Congestion Management Process (CMP)

Strategies Series

FY 2026 Congestion Management Process Technical Report

June, 2026

National Capital Region
Transportation Planning Board

THE TPB'S FY2026 CONGESTION MANAGEMENT PROCESS (CMP) TECHNICAL REPORT
Prepared on behalf of the Transportation Planning Board Technical Committee
June 2026

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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, 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).

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Well-Maintained Infrastructure

TPB FY 2026 Congestion Management Process Strategies Series

Background

Well-maintained transportation infrastructure is essential to ensure people have reliable mobility and accessibility options in and around the region. The ongoing maintenance of infrastructure is crucial to preserving operational efficiency of the transportation network in the National Capital Region. When infrastructure is not well-maintained, projects to address this infrastructure become increasingly necessary. This results in work/construction zones appearing, sometimes for significant lengths of time, which is a non-recurring cause of congestion.

With the NCR continuing to experience population and employment growth, preserving and modernizing existing infrastructure will remain a critical component of supporting an efficient multimodal transportation network. These regular maintenance activities help minimize possible disruptions, which may ultimately lead to congestion. Strategic investments in preventive maintenance, repair, and asset management practices can help extend the life of critical transportation infrastructure.

Cause of Congestion – Work Zones

In 2025, across all days and all times, on the TPB Congestion Management Network (CMN), work zones alone contributed to approximately 1.2 percent of congestion experienced. This equated to 917,952 Vehicle Hours of Delay (VHD) and $38,405,258. However, this is for work zones, alone. Work zones often complement other types of congestion—both non-recurring and recurring.

Priority Strategies and Targeted Actions

The priority strategies involved within this TPB goal include the following two strategies, with the related targeted actions listed underneath.

1. Apply best practices to maintain the transportation system such as bridge and pavew ment management and transit asset management.

   - Implement performance-based work zone management and staging strategies.
   - Accelerate project delivery to minimize construction duration.
   - Advance proactive, lifecycle-based asset management to ensure system reliability.

2 Implement Transportation Systems Management and Operations (TSMO) measures at all eligible locations.

» Leverage ITS and real-time information to manage work zone impacts.

Investment

Roadway
Reconstruction/Rehab/Maintenance/Resurface

the latest TIP cycle of FY 2026-2029 contains 35 projects, summing to a total allocation of $2,801,453,833.

One example project in this category is the Wheeler Road Multimodal Safety and Access Project in Washington, DC. A total of $25,000,000 has been allocated via the TIP to this project across the construction phase. This project will help reduce crashes, reduce speeding, and improve safety for all users and transportation modes, which assists in lowering non-recurring congestion due to safety incidents. The project includes multiple safety improvements, roadway design, sidewalk, curb and gutter, signing & pavement markings, street lighting, green infrastructure, drainage, ITS/communications, traffic signals, traffic analysis, concept design, surveying, geotechnical investigations, and Maintenance of Traffic (MOT) which helps keep people moving safely through or around a work zone during construction.

Bridge
Preventative Maintenance + Rehabilitation

These two categories within the FY 2026-2029 TIP contain a total of 39 projects that sum to $1,071,704,252 allocated in FY 2026, 2027, 2028, and 2029, total.

An example project of the bridge preventative maintenance and rehabilitation is the Lottsford Rd., Bridge No. P-0283 Project, in central Prince George's County, Maryland. This project consists of major repairs and bridge preservation work, in which $2,125,000 has been allocated towards its preliminary engineering and construction phases. This rehabilitation and maintenance project is important from a congestion management perspective. If the bridge falls into a state of disrepair, there can be serious implications for a major unexpected event, which not only puts lives at risk, but also leads to significant non-recurring congestion, traffic pattern changes, and the potential creation of new bottlenecks. Further, work zone activities may need to be increased in cost and duration, which ultimately worsens congestion conditions in an area the longer that infrastructure issues are not addressed.

Targeted Strategies

Work Zone Management Strategies

Numerous agencies and jurisdictions within the region support reducing the amount of time work zones are in place on the transportation network. Though these efforts are not directly related to congestion management, and have a greater focus towards safety and efficiency, the strategies do have an impact on mitigating the congestion that occurs due to work zone activities. Examples of these strategies found throughout the region include:

- **Accelerated Construction Techniques[1];** in which contractors during short weekend windows utilize precast concrete elements, and rapid-curing asphalt in order to complete major structural work and reduce the duration of road closures and work zone exposure on the transportation network. These accelerated construction techniques also include Accelerated Bridge Construction (ABC) technologies which may significantly reduce traffic delays and road closures and could potentially reduce project costs.

  An example of utilizing precast concrete elements/systems which helped reduce congestion, includes the Virginia I-66 project which evaluated precast concrete pavement technologies, and cast-in-place construction, to replace distressed pavement slabs on a ramp to US 50. It was discovered that precast concrete pavement is a viable alternative to cast-in-place. This enabled VDOT to maintain traffic, maximize work-zone safety, and save over $481,000 due to reduced delay, less reconstruction, and improvement performance.

- **Time-of-Day Restrictions[2];** utilized across the region to maximize clearance during daylight, where planners mandate that contractors shift operations to weekend, off-peak weekday, or overnight windows to clear the roadway for daily commuters.

- **Safe and Effective Use of Law Enforcement Personnel in Work Zones[3];** which occur to enforce speed reductions in the areas of work zones and help protect the work zone crews while also helping to ensure that crash severity, should an instance arise, is lighter and that law enforcement personnel may respond in a shortened manner.

- **Advanced Permitting Practices[4];** to ensure that contractors submit interconnected Transportation Management Plans (TMPs) which explain the effects of concurrent projects' impacts on the surrounding neighborhoods and corridors.

  An example of this includes the Transportation Online Permitting System (TOPS) from DDOT.

1 District Department of Transportation. (2007, October). Work zone safety and mobility policy. Government of the District of Columbia. https://ddot.dc.gov/sites/default/files/dc/sites/ddot/publication/attachments/ddot_wz_safety_and_mobility_policy_report_october_2007.pdf

2 Federal Highway Administration. (n.d.). Accelerated construction. U.S. Department of Transportation. Retrieved May 18, 2026, from FHWA Work Zone – Accelerated Construction

3 Metropolitan Washington Council of Governments. (2026, March 10). TPB safety study, jurisdictional inventory mark next steps in region's efforts to lower traffic fatalities and injuries. Metropolitan Washington Council of Governments. https://www.mwcog.org/newsroom/2026/03/10/tpb-safety-study-jurisdictional-inventory-mark-next-steps-in-regions-efforts-to-lower-traffic-fatalities-and-injuries/

4 District of Columbia Department of Transportation. (n.d.). Transportation Online Permit System (TOPS). DC DDOT. https://tops.ddot.dc.gov/DDOT-PERMITSYSTEM/DDOTPERMITonline/landing.aspx

Travel Time Reliability and Affordable & Convenient Mobility Options

TPB FY 2026 Congestion Management Process Strategies Series

Background

Increasing travel time reliability and providing affordable and convenient mobility options throughout the National Capital Region are two TPB Policy Framework goals consolidated into one due to their mutual relevance to each other, especially in the context of the Congestion Management Process (CMP).

Providing reliability across the region's entire transportation network, not only the highway- focused network of the Congestion Management Network (CMN), is critical towards helping ensure goods and people arrive at their destinations—or to the next leg of a trip—on time and that delay costs are mitigated. Congestion and reliability are significantly inversely correlated events. An increase in congestion leads to less reliability, and a decrease in congestion leads to greater reliability[5]. Furthermore, the provision of affordable and convenient mobility options is critical to ensuring that not only Single-Occupant Vehicle (SOV) travel is both convenient and affordable, but that alternative modes prove viable as well. This helps reduce demand on the roadway network throughout the region. Of the goals in the TPB Policy Framework, this goal is one of the most directly relevant goals to congestion management.

Priority Strategies, Targeted Actions, and PBPP

The priority strategies associated with this TPB goal include the following, with the related targeted actions listed underneath.

1. Increase frequency and capacity of bus rapid transit (BRT) and transitways across the region to provide more service to more people, especially in corridors with high demand.

    - Invest in high-capacity transit, including Park and Ride lots near express lanes and Metrorail stations, and improve service reliability.Accelerate project delivery to minimize construction duration.
    - Prioritize non-SOV investments to improve throughput.

5 Gore, N., Pulugurtha, S. S., Arkatkar, S., & Joshi, G. (2021). Congestion index and reliability-based freeway level of service. Journal of Transportation Engineering, Part A: Systems, 147(6). https://doi.org/10.1061/JTEPBS.0000531

2 Reduce travel times on all public transportation bus services with faster bus service for existing users, regardless of the type of bus or corridor.

- Invest in high-capacity transit, including Park and Ride lots near express lanes and Metrorail stations, and improve service reliability.

3 Move more people on Metrorail with more frequent services, longer trains, and expanded stations that are accessible by nonmotorized modes.

- Invest in high-capacity transit, including Park and Ride lots near express lanes and Metrorail stations, and improve service reliability.
- Prioritize non-SOV investments to improve throughput.

4 Improve walk and bike access to transit, especially within TPB-identified High-Capacity Transit station areas, through the application of Complete Streets and Green Streets policies.

- Expand and enhance bicycle and pedestrian access to transit.
- Prioritize non-SOV investments to improve throughput.

5 Complete the National Capital Trail Network, which provides walk and bicycle access to jobs and other activities by connecting communities across the region to Activity Centers.

- Expand and enhance bicycle and pedestrian access to transit.

6 Expand the express highway network, with rapid transit, and allow carpool/vanpool to ride free.

- Develop and operate HOV, HOT and managed lane facilities.
- Prioritize non-SOV investments to improve throughput.

Performance Based Planning and Programming (PBPP) metrics are considered to help assess progress towards achieving TPB Policy Framework goals. As the CMP strategies continue to evolve, other PBPP metrics may be utilized to help inform goal assessment, in the context of the CMP. The following are the metrics that helped to gauge progress towards achieving this goal:

Metrics	Targeted Direction
Level of Travel Time Reliability – interstates	Increase
Level of Travel Time Reliability – non-interstates (NHS)	Increase
Truck Travel Time Reliability Index	Decrease
Annual Peak Hours of Excessive Delay (PHED) per Capita	Decrease
Percentage of Non-Single Occupant Vehicle (SOV) Mode Share	Increase

There is one targeted action, "Implement targeted capacity, operational, and geometric improvements at bottleneck locations," that does not fit into any of the TPB Policy Framework priority strategies. Nevertheless, this is an important strategy for helping improve travel time reliability and in the provision of affordable and convenient mobility options. This targeted action is more related to the five PBPP metrics listed above, and so it was deemed best to include this targeted action as a contributor to a combined priority strategy that is composed of the five PBPP metrics listed above.

Investment

Project Types Concerning Bus/BRT:

In the FY 2026-2029 cycle of the TIP, the TPB programmed 41 projects, aside from project-pending financial close-out, across the categories/types of projects found within the Bus/BRT main category of projects. These projects are relevant to the first two priority strategies listed above: (1) Increase frequency and capacity of bus rapid transit (BRT) and transitways across the region to provide more service to more people, especially in corridors with high demand and (2) Reduce travel times on all public transportation bus services with faster bus service for existing users regardless of the type of bus or corridor. These include the projects with the listed sub-category types of:

- Capital/Expansion
- Capital/State-of-Good-Repair
- Maintenance
- Operating
- Passenger Facilities

The table below highlights the number of projects and the investment made within these projects in FY 2026, 2027, 2028, and 2029 per the TIP.

Project Subtype – Main Category Being Bus/BRT	Number of Projects	FY2026-29 Investment/ Allocation
Capital/Expansion	14	$636,595,874
Capital/State-of-Good-Repair	8	$253,087,437
Maintenance	6	$1,633,569,719
Operating	3	$115,873,640
Passenger Facilities	10	$116,245,403
Total	**41**	**$2,755,372,073**

Bus/BRT – Passenger Facilities

An example project within the Bus/BRT – Passenger Facilities type of project in the latest TIP cycle includes allocating $4,747,000 to the Virginia Department of Rail and Public Transportation (VDRPT) for the Landmark Transit Center in the City of Alexandria, Virginia. As part of the broader Landmark Mall redevelopment, this project will deliver a new transit center designed to enhance the overall passenger experience for riders traveling to the site or connecting between services. Its role will be the key transfer hub between two high-capacity transit lines in Alexandria.

Investment

Project Types Concerning Rail/Fixed Guideways

In the FY 2026-2029 cycle of the TIP, the TPB programmed 32 projects across the categories/types of projects found within Rail/Fixed Guideways. These projects are relevant to the third priority strategy listed earlier: Move more people on Metrorail with more frequent services, longer trains, and expanded stations that are accessible by nonmotorized modes. These include projects that are focused on:

- Capital/Expansion
- Capital/State-of-Good-Repair
- Maintenance
- Metrorail/Commuter Rail
- Operating
- Streetcar/Light Rail

The table below highlights the number of projects and the investment made within these projects in FY 2026, 2027, 2028, and 2029 per the TIP.

Project Subtype – Main Category Being Bus/BRT	Number of Projects	FY2026-29 Investment/ Allocation
Capital/Expansion	2	$309,994,849
Capital/State-of-Good-Repair	18	$2,247,454,652
Maintenance	1	$585,442,341
Metrorail/Commuter Rail	7	$2,618,597,349
Operating	3	$40,205,312
Streetcar/Light Rail	1	$569,931,000
Total	**32**	**$6,371,625,503**

» Rail/Fixed Guideways - Streetcar/Light Rail

In Montgomery and Prince George's counties, Maryland, the TPB allocated to MDOT – Maryland Transit Administration $569,931,000 for construction of the project entitled, (The) Purple Line. This funding went solely to the construction phase of the project. This project is a 16-mile light rail transitway project that connects Bethesda and Silver Spring in Montgomery County to College Park and New Carrollton in Prince George's County. The Purple Line links to Metrorail's Green, Orange and Red Lines, all three MARC lines, Amtrak, and local bus routes. It also provides active transportation via a hiking/biking trail along part of the route. In total, the Purple Line will consist of 21 stations.

Investment

Project Type Concerning Bicycle/Pedestrian

The TPB programmed 51 projects across the categories/types of projects found within the Bicycle/Pedestrian type, totaling $1,019,317,955. Some of these projects are relevant to the fourth and fifth priority strategies listed earlier: (4) Improve walk and bike access to transit, especially within TPB-identified High-Capacity Transit station areas, through the application of Complete Streets and Green Streets policies, and (5) Complete the National Capital Trail Network that provides walk and bicycle access to jobs and other activities by connecting communities across the region to Activity Centers.The table below highlights the number of projects and the investment made within these projects in FY 2026, 2027, 2028, and 2029 per the TIP.

Not all bike/pedestrian projects that the TPB programmed in the latest TIP cycle are relevant to improving bike/pedestrian access to transit nor completing the National Capital extensive web of trails. For example, some bike/pedestrian projects are simple replacements, rehabilitations, retaining wall repairs, pedestrian safety and traffic operations improvements, etc. The following example project is relevant to the fourth priority strategy in the FY 2026-2029 TIP allocation.

» Bicycle/Pedestrian - Bike/Travel Lane Reduction

In Prince George's County, MD, the Blue Line Corridor Project utilizes the funding to support infrastructure projects along the Blue Line Corridor including improvements around the Largo, Morgan Boulevard, Addison Road/Seat Pleasant and Capitol Heights Metro Stations. The amount programmed is a total of $30,900,000 allocated to Prince George's County, MD, for the construction phase of this project.

Investment

Roadway – HOV/Managed Lanes

The TPB has allocated $559,323,951 to one (1) Roadway-HOV/Managed Lanes project in the latest TIP cycle (FY 2026-2029). This is relevant to the sixth priority strategy listed earlier: Expand the express highway network, with rapid transit, and allow carpool/vanpool to ride free.

» Roadway – HOV/Managed Lanes

The TPB allocated $559,323,951 to the Virginia Department of Transportation (VDOT) for the I-495 Express Lanes Northern Extension project. This is found within Fairfax County, VA, and funding is completely allocated to the construction phase for this project. This project is an extension of the I-495 High Occupancy/Toll (HOT) lanes northward from Old Dominion Drive near Tysons to the American Legion Bridge. This project adds two HOT lanes in each direction (North/South). The extension is coordinated with a parallel HOT lanes project in Montgomery County, MD.

This project is clearly involved in expanding the express highway network, along with pricing and demand management, and will do so at a critical river crossing in the region (the American Legion Bridge). This will allow for a reduction in congestion at one of the most notable bottlenecks in the NCR region, as drivers will be incentivized to carpool or pay a dynamically adjusted fee to utilize faster lanes. This will help improve travel time reliability, in addition to assisting in providing affordable and convenient mobility options, at a critical county/state-level crossing.

Targeted Strategies
Examples

Travel Time Reliability Enhancement Strategies Enacted Throughout the NCR

Variably Priced Lanes (VPLs)	VPLs provide additional options to travelers in the region by dynamically adjusting toll prices based on congestion. This helps ensure that Level of Service (LOS) on corridor lanes remains strong even during peak periods. These exist across I-66, I-95/395, and I-495, in Virginia. VPLs benefit carpoolers, vanpoolers, express bus service riders, and riders willing to pay a toll for enhanced travel time reliability.
Traffic Signal Management and ITS Related Strategies	One of the leading causes of non-recurring congestion is traffic signals. Coordinated signal systems and real-time traffic management centers operate throughout the region, which help address non-recurring congestion issues that reach a certain disruption threshold. Addressing these issues can help mitigate travel time reliability decreases from these incidents and ensure that a coordinated response between agencies can be enacted. An example of a traffic management center includes The Metropolitan Area Transportation Operations Coordination (MATOC) Program, which operates out of the City of College Park, in Prince George's County, Maryland, and manages regional traffic, coordinates incident response, and provides a consolidated view of areawide conditions[6].
Advanced Traveler Information Systems (ATIS)	ATIS in the NCR is a regionally coordinated strategy with jurisdiction-level implementation, in which real-time traveler information systems provide travelers on the roadway network with accurate data on travel times, upstream incidents, alternative routing, and warnings on roadway closures, special events and weather events. This helps travelers make informed decisions to adjust their trips, and trip planning, to increase the reliability of said trips.

6 Metropolitan Area Transportation Operations Coordination. (n.d.). Welcome to MATOC! MATOC. https://matoc.org/

Targeted Strategies Cont'd

Examples

Providing Affordable and Convenient Mobility Options Strategies Enacted Throughout the NCR

Commuter Connections Program	Travel Demand Management strategies, including the TPB's Commuter Connections Program, are critical in ensuring congestion management via the provision of affordable and convenient options for travel throughout the region. The Commuter Connections Program helps provide ride matching, vanpool assistance, a Guaranteed Ride Home Program, and employer assistance and outreach for encouraging more employers to get involved in providing non-SOV alternative and incentivization programs such as telecommuting. The TPB encourages providing telecommuting and other options such as flexible work hours to provide commuters with more affordable and flexible options for their commute.
Arlington County Commuter Services (ACCS) / Transportation Resources for Arlington County (TRAC)	Since 1989, in Arlington County, VA, the TRAC has been involved in reducing traffic congestion, improving travel time reliability, providing information on affordable and convenient mobility options, decreasing parking demand, promoting maximum use of HOV infrastructure, and improving air quality[7]. TRAC provides information and services through programs including WalkArlington, BikeArlington, Arlington Transportation Partners, The Commuter Store, and CommuterDirect.com. TRAC programs remove more than 40,000 single-occupant vehicle trips per day from the DC area's roads by shifting them to other modes[8].
Micromobility – Capital Bikeshare	Dockless and docked e-bikes, and scooters have been deployed across multiple jurisdictions in the NCR that help provide affordable first/last-mile connectors to and from transit stations. Capital Bikeshare is an example of a docked bikeshare program that has seen rapid success in the NCR. This affordable, convenient, and equitable bikeshare service spans numerous jurisdictions, connecting a network of over 700 stations with both bicycles and e-bikes[9].

7 Transportation Resources for Arlington County. (n.d.). Transportation resources for Arlington County. CommuterPage. https://www.commuterpage.com/about/arlington-county-commuter-services/

8 Mobility Lab. (2014, July 7). Demand-side transportation strategies are secret to Arlington's success. https://mobilitylab.org/transportation-demand-management/further-reading/demand-side-transportation-strategies-are-secret-to-arlingtons-success/

9 BikeArlington. (n.d.). Capital Bikeshare. https://www.bikearlington.com/bike/resources/capital-bikeshare/

Livable and Prosperous Communities

TPB FY 2026 Congestion Management Process Strategies Series

Background

Transportation systems have a direct impact on economic, social, and financial prosperity and livability for all of the diverse communities that make up the National Capital Region (NCR). Congestion impacts not only travel conditions but also quality of life, access to opportunities, household expenses, and regional economic competitiveness. Unreliable travel conditions limit access to jobs, healthcare, education, and other critical services, while also increasing economic burden, stress, and travel burden.

Communities with accessible transportation networks are better positioned to promote economic growth, mobility, and overall community well-being. Initiatives to manage congestion are vital to ensuring economic competitiveness while fostering livable communities. Investments in active transportation, transit, micromobility, Transportation Demand Management (TDM), and Transit-Oriented Development (TOD) help promote prosperous communities and reduce reliance on Single Occupancy Vehicle (SOV) travel while increasing accessibility and connectedness for residents.

TDM has become an important strategy for reducing congestion and improving regional mobility by reducing the number of SOV trips during peak hours. TDM includes programs that offer incentives for carpooling, vanpooling, and non-SOV travel in addition to teleworking and flexible scheduling. Nevertheless, it is critical to note that TDM strategies cannot be equally experienced by the greater regional workforce, as those with limited occupational flexibility may not be able to engage in teleworking, off-peak scheduling, or take transportation modes different than SOV travel.

Cause of Congestion – Work Zones

In 2025, across all days and all times, on the TPB Congestion Management Network (CMN), work zones alone contributed to approximately 1.2 percent of congestion experienced. This equated to 917,952 Vehicle Hours of Delay (VHD) and $38,405,258. However, this is for work zones, alone. Work zones often complement other types of congestion—both non-recurring and recurring.

Priority Strategies and Targeted Actions

The priority strategies involved within this goal of the TPB include the following, with related targeted actions listed underneath

1. Provide more telecommuting and other options for commuting such as vanpool or carpool and alternative work schedules.
    - Expand ridesharing, workplace commuter benefits, and public commuter incentive programs.
    - Market local and regional travel mode shift, and TDM programs to the public.

2 Expand the express highway network, with rapid transit, and allow carpool/vanpool to ride for free.

» Implement pricing and demand management strategies.

3 Bring jobs and housing closer together by adding housing units in Regional Activity Centers and near High-Capacity Transit stations.

» Coordinate transportation and land use planning strategies, including concentrating future growth in Regional Activity Centers and near High- Capacity Transit.

Investment

Roadway – HOV/Managed Lanes

The TPB has allocated $559,323,951 to one (1) Roadway-HOV/Managed Lanes projects in the latest TIP cycle (FY 2026-2029).

» Roadway – HOV/Managed Lanes

The TPB allocated $559,323,951 to the Virginia Department of Transportation (VDOT) for the I-495 Express Lanes Northern Extension project. The project location is Fairfax County, Virginia, and funding is completely allocated to the construction phase for this project. This project is an extension of the I-495 High Occupancy/Toll (HOT) lanes northward from Old Dominion Drive near Tysons to the American Legion Bridge. This project adds two HOT lanes in each direction (North/South). The extension is coordinated with a parallel HOT lanes project in Montgomery County, Maryland.

This project expands the express highway network, along with pricing and demand management, and will do so at a critical river crossing in the region (the American Legion Bridge). This will allow for a reduction in congestion at one of the most notable bottlenecks in the NCR, as drivers will be incentivized to carpool or pay a dynamically adjusted fee to utilize faster lanes. Overall, this will help improve travel time reliability at a critical county/state-level crossing in the region for both people and freight.

Investment

TDM/Micromobility - Ridesharing

The TPB has allocated $52,936,966 across seven (7) TDM/Micromobility - Ridesharing projects in the latest TIP cycle (FY 2026-2029).

» TDM/Micromobility – Ridesharing

The TPB allocated $17,370,000 to the Maryland Department of Transportation (MDOT) State Highway Administration for the Commuter Connections Program. This program supports the TPB's Commuter Connections initiative in Maryland through a Commuter Operations Center, the Guaranteed Ride Home program, employer outreach, marketing and evaluation efforts, and support for telecommuting.

This is a project that provides more telecommuting and other options for commuting such as vanpool or carpool and alternative work schedules. The Commuter Connections program is designed to incentivize individuals and employers to use non-SOV modes for their commutes through prizes, competitions, and tax incentives. As part of Commuter Connections, free ride matching services are used to help commuters find other individuals who share similar routes on their commutes, as well as working hours, which help result in significant fuel cost savings, diminished congestion, and access to High-Occupancy Vehicle (HOV) lanes.

Targeted Strategies

Alternative Commute Programs and Marketing Strategies

The Commuter Connections Program, the TPB's demand management strategies which help reduce SOV travel via expanding commuting options and improving access to services for carpooling and vanpooling, help the National Capital Region move towards being a livable and prosperous community. The TPB supports carpooling, vanpooling, telecommuting, transit use, bicycling, employer outreach and marketing, through this program[10]. With various incentivized options, the Commuter Connections is focused on helping commuters in the region while reducing weekday peak period congestion, lowering household transportation costs, and providing residents with flexible and affordable mobility options. Significant marketing events such as Bike to Work Day also help showcase how non-SOV commuting options are a viable choice for many. These large-scale events also highlight investments being made across the transportation network in active transportation, especially transit.

Transportation and Land Use Planning Strategies

The TPB understands the importance of coordinated land use and transportation planning. This helps to increase density, which improves active transportation and transit ridership, while lowering SOV ridership, leading to a reduction in strain on the system's infrastructure. Through integrated land use, transportation, occupational, and demographic planning, the TPB hosts several strategies that are not designed around congestion management, but through their application, do contribute towards congestion management.

10 Commuter Connections. (2025). Commuter Connections Promotes Free Resources, Commuter Incentives. Retrieved from https://www.commuterconnections.org/enewsletter/commuter-connections-promotes-free-resources-commuter-incentives/

Regional Activity Centers[11]

Regional Activity Centers (RACs) are designated locations across the NCR intended to concentrate future growth in support of regional goals, including providing livable and prosperous communities. First proposed in 1998, the concept has gained widespread acceptance among regional leaders and now serves as a selection criterion for various COG and TPB grants. The current Activity Centers Map, developed in coordination with local planning departments and based on the COG Round 10.0 Cooperative Forecast, was approved by the COG Board of Directors in 2025.

By directing development to areas already served by transit, walkable infrastructure, and multimodal connections, RACs help reduce reliance on SOVs. This, in turn, decreases the number and length of trips on the TPB-Congestion Management Network (CMN) and the greater regional road network, at-large. This focused growth strategy is a key tool in congestion management, as it encourages compact, mixed-use development that allows residents and workers to live, work, and access services without contributing to highway congestion.

Transportation Land Use Connections[12]

TPB supports coordinating transportation and land use planning by encouraging future growth in RACs and areas with strong transit and multimodal access. The Transportation Land-Use Connections Program helps local governments implement strategies that better connect transportation investments with community development goals. This program provides short-term consultant assistance up to $80,000 for planning projects and up to $100,000 for design or preliminary engineering projects that promote mixed-use, walkable communities and support a variety of transportation alternatives. Since 2007, TLC has funded 191 planning projects, totaling more than $9.2 million.

One of the recent TLC beneficiaries is Prince William County, Virginia, which received TPB TLC technical assistance for studies supporting walkable, mixed-use communities with more transportation choices[13]. The projects help support a variety of transportation alternatives, including but not limited to, microtransit options, peak-hour express bus improvements near I-95.

The TPB's TLC Program is a direct contributor to regional congestion management by addressing one of the root causes of traffic congestion— the disconnect between where people live, work, and access services. By funding local planning and design projects that promote walkable, mixed-use, transit-accessible development, the TLC program helps reduce the number and length of vehicle trips on the regional road network, and in so doing, promote livable and prosperous communities. When residents can meet their daily needs without relying solely on a personal vehicle for transportation to and from their destinations of choice, demand on already-strained roadways decreases, making the program a cost-effective, land use-based complement to traditional infrastructure investments. This program has demonstrated a sustained regional commitment to integrating transportation and land use planning as a congestion mitigation strategy.

11 Metropolitan Washington Council of Governments. (2025, May 14). Regional activity centers maps. https://www.mwcog.org/documents/2025/05/14/regional-activity-centers-maps-activity-centers-land-use-region-forward/

12 MWCOG. (n.d.). Transportation Land-Use Connections Program. Retrieved from Transportation Land-Use Connections Program | Metropolitan Washington Council of Governments

13 Prince William Virginia. (n.d.). Transportation & Land Use Connections (TLC) Studies. Retrieved from Transportation & Land Use Connections (TLC) Studies

Efficient Systems Operations and Safety

TPB FY 2026 Congestion Management Process Strategies Series

Background

Systems operations and safety interventions play a critical role in managing congestion. Systems operations are necessary to ensure congestion-causing events/disruptions are mitigated on the National Capital Region's (NCR) transportation network, that normal operations are well-running, and passengers and goods are moving safely and efficiently throughout the region, and beyond. As part of systems operations, optimal signal timing and sync are one of the key contributors towards ensuring that systems are running smoothly, in addition to utilizing dynamic road pricing and congestion pricing to optimize capacity, and Intelligent Transportation Systems efficacy, as a whole.

Cause of Congestion – Signals

Signals are also one of the highest contributors to congestion on its own. In 2025, during all days and all times, signals alone contributed more than 8 percent of congestion (8.2 percent) on the Congestion Management Network (CMN) of Interstates, US Routes, State Routes, Parkways, Turnpikes and Expressways. The vehicle hours of delay from signals alone amounted in approximately 6.4 million VHD (delay equating to 60 percent or less of the travel times that are operating at free-flow speed), and approximately $268 million dollars costing the region.

Cause of Congestion – Safety

Safety is also of critical concern for the region from not only a human standpoint with many of the NCR's jurisdictions moving towards adopting a Vision Zero approach, but also from a congestion management perspective as well. As outlined in the FY2026 CMP Technical Report, safety is one of the leading causes of congestion in the NCR, which, on its own, was responsible for a loss of approximately $281 million dollars in 2025, and approximately 8.6 percent of the VHD experienced.

Priority Strategies and Targeted Actions

The priority strategies that are involved within this goal of the TPB include the following two strategies, with the related targeted actions listed underneath

1. Implement Transportation Systems Management and Operations (TSMO) measures at all eligible locations.
    - Coordinate regional operations and emergency response
    - Optimize traffic control systems and active management strategies
    - Deploy and integrate intelligent transportation systems (ITS)

2 Apply the endorsed safety strategies to design and operate safer infrastructure and encourage safer behavior.

» Implement advanced incident management and clearance strategies

Investment

Roadway – Signal/Signage

In the FY2026-2029 cycle of the TIP, alone, the TPB programmed $123,270,961 across seven Roadway – Signal/Signage projects, for Fiscal Years 2026-2029.

» Roadway – Signal/Signage

In Montgomery County, MD, the TPB allocated $5,356,000 to the project, Traffic Signal System Modernization, which provides on-going, life-cycle maintenance and replacement of essential equipment and subsystems from the network communication paths throughout the county, while also being relayed to the traffic control equipment in the field and the Transportation Management Center (TMC). In addition, it ensures that the network system, communication network and hardware of the TMC remains up to date with the industry and national standards, and new technologies can be employed by the county's Traffic Division. From a congestion management perspective, this helps ensure signals are communicating with each other and the TMC for optimal flow, and issues can be more quickly addressed before queue and bottleneck formations expand. The Traffic Signal System Modernization ensures that incidents are responding within less time and cost for first responders and respond more effectively and proactively to congestion that is a result of special events, work zones, and recurring conditions.

Investment

Roadway – ITS/Technology

The TPB has allocated $316,632,365 across 10 Roadway – ITS/Technology projects in the latest TIP cycle (FY2026-2029).

» Roadway - ITS/Technology

An example project from this TIP cycle that allocates funds towards Intelligent Transportation Systems/Technology is the CCTV NOVA Phase 1 #I-95 CIP which allocates $1,400,000 to Fairfax and Prince William Counties in Northern Virginia to install Closed-circuit television (CCTV) cameras along I-95 at Mile Markers 148, 150, 153, 156, 170, and 174. This assists transportation management center operators in monitoring conditions on I-95, to help detect incidents, support real-time operational responses like dynamic message signs, work zone issues, and emergency coordination, monitor incident clearance response, and assess queues and bottleneck formations.

Investment

Safety

The TPB has allocated funds to over 300 projects in the latest TIP. Across the 300 projects, numerous projects have safety as a focal point, agnostic of the specified type of project (ITS/Technology, Signals/Signage, etc.). Concerning the investment made to safety projects, TPB staff utilized the Highway Safety Improvement Program (HSIP) filter within the TIP to arrive at 16 projects, which have received HSIP funds within the TIP allocation and equates to a total of $449,084,560 for Fiscal Years 2026-2029.

» Safety

An example project that focuses strictly on safety, in this latest TIP cycle for FY2026-2029, is in Washington, DC, entitled Safety Improvements Citywide. The TIP allocated $20,448,657 to this project which helps provide a safe traveling environment for vehicular traffic, pedestrians and bicycle circulation within the District on Federal-aid and local roads. Work under this project includes removing or relocating roadside visual obstructions and physical obstacles, resurfacing to improve skid resistance, modifying traffic channelization, replacing medians, upgrading traffic signals, signs, and lighting, installing pavement markings to help reduce crashes, and installing safety fencing at overhead structures. These improvement needs are identified through a systematic review of crash records, field inspections, surveys, and citizen requests, in addition to Washington, DC, maintaining an inventory of locations with the highest number of reported crashes to help prioritize improvements.

Targeted Strategies Cont'd
Examples

Providing Affordable and Convenient Mobility Options Strategies Enacted Throughout the NCR

Within the NCR, numerous agencies and jurisdictions work to address efficient systems and operations and safety improvements, which, in part, are designed to address congestion management. The TPB assists in compiling and analyzing data associated with the programs, regional coordination across jurisdictions focused on these programs, and investment in projects to help support the goals of these programs. Please find the listed incident management programs in the NCR that are supported by the TPB, below

District Department of Transportation (DDOT)	Provides information on many incident management areas, including updating and protecting communication network, deployment of evacuation dynamic message signs, emergency public address system, evacuation plans, and deployment of CCTV cameras.

Maryland's Coordinated Highways Action Response Team (CHART) program	Supports TPB's CMP efforts by providing incident management data, including the distribution of incidents and disabled vehicles by location, the number and types of incidents responded to, reductions in secondary incidents, weekday versus weekend incident patterns, and roadway segments with the highest incident frequencies.
VDOT's Safety Service Patrol (SSP)	Supports incident management and congestion mitigation by detecting incidents and traffic disruptions, helping minimize incident duration, clearing roadway obstructions and debris, establishing temporary traffic control for emergency responders, and providing on-scene assistance as needed. DDOT and MDOT SHA operate similar safety patrol programs that support roadway safety and traffic operations across their respective jurisdictions.
The Metropolitan Area Transportation Operations Coordination (MATOC) program	A joint effort of DDOT, MDOT, VDOT, and WMATA with TPB, is a regional program to enhance the availability of real-time transportation information and strengthen coordination among regional transportation agencies. MATOC is committed to integrating traffic management systems and providing rapid, accurate transportation information, across regional agencies to most effectively respond to real-time medium to large-scale.
ITS and Systems Management[14]	
The TPB coordinates with regional jurisdictions and local transportation agencies to support the implementation of ITS technologies, and strategies that are composed of ITS, not only through its allocation of funds to ITS projects, but also in assisting in compiling and analyzing the resulting operational management data.	
Advanced Traffic Signal Systems	Use communications technologies to improve the safety and efficiency of signal operations. These systems may include interconnected signal networks that support coordinated timing across corridors, as well as pedestrian countdown signals that enhance safety for people walking.
Electronic Payment Systems	Use cards or transponders carried by the user that electronically communicate with devices maintained by a transportation agency to conduct and record payment transactions. Examples include both transit and highways. Concerning the highway example, the E-Z Pass toll system helps ensure queues continue moving with lanes specific to electronic payment systems, which helps with the management of flow on the network.

14 Metropolitan Washington Council of Governments. (n.d.). Operational management strategies. Metropolitan Washington Council of Governments. https://www.mwcog.org/transportation/planning-areas/management-operations-and-safety/cmp/operational-management-strategies/

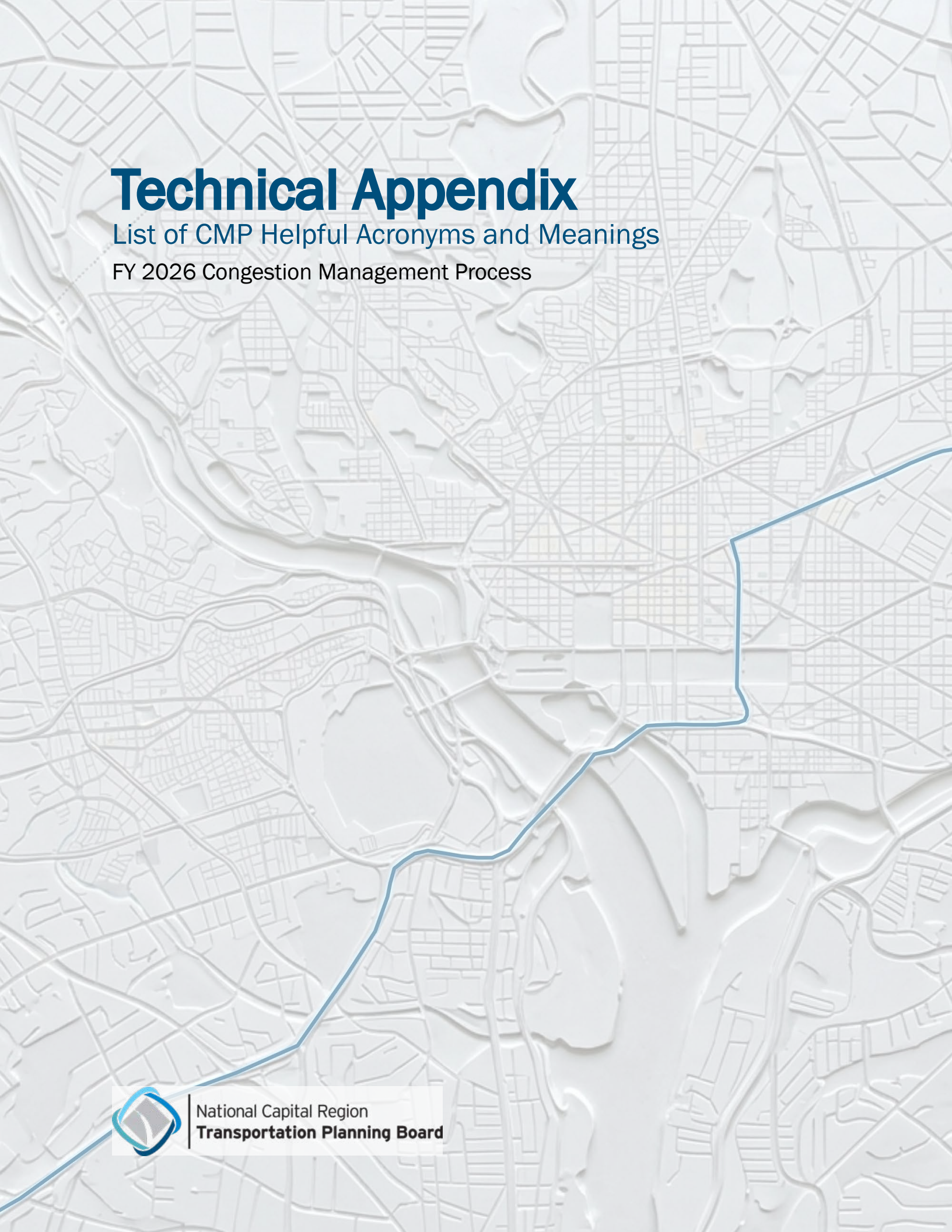
Service Patrols	involve specialized trucks or vans traveling the highways and rendering assistance where needed, such as pushing disabled vehicles off the road, providing gasoline, or changing tires. The three DOTs of the NCR, DDOT, MDOT, and VDOT all implement service patrols on roadways, in addition to Montgomery County, MD also having patrols.
Advanced Traveler Information Systems (ATIS)	Such as the 511 system in Virginia, are technology-based means of compiling and disseminating real-time or near-real-time transportation system information.
Safety Strategies[15]	
Automated Enforcement Practices	Including speed and red-light cameras to reduce severe crashes. For example, case studies show that Montgomery County reported a nearly 40 percent reduction in the likelihood of fatal and serious injury crashes on enforced corridors, and Fairfax County and the City of Alexandria have seen improvements in their localized crash risk as well. DC's cameras have shown a 30 percent reduction in crashes that result in injury, as well. Reductions in average speeds and violations when cameras have been installed throughout the City of Alexandria, Fairfax County, and Montgomery County.
Safety Behavioral and Enforcement Campaigns	Including Click It or Ticket campaigns utilized across the region and implementing community-focused messaging to help promote the risks of distracted driving and encourage safe driving practices.

15 Metropolitan Washington Council of Governments. (2026, March 10). TPB safety study, jurisdictional inventory mark next steps in region's efforts to lower traffic fatalities and injuries. Metropolitan Washington Council of Governments. https://www.mwcog.org/newsroom/2026/03/10/tpb-safety-study-jurisdictional-inventory-mark-next-steps-in-regions-efforts-to-lower-traffic-fatalities-and-injuries/

Technical Appendix

List of CMP Helpful Acronyms and Meanings

FY 2026 Congestion Management Process



National Capital Region
Transportation Planning Board

List of CMP Acronyms and Meanings

Acronym	Meaning	Acronym	Meaning
AADT	Annual Average Daily Traffic	MPA	Metropolitan Planning Area
ACS	American Communities Survey	MTP	Metropolitan Transportation Plan
ART	Arlington Transit	MTA	Maryland Transit Administration
BI	Buffer Index	MWAA	Metropolitan Washington Airports Authority
CATT (Lab)	Center For Advanced Transportation Technology	MWCOG	Metropolitan Washington Council of Governments
CCTV	Closed-Circuit Television	NCR	National Capital Region
[TPB-] CMN	Congestion Management Network	NEPA	National Environmental Policy Act
CMP	Congestion Management Process	NHS	National Highway System
CMPTR	Congestion Management Process Technical Report	NPMRDS	National Performance Management Research Data Set
COC	Commuter Operations Center	PBPP	Performance-Based Planning and Programming
CMAQ	Congestion Mitigation Air Quality	PCM	Percent of Congested Miles
CUE	City-University-Energysaver	PHED	Peak Hours of Excessive Delay
DASH	Driving Alexandrians Safely Home	PM	Performance Management
DCA	Ronald Reagan Washington National Airport	PRTC	Potomac and Rappahannock Transportation Commission

Acronym	Meaning	Acronym	Meaning
DDOT	District Department of Transportation	PTI	Planning Time Index
DOT	Department of Transportation	RITIS	Regional Integrated Transportation Information System
FAF	Freight Analysis Framework	RITIS-PDA	Regional Integrated Transportation Information System-Probe Data Analytics
FAST (act)	Fixing America's Surface Transportation	SOC	State of the Commute Survey
FFTT	Free-Flow Travel Time	SOV	Single Occupancy Vehicle
FHWA	Federal Highway Administration	TAZ	Traffic Analysis Zone
FTA	Federal Transit Administration	TDM	Transportation Demand Management
GPS	Geographic Positioning System	TIP	Transportation Improvement Program
GRH	Guaranteed Ride Home	TLC	Transportation/Land Use Connections
HOT	High Occupancy/Toll	TMA	Transportation Management Area
HOV	High Occupancy Vehicle	TMC	Traffic Message Channel
HPMS	Highway Performance Monitoring System	TOC	Transportation Operations Center
IAD	Washington Dulles International Airport	TOD	Transit-Oriented Development
IIJA	Infrastructure and Investment Jobs Act	TPB	Transportation Planning Board

Acronym	Meaning	Acronym	Meaning
IMR	Incident Management and Response	TTI	Travel Time Index
ITS	Intelligent Transportation Systems	TTTR	Truck Travel Time Reliability
LOS	Level of Service	UA/UZA	Urbanized Area
LOTTR	Level of Travel Time Reliability	VDOT	Virginia Department of Transportation
LRTP	Long Range Transportation Plan	VDRPT	Virginia Department of Rail and Public Transportation
MAP	Moving Ahead for Progress in the 21st Century Act	VHT	Vehicle Hours of Travel
MARC	Maryland Area Rail Commuter	VMT	Vehicle Miles of Travel
MAS	Mobility Analytics Subcommittee	VOC	Volatile Organic Compound
MATOC	Metropolitan Area Transportation Operations Coordination	V/C	Volume/Capacity
MDOT	Maryland Department of Transportation	VPL	Variably Priced Lane
MDSHA	Maryland State Highway Administration	VPP	Vehicle Probe Project
MNCPPC	Maryland – National Capital Park and Planning Commission	VRE	Virginia Railway Express
MPO	Metropolitan Planning Organization	WMATA	Washington Metropolitan Area Transit Authority

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