

# National Capital Region Transportation Plan

## Chapter 5



VISUALIZE  
2050



National Capital Region  
**Transportation Planning Board**

Approved December 17, 2025

## Chapter 5:

# Financial Plan for Future Investments

The Visualize 2050 financial plan focuses on reporting government expenditures to maintain and expand the public road and transit system. In keeping with federal regulations, all the projects and programs included in Visualize 2050 must demonstrate that the funds needed to build, maintain and operate them are reasonably expected to be available. As such, this plan is fiscally constrained and reflects transportation investment decisions made at this time.

Funding for transportation projects and programs and for ongoing operation of the region's system—from highways and local roads, rail and bus transit, to sidewalks and trails—comes from a variety of federal, state, and local sources. Federal aid makes up a small share but funds a large part of new and major projects. States are the primary funding agencies, raising revenues from motor fuel taxes, vehicle registration fees and vehicle taxes, and other sources. Local governments, authorities, and agencies collect property taxes and user fees—such as tolls and fares—to fund operations and local projects. Five local jurisdictions in Virginia also pay the Northern Virginia Transportation Commission's (NVTC) regional gas tax to support funding for Washington Metropolitan Area Transit Authority (WMATA) and Virginia Railway Express (VRE).



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Rachel Beyerle/COG

As projects and programs were identified for inclusion in Visualize 2050, sponsor agencies provided estimates of capital and operating costs and identified the source of funding. In making these projections, agencies had to consider various factors affecting the estimation of funding sources and costs. Agencies considered the rising costs of project construction, especially since the COVID-19 pandemic, and the financial sustainability of maintenance and operations, especially transit system operations.

Additional challenges that could impact funding availability include changes in the economy, the price of motor fuel, motor vehicle fuel efficiencies, and the shift towards remote work and electric vehicles affecting fuel usage. Governments at all levels have been exploring alternative means of raising transportation revenues considering the above variables and reviewing best practices to achieve greater cost efficiencies in capital and operational programs through various commissions and initiatives.

Government transportation funding is limited and must be strategically allocated to meet current demands and future needs. The TPB places a strong emphasis on maintaining and preserving the existing transportation system, prioritizing system upkeep over expansion, and dedicating a significant share of funding to its maintenance.

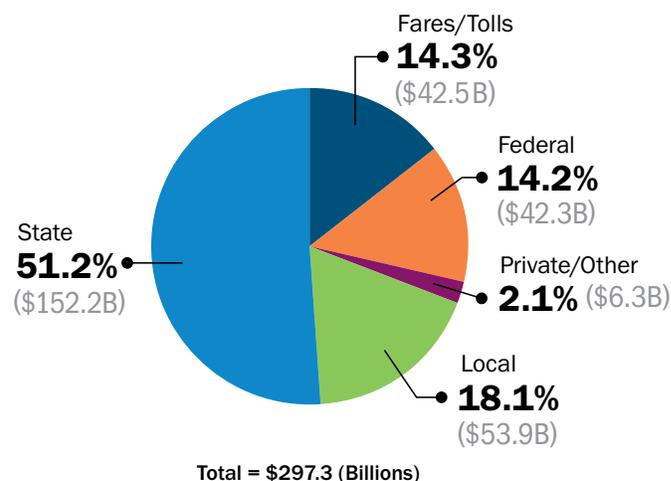
Financial analysis confirms that the Visualize 2050 plan, covering 2026 to 2050, is financially constrained by finding that forecasted revenues are reasonably expected to be available to cover the estimated costs of operating, maintaining, and moderately expanding the region’s multimodal transportation system. More details of this process are available in the financial planning process documentation of Visualize 2050, including a discussion on the TPB’s zero-based budgeting (ZBB) activity which required member agencies to re-evaluate and resubmit their planned projects and programs to align with the TPB’s goals and other policy priorities.

## Expected Revenues 2026-2050

State departments of transportation, public transportation providers, transportation agencies, jurisdictions, and the TPB cooperatively developed reasonable estimates of funds that will be available over the next 25 years to support the implementation of the region’s planned projects, programs, and services.

As illustrated in Figure 5.1 and detailed in Table 5.1, the financial plan consists of five key revenue sources: federal, state, regional/local, private/other, and fares/tolls. Federal funds account for 14 percent of total revenue, and the share generated from user fees such as fares and tolls account for 14 percent. State funding, including the District of Columbia, constitutes the largest share at 51 percent. Local funding, primarily in Northern Virginia due to the transportation funding responsibilities of regional agencies and local jurisdictions in the Commonwealth, constitutes 18 percent, coming from such sources as regional sales taxes, property transfer taxes, and transient occupancy (i.e., hotel) taxes; while bonds, private investments, and other sources collectively make up the remaining two percent.

**Figure 5.1** Revenues by Funding Source in Year of Expenditure Dollars (Billions), 2026-2050



Passage of the Infrastructure Investment and Jobs Act (IIJA) in November 2021 reauthorized federal surface transportation funding for five years, significantly increasing federal financial support. The federal transportation legislation also carried forward the Passenger Rail Investment and Improvement Act (PRIIA) through 2030 which provides \$150 million for WMATA rehabilitation and is matched by \$150 million in state funds (\$50 million each from DC, MD, and VA) annually. With the IIJA expiring in 2026, Congress and interested parties are already at work on a new five-year surface transportation bill.

The Visualize 2050 financial plan reflects the current sources and levels of these various funds and assumes their availability through 2050 with moderate growth. Although future changes in funding sources, levels, and priorities are possible, especially with each new federal surface transportation authorization, the financial plan considers it reasonable to assume current revenue arrangements, given the absence of a definitive basis for predicting such changes.

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**Table 5.1:** Revenues by Funding Source and Mode in Year of Expenditure Dollars (Millions), 2026-2050

	Federal	State/DC	Local	Private/Other	Fares/Tolls	TOTAL
<b>District of Columbia</b>						
Highway, Bicycle, & Pedestrian	\$7,261	\$4,322	\$0	\$0	\$0	\$11,583
Local Transit	\$0	\$127	\$0	\$0	\$4	\$130
Commuter Rail	\$0	\$0	\$0	\$0	\$0	\$0
WMATA Support	\$0	\$37,513	\$0	\$0	\$0	\$37,513
<b>Sub-Total</b>	<b>\$7,261</b>	<b>\$41,961</b>	<b>\$0</b>	<b>\$0</b>	<b>\$4</b>	<b>\$49,226</b>
<b>Suburban Maryland</b>						
Highway, Bicycle, & Pedestrian	\$5,124	\$17,816	\$0	\$0	\$7,200	\$30,140
Local Transit	\$1,481	\$5,854	\$9,905	\$0	\$1,529	\$18,769
Commuter Rail	\$1,807	\$8,343	\$0	\$0	\$479	\$10,629
WMATA Support	\$0	\$34,563	\$0	\$0	\$0	\$34,563
<b>Sub-Total</b>	<b>\$8,412</b>	<b>\$66,576</b>	<b>\$9,905</b>	<b>\$0</b>	<b>\$9,208</b>	<b>\$94,101</b>
<b>Northern Virginia</b>						
Highway, Bicycle, & Pedestrian	\$2,739	\$20,929	\$13,051	\$626	\$1,067	\$38,413
Local Transit	\$1,967	\$3,507	\$15,138	\$954	\$1,512	\$23,077
Commuter Rail	\$1,458	\$6,656	\$3,512	\$37	\$3,267	\$14,930
WMATA Support	\$0	\$12,585	\$12,332	\$1,993	\$0	\$26,910
<b>Sub-Total</b>	<b>\$6,164</b>	<b>\$43,676</b>	<b>\$44,034</b>	<b>\$3,610</b>	<b>\$5,846</b>	<b>\$103,330</b>
<b>Other WMATA Support</b>						
Fares, Grants, & Regional	\$20,493	\$0	\$0	\$2,653	\$27,475	\$50,621
<b>Sub-Total</b>	<b>\$20,493</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,653</b>	<b>\$27,475</b>	<b>\$50,621</b>
<b>GRAND TOTAL</b>	<b>\$42,330</b>	<b>\$152,213</b>	<b>\$53,939</b>	<b>\$6,263</b>	<b>\$42,533</b>	<b>\$297,277</b>

### Revenues - WMATA Summary

	Federal	State/DC	Local	Private/Other	Fares/Tolls	TOTAL
Capital	\$20,493	\$23,146	\$3,406	\$3,749	\$0	\$50,794
Operating	\$0	\$61,515	\$8,926	\$897	\$27,475	\$98,813
<b>Sub-Total WMATA</b>	<b>\$20,493</b>	<b>\$84,661</b>	<b>\$12,332</b>	<b>\$4,646</b>	<b>\$27,475</b>	<b>\$149,607</b>

### Revenues - Modal Summary

	Federal	State/DC	Local	Private/Other	Fares/Tolls	TOTAL
Highway, Bicycle, & Pedestrian	\$15,124	\$43,066	\$13,051	\$626	\$8,267	<b>\$80,135</b>
Local Transit	\$3,448	\$9,487	\$25,044	\$954	\$3,044	<b>\$41,977</b>
Commuter Rail	\$3,265	\$14,999	\$3,512	\$37	\$3,746	<b>\$25,559</b>
WMATA Support	\$20,493	\$84,661	\$12,332	\$4,646	\$27,475	<b>\$149,607</b>

## Planned Expenditures Through 2050

Planned expenditures are the infrastructure improvements to the region’s multimodal transportation system as well as programs and services that transportation agencies expect to be able to afford and implement through 2050. The financial analysis forecasts the costs of operating, maintaining, and expanding the transportation system; thus, the financial plan includes three main funding categories:

- 1. Operations and Maintenance (O&M):** Day-to-day activities like repaving roadways, upgrading bicycle and pedestrian facilities, inspecting and maintaining bridges, clearing snow and debris, servicing transit vehicles, maintaining and operating traffic signals, and paying train and bus operators.
- 2. State of Good Repair (SGR):** Major rehabilitation or complete replacement of aging infrastructure, including bridges, transit vehicles, and technology and communications systems, as they near the end of their useful lifespan.

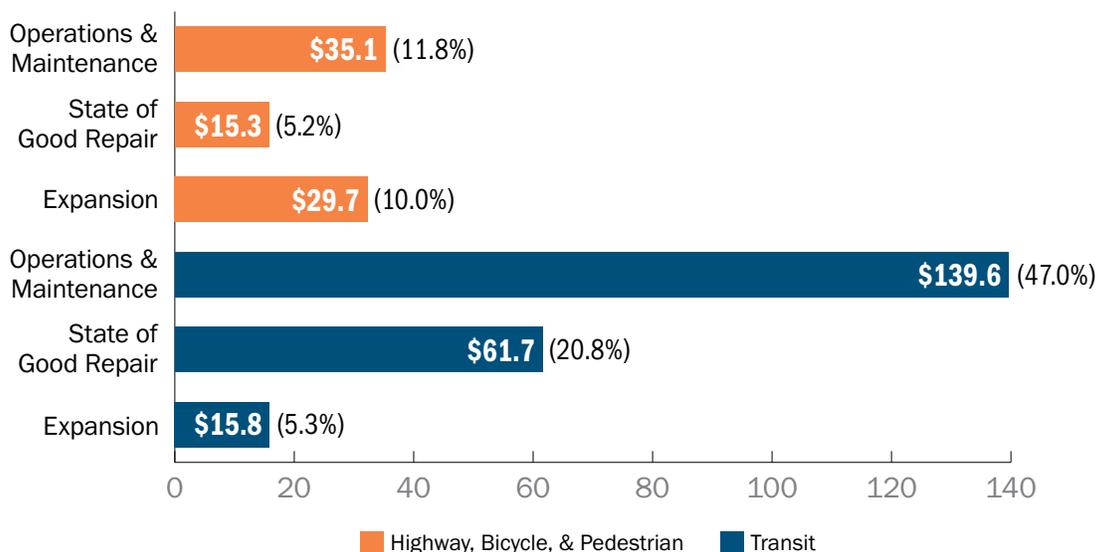
- 3. System Expansion:** Infrastructure improvements that add new capacity by increasing the number of lane miles of vehicle, bicycle, or pedestrian accommodations or by building new transit lines or adding service to existing lines.

These categories reflect the nature of matching available revenue, often referred to as “funding silos,” to different expenditure streams allocated for specific types of investments. The region’s planned expenditures are summarized for highway and transit modes including related bicycle and pedestrian improvements. Figure 5.2 and Table 5.2 show where anticipated funding will be devoted to improving regional transportation through 2050.

### WHAT ARE FUNDING SILOS?

**Transportation funding is not one “pot” of money that can be spent on any transportation project, program, or service. Federal and state laws and policies dictate where and how transportation funds can be applied, which separates the funding available into “silos.”**

**Figure 5.2:** Expenditures by Type and Mode in Year of Expenditure Dollars (Billions), 2026-2050



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A total of \$297.3 billion in transportation expenditures is projected for the region between 2026 and 2050. More than three quarters (85 percent) of this—\$251.8 billion—will be allocated to O&M and SGR expenses to upkeep the current system’s bridges, pavements, transit vehicles, rail tracks, and other assets. Less than a quarter (15 percent) of this—\$45.5 billion—will be dedicated to expanding the transportation network.

When the total forecast expenditures are broken down by mode, public transportation is projected to have the majority share—73 percent of total funding. This includes 50 percent for WMATA and 23 percent for other public transit services. Of the total investment in public transportation, 64 percent is expected to support O&M, 28 percent for SGR, and seven percent to expand the transit network.

The limited funding available for system expansion, as described above, necessitates strategic investments that meet the demands to create an efficient and resilient transportation system that aligns with shared regional goals. Additionally, the federal regulations calling for the plan to be financially constrained requires balancing revenues and expenditures between O&M, SGR, and expansion and modernization.

WMATA’s forecast financial needs through 2050 for both O&M and SGR, as identified in WMATA’s Capital Needs Inventory, face constraints. While current services can be provided into the future, funding for critical modernization and safety improvements and for capacity increases to meet the region’s growth has not been identified. The Metropolitan Washington Council of Governments (COG) and WMATA convened the DMVMoves regional transit initiative in early 2024 to bring together elected and appointed officials to develop regional goals for transit, specify actions for improved regional integration, identify funding needs, and agree on new funding proposals.

The COG and WMATA Boards of Directors endorsed the DMVMoves Plan on November 17, 2025 which calls for an additional \$460 million a year of capital funding for WMATA to modernize the region’s transit

system. If legislatively enacted, this would provide an additional \$24.3 billion through 2050, an increase of 48 percent above the \$50.8 billion of WMATA’s capital expenditures in Visualize 2050. Following local and state action, new funding would be reflected in future Visualize plans.

The plan identifies funding for the construction of significant capital transit projects, including the completion of the *Purple Line Light Rail Transitway: Bethesda Metro Station to New Carrollton Metro Station* in Maryland. Highways account for 27 percent of total expenditures in the plan. Of this amount, 37 percent is allocated to highway expansion, including funding for bicycle and pedestrian improvements which are typically either built with roadway projects or as off-road trails. Another 44 percent of highway expenditure will go towards system O&M and the remaining 19 percent for SGR.

Funding investment decisions are not made by the TPB itself; instead, they are made by state, local, and sub-regional bodies within the TPB’s member jurisdictions, guided by the regional transportation goals and values adopted by the TPB, along with other considerations. These funding decisions are then approved by the TPB where federal funds for all projects and state, local, and other funds for projects that change the transportation systems’ capacity are otherwise required to be included in the TPB’s metropolitan transportation plan, such as Visualize 2050.

The intent to expend funds in the near-term from the long-term Visualize 2050 financial plan are reflected in the TPB’s Transportation Improvement Program (TIP) for fiscal years 2026-2029 which can be found online at [visualize2050.org/plan-resource](https://visualize2050.org/plan-resource). The TIP includes the planned obligations for expenditures which have secured funding through federal and other sources and are actively being implemented in the short-term. Beyond the FY 2026-2029 TIP, reasonably anticipated funding in FY 2030-2050 is identified for planned expenditures in the longer-term based on projected revenue sources and the priorities identified by each sponsor agency in alignment with the TPB’s regional goals.

**Table 5.2:** Expenditures by Type and Mode in Year of Expenditure Dollars (Millions), 2026-2050

	Operations/ Maintenance	State of Good Repair	Expansion	TOTAL
<b>District of Columbia</b>				
Highway, Bicycle, & Pedestrian	\$5,518	\$5,424	\$641	\$11,583
Local Transit	\$12	\$16	\$102	\$130
Commuter Rail	\$0	\$0	\$0	\$0
WMATA Support	\$27,587	\$9,528	\$397	\$37,513
<b>Sub-Total</b>	<b>\$33,117</b>	<b>\$14,969</b>	<b>\$1,140</b>	<b>\$49,226</b>
<b>Suburban Maryland</b>				
Highway, Bicycle, & Pedestrian	\$14,449	\$3,131	\$12,560	\$30,140
Local Transit	\$14,339	\$1,706	\$2,723	\$18,769
Commuter Rail	\$3,805	\$1,467	\$5,358	\$10,629
WMATA Support	\$25,346	\$8,849	\$369	\$34,563
<b>Sub-Total</b>	<b>\$57,938</b>	<b>\$15,152</b>	<b>\$21,010</b>	<b>\$94,101</b>
<b>Northern Virginia</b>				
Highway, Bicycle, & Pedestrian	\$15,110	\$6,790	\$16,513	\$38,413
Local Transit	\$14,107	\$7,178	\$1,791	\$23,077
Commuter Rail	\$8,555	\$2,713	\$3,662	\$14,930
WMATA Support	\$18,405	\$8,165	\$340	\$26,910
<b>Sub-Total</b>	<b>\$56,177</b>	<b>\$24,847</b>	<b>\$22,306</b>	<b>\$103,330</b>
<b>Other WMATA Support</b>				
<b>Sub-Total</b>	<b>\$27,475</b>	<b>\$22,088</b>	<b>\$1,058</b>	<b>\$50,621</b>
<b>GRAND TOTAL</b>	<b>\$174,707</b>	<b>\$77,055</b>	<b>\$45,515</b>	<b>\$297,277</b>

**Expenditures - WMATA Summary**

	Operations/ Maintenance	State of Good Repair	Expansion	TOTAL
DC	\$27,587	\$9,528	\$397	\$37,513
Maryland	\$25,346	\$8,849	\$369	\$34,563
Virginia	\$18,405	\$8,165	\$340	\$26,910
Other WMATA	\$27,475	\$22,088	\$1,058	\$50,621
<b>Sub-Total WMATA</b>	<b>\$98,813</b>	<b>\$48,630</b>	<b>\$2,164</b>	<b>\$149,607</b>

**Expenditures - Modal Summary**

	Operations/ Maintenance	State of Good Repair	Expansion	TOTAL
<b>Highway, Bicycle, &amp; Pedestrian</b>	<b>\$35,076</b>	<b>\$15,344</b>	<b>\$29,714</b>	<b>\$80,135</b>
<b>All Transit</b>	<b>\$139,631</b>	<b>\$61,711</b>	<b>\$15,801</b>	<b>\$217,142</b>
Local Transit	\$28,459	\$8,901	\$4,617	\$41,976
Commuter Rail	\$12,359	\$4,180	\$9,020	\$25,559
WMATA Support	\$98,813	\$48,630	\$2,164	\$149,607

## Project and Program Expenditure Details

TPB member agencies will construct projects and implement a variety of programs, including the operation of transit services, to better serve residents, employees, and visitors' need to



access places throughout the region. The financial plan and the **Future Transportation Investments in Projects and Programs** list includes three different types of records:

- 1. Discrete projects (one):** An activity with a scope of work, specific location, to/from limits, a total project cost, and finite completion year. Discrete projects will typically program funds for planning & engineering, right-of-way acquisition, and construction phases.
- 2. Project groupings (more than one):** Multiple discrete projects, or component projects, from two to 300+, typically non-regionally significant (NRS) and captured together under one record listing due to similar project scopes or types of funding.

- 3. Ongoing programs:** Operational or capital activities that are NRS for air quality analysis and are anticipated to continue indefinitely with annual expenses. These programs are often funded at or near the same level from year to year, typically adjusted to account for inflation.

**NOTE:** For a complete list of all expenditures included in the Visualize 2050 financial plan along with total costs, completion dates, and other information visit [visualize2050.org](http://visualize2050.org). Expenditure details are subject to change over time as projects are refined.

A full accounting of the Visualize 2050 financial plan expenditures on discrete projects, project groupings, and ongoing programs can be found in the **Future Transportation Investments in Projects and Programs** list on the Visualize 2050 website along with a link to more expenditure details available via the **TPB's Project InfoTrak database**<sup>1</sup>. Regionally significant projects that may affect future air quality (RSAQ) by adding or removing highway or transit capacity are identified in the expenditures list and used in the air quality conformity analysis.

**Table 5.3:** Project/Program Alignment with TPB Goals per Sponsor Responses

	 SAFETY	 WELL-MAINTAINED INFRASTRUCTURE	 TRAVEL TIME RELIABILITY	 EFFICIENT SYSTEM OPERATIONS	 AFFORDABLE AND CONVENIENT MOBILITY OPTIONS	 ENVIRONMENTAL PROTECTION	 RESILIENT REGION	 LIVABLE AND PROSPEROUS COMMUNITIES
Discrete Projects	241	184	274	166	274	129	125	206
Project Groupings	31	27	27	17	27	24	12	24
Ongoing Programs	66	56	66	55	66	54	24	58
<b>Total</b>	<b>338</b>	<b>267</b>	<b>367</b>	<b>238</b>	<b>367</b>	<b>207</b>	<b>161</b>	<b>288</b>

<sup>1</sup> TPB's Project InfoTrak Database listing all the plan expenditures may be found at <https://www.mwcog.org/ProjectInfoTrak>

A main consideration during the Visualize 2050 development process and ZBB exercise was to ensure projects/programs align with TPB goals. In many cases, a project or program supports achievement of multiple TPB goals. Per TPB staff analysis on the sponsor agency responses, all projects/programs included in Visualize 2050 align with TPB's goals. Table 5.3 shows the alignment expenditures by type with TPB goals while Table 5.4 summarizes the number of projects/programs by jurisdiction.

**Table 5.4:** Number of Projects/Programs by Type and Jurisdiction

	Discrete Projects	Project Groupings	Ongoing Programs
DC	53	5	38
MD	107	15	59
VA	195	20	44
Regional	0	6	1
<b>Total</b>	<b>355</b>	<b>46</b>	<b>142</b>

## Applying TPB's Priority Strategies via the Planned Expenditures

Through the Visualize 2050 ZBB activity, member agencies applied the TPB's priority strategies to select projects and program expenditures in their local context to achieve shared regional goals. Highlights of member agencies' application of TPB priority strategies are shared in the remainder of this chapter and continue into the next. Through 2050, various individual projects and programs will ensure continuous resources are available for routine pavement, bridge, and transit asset maintenance. Through these efforts, member agencies are implementing the TPB priority strategy to apply best practices to maintain the transportation system, such as bridge and pavement management and transit asset management.

**PRIORITY STRATEGY:**  
**Apply best practices to maintain the transportation system such as bridge and pavement management and transit asset management.**

Rehabilitation is important for extending a bridge's lifespan before more extensive reconstruction is needed. In Washington, DC, the *14th Street/U.S. 1 Bridge Rehabilitations over Maine Avenue, the Outlet Channel, and Haines Point Park (T5342)* is making structural repairs on multiple segments to support the critical link between DC and Virginia. This effort will extend the corridor's useful lifespan and ensure it can continue connecting the region for years to come. Built in 1977, the H Street NE bridge in DC will undergo essential reconstruction (T6039) that will also provide increased capacity for rail operations below. Best maintenance practices also involve preventative measures like those included in *Prince George's County Major Drainage and Flood Control Improvements (T11593)*. To get ahead of flooding incidents that further erode infrastructure and disrupt travel, this ongoing program will fund the redesign, reconstruction, and rehabilitation of major drainage and flood control projects throughout the county.

Transit assets, like buses, rail cars, tracks, locomotives, and facilities, require continuous investments and upgrades to ensure they can keep operating. As buses and trains near the end of their



Pierre Gaunard/COG

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useful lives, agencies are making the necessary investments to update or replace fleets. The Potomac and Rappahannock Transportation Commission (PRTC) is doing just that through the *OmniRide Bus Replacement* (CE2714) and *PRTC Transit Center Upgrades* (CE3023) programs. With these funds, the OmniRide bus service will overhaul its vintage fleet by rebuilding several bus engines to lengthen their useful lives. The facility to house and maintain these buses is 16 years old and will undergo several projects to keep the facility in a state of good repair. As investments like these are implemented, the TPB will continue to monitor the performance of bridges, pavements, and transit assets to assess the extent to which the region is meeting its performance targets and highway and transit maintenance goals.

**PRIORITY STRATEGY:**  
Apply the endorsed safety strategies to design and operate safer infrastructure and encourage safer behavior.



BeyondDC/Flickr

The safety of travelers is among the top and most pressing concerns shared across the region. Many investments in Visualize 2050 apply the endorsed safety strategies to design and operate safer infrastructure and encourage safer behavior.

Efforts to improve safety will be seen at individual project sites with intersection reconfigurations,

optimized traffic flow patterns, and new traffic calming features. Safety improvements are often folded into roadway projects to accommodate the multimodal nature of the region by including protected or off-road bicycle facilities or by making improvements for pedestrian visibility. Such is the case with the *Centreville Road (VA 28) Intersection Improvements: Manassas Drive to Fairfax County Line* (CE3815) project in Fairfax County where the goal is to improve safety, operations, and pedestrian accessibility and mobility through improvements at multiple intersections along a 2.2-mile stretch. The vision includes new medians for access management, pedestrian and bicycle facilities, improved ADA accessibility, traffic signal modifications, and restricted turns.

Other funds will be put into programs that are dedicated to prioritizing resources to on-going needs, strategic spot improvements, emerging issues, or education. In Washington, DC, for instance, the *Safety Improvements Program* (CE1148-T3212) will make strategic, data-driven investments in locations with the highest number of reported bicycle and pedestrian accidents across the city. Similarly, *Prince George's County's Pedestrian Safety Improvements* (CE3410-T6370-T3642) will fund multiple projects focused on enhancing pedestrian safety, particularly along high-crash corridors and near schools. Identified improvements include, but are not limited to, new crosswalks, pedestrian hybrid beacons, pedestrian refuge islands, sidewalks, bus pull-off areas, reconfiguring bus stop placements, and ADA upgrades.

**PRIORITY STRATEGY:**  
Provide more telecommuting and other options for commuting such as vanpool or carpool and alternative work schedules.

The priority strategy to provide more telecommuting and other options for commuting, such as vanpool or carpool and alternative work schedules, aims to reduce single occupancy vehicle (SOV) commuting. This is done by encouraging employers to offer transit

incentives, allow for telework and flexible schedules, and disincentivize driving alone to work.

At the same time, through commuter marketing and program operations, commuters are directly encouraged to change their travel behaviors with commuter assistance and incentive programs. The regionwide Commuter Connections Program effectively reduces vehicle trips and vehicle miles traveled (VMT), and its continued funding supports congestion relief by promoting an alternative to driving alone.



Elvert Barnes/Flickr

In Maryland, the *Ridesharing Statewide Program* (CE1265-T3760) will continue to promote and encourage the establishment of carpools and vanpools by funding the activities of the ridesharing unit of the Statewide Transportation Program, including ridematching coordination. Many projects promote alternatives to SOV travel; however, no single project can be expected to reduce vehicle miles traveled (VMT) in a significant manner at the regional level. It is instead the collection of projects together that make other options for commuting more feasible.

**PRIORITY STRATEGY:**  
Implement Transportation Systems Management and Operations (TSMO) measures at all eligible locations.

Transportation Systems Management and Operations (TSMO) measures are applied to improve traffic flow and safety by optimizing the performance of

existing facilities, rather than relying solely on new construction or expansion. As a priority strategy to implement TSMO measures at all eligible locations, member agencies are applying a wide variety of solutions to fit their local contexts.



Automated Safety Camera Program/DDOT

An important element of managing traffic flow is the programming of traffic signals. Old traffic signal control technology needs to be updated like any other transportation asset. In Alexandria, Virginia, the *Traffic Adaptive Signal Control* program (CE3526-CE3611) will fund the replacement of their 30-year-old system with a new one that utilizes vehicle sensing technology and that has transit priority capabilities.

In Washington, DC, a similar program, *Traffic Operations Improvements* (CE1151-T32160), will upgrade vehicle and pedestrian traffic control systems, add new pavement markings, and enhance traffic management center operations to improve the efficiency of the city's existing street network. Alongside this, the *Traffic Camera Upgrades* program (CE3869) will modernize DC's traffic camera network to better support traffic management, safety monitoring, and the enforcement of speed limits and red-light laws.

To meet Montgomery County's transportation management needs, the ongoing *Advanced Transportation Management System* program (T3065) will integrate Intelligent Transportation Systems (ITS) to improve traffic control through

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adaptive signals and GPS, monitor real-time traffic conditions, and actively inform travelers about incidents using Travelers Advisory Radio (TARS) and live broadcasts.

**PRIORITY STRATEGY:**  
Apply effective technologies that advance the TPB's goals.

Agencies across the region are actively adopting new and updated technologies to improve transportation system performance and advance the TPB's goals. These efforts span a broad spectrum of applications, from enhancing safety and mobility to supporting sustainability and freight efficiency.

To reduce overweight freight violations and roadway infrastructure, Washington, DC, is launching the *Freight Size and Weight Enforcement Program* (CE3265-T2633). The program will expand the use of portable scales, helping to prevent pavement damage caused by overweight vehicles.

Funding for *VRE Information Technology Improvements* (T4802) will give riders of VRE real-time multimodal traveler information and an upgraded variable message system. Other technologies are being incorporated into larger projects, such as the *Crystal City Transitway Expansion from Crystal City Metro Station to Pentagon City Metro Station* (CE3521) where an expanded BRT route in Arlington will include solar-powered bus shelters to enhance the transit experience while reducing energy use.

Other transportation systems improvements like new LED signage, flashing pedestrian warnings, driver feedback displays, and upgraded traffic signal management systems will improve travelers' experiences throughout the region. For example, Alexandria's current traffic signal control system is 30 years old and unable to respond to evolving

roadway conditions and travel demands. The *Traffic Adaptive Signal Control* project (CE3529-CE3611) will modernize the system with upgraded central control hardware and software, advanced vehicle detection, mobile device tracking for real-time and historical traffic data, and adaptive signal controls to enhance overall traffic flow and improve transit operations.



Arlington DES/Flickr

As demonstrated through the implementation of the TPB priority strategies highlighted, the Visualize 2050 financial plan is more than just a collection of costs and expenditures—it serves as a strategic blueprint for shaping the region's future transportation system. It reflects how the region is addressing current challenges and sets the course for meeting the needs of both current and future populations. The investment in hundreds of additional projects and programs will influence the mobility, accessibility, reliability, safety, and sustainability of the entire system across all modes of travel. The next chapter continues with highlighting how TPB member agencies are implementing TPB priority strategies, exploring how these planned investments will enhance the region's multimodal transportation system, and examining how the 2050 network will perform according to regional metrics, including travel time reliability, congestion, mode share, and emissions.

# VISUALIZE 2050

Scan the QR code below to  
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