%	1.69%	7% ^f	7.1%
DDOT	0% Rail, 0% Bus	0% Rail, 0% Bus	n/a	n/a	5%	-	0% ^g	0%
Arl Co.	0%	0%	n/a	n/a	n/a	n/a	0%	0%
Fairfax County	0%	-	12% ^d	-	n/a	n/a	0%	-
Montgomery County	11%	14%	34% ^d	40%	n/a	n/a	22% ^g	22%
Prince George's County	4%	25%	43% ^d	25%	n/a	n/a	0%	0%
PRTC	8% ^b	19%	0% ^e	50%	n/a	n/a	0% ^g	0%
VRE	0% Rail	0%	0% ^e	0%	n/a	n/a	0%	0%
Maryland Tier 2 (MTA)	13% ^a	17%	15% ^d	30%	n/a	n/a	24% ^g	4%
Virginia Tier 2 (DRPT)	10%	-	25%	-	n/a	n/a	10% ^g	-

a: heavy-duty buses; b: 45-foot buses; c: autos; d: trucks; e: service vehicles; f: maintenance/administrative facilities