



National Capital Region  
**Transportation Planning Board**



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# **TRANSPORTATION PLANNING BOARD MEETING PACKET**

June 20, 2024

Virtual





## **TRANSPORTATION PLANNING BOARD**

Thursday, June 20, 2024  
12:00 P.M. - 2:00 P.M.

### **Virtual Meeting**

#### **AGENDA**

- 12:00 P.M. 1. PARTICIPATION PROCEDURES, MEMBER ROLL CALL, AND PUBLIC COMMENT OPPORTUNITY**  
*Christina Henderson, TPB Chair*
- Interested members of the public will be given the opportunity to make brief comments on transportation issues under consideration by the TPB. For any member of the public who wishes to address the board on the day of the meeting, they may do so by emailing written comments to [TPBcomment@mwkog.org](mailto:TPBcomment@mwkog.org) with the subject line "Item 1 Public Comment Opportunity", or by calling and leaving a phone message at (202) 962-3315. Comments will be summarized and shared with TPB members as part of their published meeting materials. These statements must be received by staff no later than 12:00 P.M. (Noon) on Tuesday, June 18, to be relayed to the board at the meeting.
- 12:15 P.M. 2. APPROVAL OF THE MAY 15, 2024 MEETING MINUTES**  
*Christina Henderson, TPB Chair*
- 12:20 P.M. 3. TECHNICAL COMMITTEE REPORT**  
*Amy Garbarini, TPB Technical Committee Chair*
- 12:25 P.M. 4. COMMUNITY ADVISORY COMMITTEE REPORT**  
*Ra Amin, CAC Chair*
- 12:35 P.M. 5. STEERING COMMITTEE ACTIONS AND REPORT OF THE DIRECTOR**  
*Kanti Srikanth, TPB Staff Director*
- This agenda item includes Steering Committee actions, letters sent/received, and announcements and updates.
- 12:45 P.M. 6. CHAIRMAN'S REMARKS**  
*Christina Henderson, TPB Chair*

Reasonable accommodations are provided upon request, including alternative formats of meeting materials.  
Visit [www.mwkog.org/accommodations](http://www.mwkog.org/accommodations) or call (202) 962-3300 or (202) 962-3213 (TDD).

## **ACTION ITEMS**

- 12:50 P.M. 7. VISUALIZE 2050: THE I-95/I-495 SOUTHSIDE EXPRESS LANES PROJECT WILL BE RECONSIDERED FOR INCLUSION IN THE AIR QUALITY CONFORMITY ANALYSIS OF VISUALIZE 2050 AND THE FY 2026-2029 TIP**

*Cristina Finch, TPB Transportation Planner*

At the May TPB meeting, the Board approved the project inputs for the Air Quality Conformity Analysis of Visualize 2050 and the FY 2026-2029 TIP, electing to remove the I-95/I-495 Southside Express Lanes Project from R12-2024 to allow more time to consider this project's inclusion in the analysis. At this meeting, the Board will act on R13-2024 to approve the inclusion of the I-95/I-495 Southside Express Lanes in the analysis.

**Action: Adopt Resolution R13-2024 to approve the I-95/I-495 Southside Express Lanes Project for inclusion in the Air Quality Conformity Analysis of Visualize 2050 and the FY 2026-2029 TIP.**

- 1:40 P.M. 8. TRANSPORTATION RESILIENCE IMPROVEMENT PLAN (TRIP)**

*Katherine Rainone, TPB Transportation Planner*

Staff will brief the board on the Transportation Resilience Improvement Plan (TRIP). The board will be asked to approve the TRIP.

**Action: Approve the Transportation Resilience Improvement Plan.**

- 2:00 P.M. 9. ADJOURN**

The next meeting is scheduled for Wednesday, July 17, 2024.

## **MEETING VIDEO**

Watch and listen to live video of TPB meetings and listen to the recorded video from past meetings at:

[www.mwcog.org/TPBmtg](http://www.mwcog.org/TPBmtg)





**NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD  
MEMBERSHIP LIST**

June 20, 2024

2024 Officers: Chair Christina Henderson; First Vice Chair James Walkinshaw;  
Second Vice Chair Neil Harris

	<b>Members</b>	<b>Alternates</b>
<b><u>DISTRICT OF COLUMBIA</u></b>		
DC Council	Charles Allen	
DC Council	Christina Henderson	Heather Edelman
DC Council	Matt Frumin	Leigh C. Miles
DC-DOT	Sharon Kershbaum	Amanda Stout
		Anna Chamberlin
		Mark Rawlings
D.C. Office of Planning	Anita Cozart	Sakina Kahn
		Ryan Hand
		Rebecca Schwartzman
<b><u>MARYLAND</u></b>		
Bowie	Dennis Brady	Mati Bazaruto
Charles Co.	Reuben Collins	Jason Groth
College Park	Denise Mitchell	Stuart Adams
Frederick Co.	Jessica Fitzwater	Mark Mishler
City of Frederick	Kelly Russell	David Edmondson
Gaithersburg	Neil Harris	Dennis Enslinger
Greenbelt	Emmett V. Jordan	Kristen Weaver
Laurel	Tim Miller	Christian Pulley
Montgomery Co.	Marilyn Balcombe	
Montgomery Co. Exec.	Marc Elrich	Christopher Conklin
		Haley Peckett
		Corey Pitts
Prince George's Co.	Eric C. Olson	Wala Blegay
Prince George's Co. Exec.	Oluseyi Olugbenle	Victor Weissberg
Rockville	Monique Ashton	Emad Elshafei
Takoma Park	Shana Fulcher	Cindy Dyballa
Maryland DOT	Samantha Biddle	Joseph McAndrew
		Drew Morrison
		Heather Murphy
		Kris Fair
Maryland House	Marc Korman	
Maryland Senate	Nancy King	
<b><u>VIRGINIA</u></b>		
Alexandria	Canek Aguirre	Alyia Gaskins
Arlington Co.	Takis Karantonis	Dan Malouff
City of Fairfax	Tom Ross	Catherine Read
Fairfax Co.	Walter Alcorn	Jeffrey C. McKay
Fairfax Co.	James Walkinshaw	Rodney Lusk
Falls Church	David Snyder	
Loudoun Co.	Matthew Letourneau	Laura TeKrony
Loudoun Co.	Mike Turner	Rob Donaldson
City of Manassas	Pamela J. Sebesky	Ralph Smith
City of Manassas Park	Jeanette Rishell	
Prince William Co.	Deshundra Jefferson	Meagan Landis
Prince William Co.	Victor Angry	Ricardo Canizales
Virginia DOT	Bill Cuttler	Nick Roper
		Maria Sinner
		Amir Shahpar
Virginia House	David A. Reid	
Virginia Senate	Jennifer Boysko	
<b><u>WMATA</u></b>		
	Allison Davis	Mark Phillips
<b><u>EX OFFICIO/NON-VOTING</u></b>		
FHWA – D.C.	Christopher Lawson	Sandra Jackson
FTA	Terry Garcia Crews	David Schilling
		Daniel Koenig
NPCPC	Marcel Acosta	Michael Weil
MWAA	Vacant	
NPS	Tammy Stidham	Laurel Hammig

**METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS**

777 North Capitol Street, NE Suite 300  
Washington, DC 20002



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**TRANSPORTATION PLANNING BOARD  
MEETING MINUTES**

May 15, 2024

MEMBERS AND ALTERNATES PRESENT *ONLINE*

Christina Henderson – DC Council, TPB Chair  
Charles Allen – DC Council  
Matt Frumin – DC Council  
Heather Edelman – DC Council  
Leigh Miles – DC Council  
Sakina Khan – DC Office of Planning  
Rebecca Schwartzman – DC Office of Planning  
Jason Groth – Charles County  
Stuart Adams – College Park  
Jessica Fitzwater – Frederick County  
Mark Mishler – Frederick County  
David Edmondson – City of Frederick  
Neil Harris – Gaithersburg  
Marilyn Balcombe – Montgomery County  
Emad Elshafei – Rockville  
Nancy King – Maryland Senate  
Canek Aguirre – Alexandria  
Dan Malouff – Arlington County  
Tom Ross – City of Fairfax  
Mike Turner – Loudoun County  
Pamela Sebesky – City of Manassas  
Jeanette Rishell – City of Manassas Park  
Deshundra Jefferson – Prince William County  
Amir Shahpar – VDOT  
David Reid – Virginia House  
Mark Phillips – WMATA  
Sandra Jackson – FHWA  
Daniel Koenig – FTA  
Michael Weil – NCPD  
Laurel Hammig – NPS

MEMBERS AND ALTERNATES PRESENT *IN-PERSON*

Amanda Stout – DDOT  
Mark Rawlings – DDOT  
Reuben Collins – Charles County  
Kelly Russell – City of Frederick  
Kristen Weaver – Greenbelt  
Haley Peckett – Montgomery County  
Corey Pitts – Montgomery County  
Eric Olson – Prince George’s County  
Oluseyi Olugbenle – Prince George’s County  
Monique Ashton – Rockville

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Shana Fulcher – Takoma Park  
Joseph McAndrew – MDOT  
Drew Morrison – MDOT  
Marc Korman – Maryland House  
Walter Alcorn – Fairfax County  
James Walkinshaw – Fairfax County  
Dave Snyder – Falls Church  
Matthew Letourneau – Loudoun County  
Rob Donaldson – Loudoun County  
Meagan Landis – Prince William County  
Bill Cuttler – VDOT  
Jennifer Boysko – Virginia Senate  
Allison Davis – WMATA

MWCOG STAFF AND OTHERS PRESENT

Kanti Srikanth  
Lyn Erickson  
Andrew Meese  
Mark Moran  
Tim Canan  
Dan Sheehan  
Leo Pineda  
Sergio Ritacco  
Rachel Beyerle  
Deborah Etheridge  
Kim Sutton  
Jamie Bufkin  
Cristina Finch  
Andrew Austin  
Amanda Lau  
Jane Posey  
Dusan Vuksan  
Laura Bachle  
Lindsey Martin  
Kenneth Derryberry  
Bill Bacon  
Wanda Owens  
Olga Perez  
Michael Farrell  
Pierre Gaunaurd  
Feng Xie  
Greg Goodwin  
Amy Garbarini – Technical Committee Chair, DRPT  
Ra Amin – CAC Chair  
Hana Fouladi – DC Council  
Madeline Hairfield – DDOT  
Alex Freedman - DCOP

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Kari Snyder – MDOT  
Will Pines – MDOT  
Sam Ray - MDOT  
Regina Moore – VDOT  
Robert Brown – Loudoun County  
Gary Erenrich – MCDOT  
Evandro Santos – Prince William County  
Glen Warren - MAAA  
Bill Pugh – Coalition for Smarter Growth  
Jason Stanford – Northern Virginia Transportation Alliance  
Janet Gallant – DontWiden270.org  
Barbara Coufal – Citizens Against Beltway Expansion  
Gary Hodge – Regional Policy Advisors  
Theo Stamatis – Loudoun County Chamber of Commerce  
Josh Veverka – Northern Virginia Realtors  
Monica Backmon – Northern Virginia Transportation Authority  
Richard Parsons – SMTA  
Stephen Kenny – Montgomery County Council  
Zach Israel – TPB CAC member  
Jim Woods – City of Rockville  
Daniel Flores – Board of Trade  
Bill Orleans – public  
Angel Deem  
Hannah Pajewski  
Mike Garcia  
Monica Bhati  
Michael Guarino

## **1. PARTICIPATION PROCEDURES, MEMBER ROLL CALL, AND PUBLIC COMMENT OPPORTUNITY**

Chair Cristina Henderson briefly reviewed the process she would use for facilitating the hybrid meeting.

Lyn Erickson conducted a roll call. Attendance for the meeting can be found on the first pages of the minutes. She confirmed there was a quorum.

Chair Henderson noted there were a number of public speakers and requested members of the public making comments limit their remarks to one minute each.

Lyn Erickson proceeded to call on each one of the public speakers.

Bill Pugh, the Coalition for Smarter Growth, said that the coalition does not think that the Visualize 2050 process complies with the board resolution from a few years ago to consider alternative scenarios to do zero-based budgeting and to see how this meets the region's climate goals. He said that the intention three years ago was to craft an alternative scenario that could help achieve the region's goals for equity and climate and safety, and this process did not do that. He stated that the zero-based budgeting exempted four out of five projects, and there are projects that are not built until 2040 and 2050 that are considered exempt. He asked the TPB to look at two projects and to remove them: the 495 Southside project and the lower 270 express lanes. He said these are not consistent with the region's goals and does not think that they are ready to go into the plan and should be considered as studies.



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Janet Gallant, coordinator of DontWiden270.org, said the Maryland public and officials on the TPB have not been fully informed by Maryland DOT about certain projects. She said that regarding the Southside toll lanes, MDOT has not explained why, on the one hand, MDOT is withdrawing its own study of I-495 toll lanes from east of I-270 to the Wilson Bridge while, on the other hand, supporting the Virginia study to build toll lanes within that same portion of the Maryland Beltway. She stated that regarding the scope of MDOT's I-495/I-270 process, the TPB input table appears to indicate that MDOT will now begin the project, not from the George Washington Parkway north, but from the Virginia border north. She said this is not consistent with what MDOT has been telling the public for years or what is in the Record of Decision or what appears to be the project scope in MDOT's current federal grant application. She said MDOT has still not given the Maryland public or the TPB a compelling functional reason for the lower I-270 project and that congestion on lower I-270 has been mitigated by MDOT's own innovative efforts. She said that adding toll lanes to an already well-functioning highway will cause major harm at great cost.

Josh Veverka, Northern Virginia Association of Realtors, offered his strong support for the full package of transportation projects submitted by Virginia, Maryland, and DC for Visualize 2050. He said that the organization represents 13,000 members across the entire region, not just in Northern Virginia and that the NVAR does 15,000 transactions representing over \$16 billion in sales each year. He said that every time they talk to buyers, and the businesses moving to the region, congestion and transportation is the primary concern. He said we need everything in our toolkit when talking about transportation. He stated that with a million new residents over the next 25 years, people are going to live everywhere, and they need to be able to move across all of these jurisdictions. He said the region cannot afford to eliminate vital transportation projects from this plan that will reduce congestion and help people's lives.

Barbara Coufal, Citizens Against Beltway Expansion, said that Virginia has a bottleneck where toll lanes end in Springfield, and Virginia is attempting to solve the bottleneck by moving the bottleneck to Oxon Hill. She said the Southside lanes and ramps would also block Metrorail on the Woodrow Wilson Bridge. She stated that an extension of the Blue Line would provide service to the entire region. She said VDOT's claims that the Southside lanes would not preclude Metrorail are not credible, and Virginia's P3 contracts are 75-year agreements. She stated that a shorter contract would be very expensive, and Virginia could easily avoid the expense by simply using its veto power to block the Blue Line extension. She concluded by urging the removal of the Southside lanes and the I-270 toll lanes.

Theofilos Stamatis, Loudoun Chamber of Commerce, expressed support for the Visualize 2050 project list. He said the projects represent a staunch commitment to expanding the capacity of the multimodal transportation network that supports the growing housing and economic development needs of the community. He said every project within the package will work to improve transportation network across the region and will fundamentally support prosperity, quality of life, and the capacity to create jobs and to accommodate the growth that communities have experienced.

Gary Hodge, Regional Policy Advisors, said that for more than 35 years, Maryland leaders have been working together on the goal of bringing high-capacity, fixed-route, rapid transit down the U.S. 301/Maryland 5 corridor from Branch Avenue to Waldorf and White Plains in Charles County. He stated that the officials of Charles and Prince George's County have asserted this priority for decades in their priority letters to the state. He said five major studies have been completed by the state in the last 25 years, confirming feasibility, high ridership, economic impact, and urgent need. He said landmark state legislation has been enacted by the Maryland General Assembly in 2021, mandating prompt action for MDOT to complete the design, engineering, and NEPA process, and to secure a Record of Decision for the project. He noted Congress has approved two \$5 million earmarks and \$20 million is in the current State CTP. He said after decades of advocacy, planning studies, and major new state and federal policy and funding commitments, it is time for the TPB to acknowledge the Southern Maryland Rapid Transit project as a state regional transit priority that will be completed within the 26-year scope of Visualize 2050 by including it in the long-range transportation plan.

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Jason Stanford, Northern Virginia Transportation Alliance, spoke on behalf of the Northern Virginia Transportation Coalition, to share strong support for the projects submitted by our region's transportation experts for the air quality conformity analysis. He urged support of the resolutions as introduced.

Richard Parsons, representing the Suburban Maryland Transportation Alliance, expressed support of the full list of projects for inclusion in the air quality conformity analysis, including the American Legion Bridge I-270 project and the I-495 Southside Beltway study. He strongly urged the board not to remove or change any of these items on the list because it would not be in keeping with TPB's mission to advance regional mobility, expand transit and carpooling options, and increase access to jobs throughout the region. He said the region needs a plan that relieves congestion and improves access to jobs, even for areas outside the urban core. He said, given our fiscal restraints, a plan that includes projects that can create their own new revenue streams because express lane projects do tend to pay for themselves over time. He stated that a regional plan that expands only transit does none of these things and is impossible for us to afford. He commented that regarding the I-270 program, he said it has taken 30 years to shepherd this project through various stops and starts of the environmental review process, one of the region's worst chokepoints, and there is now an approved Record of Decision. He said that any changes the TPB makes at this point in the process to the portion of the project that already has federal approval and is ready to go to construction runs the risk of engendering new lawsuits that could derail the project. He concluded asking for support of the project list as submitted.

Lyn Erickson said that between noon on Tuesday, April 16, 2024, and noon Tuesday, May 14, the TPB received six letters (including one resubmitted letter from the March comment period) and 125 comments submitted via email. She briefly summarized the comments.

- The Southern Environmental Law Center (SELC) submitted supplemental written comments to those the SELC submitted to the Board on April 16, 2024, and related oral remarks delivered at the Board meeting on April 17, 2024. SELC urges the TPB to take all steps necessary to set the region on a path to achieve the climate goals adopted by COG, urges the TPB ensure that the cumulative GHG and VMT impacts of the Visualize 2050 Transportation Plan put the region on track to meeting its goals. SELC offered four recommendations to revise the conformity analysis. The letter also contains specific recommendations on several projects.
- Tad Aburn focused on two issues in the Envision 2050 air quality conformity analysis he declares are not well addressed: the Plan's failure to address high-risk air pollution hotspots in EJ communities of color created by transportation plans and programs; and, the analysis ignores climate change. He urged the TPB to review public comments expected to be received during the May 22 MWAQC meeting and the May 20 recommendations from ACPAC.
- Ashley Hutson, on behalf of the Heavy Construction Contractors Association, resubmitted comments from the Northern Virginia Transportation Coalition (NVTC). They share their strong support of the transportation projects submitted by Virginia for the Visualize 2050 Air Quality Conformity Analysis. They state the projects show a strong commitment to expanding capacity of a multimodal transportation network, including key regional upgrades such as the new Long Bridge. They urge leaders in DC and Maryland to follow Virginia's example by investing in infrastructure that expands capacity of the transportation network, such as Maryland's planned upgrades to the American Legion Bridge and I-270.
- The Maryland Transportation Builders and Materials Association (MTMBA) expresses their concern about comments made during the April 15 TPB meeting seeking to remove highway and bridge improvements from the agency-recommended list of projects for inclusion in the air quality conformity analysis. They urge the TPB to reject such requests, stating that the highway network is aging and severely congested, with key bottlenecks such as the American Legion Bridge. The projects are needed to provide congestion relief and improve access to economic

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development locations like National Harbor. The MTBMA supports transit projects and acknowledges that transit alone will not address all transportation needs, including movement of goods and services. Well-designed multi-modal express or HOT lane projects create new revenue streams, provide new opportunities for regional bus rapid transit service, and a portion of their future revenues can be dedicated to other transit services. They advocate a wholistic, multi-modal approach that meets all transportation needs in a fiscally responsible manner.

- Raymond Mondor wrote that the idea of building toll lanes on I-495 in Montgomery and Prince Georges counties is bad and premised on the intention to continually increase the population density of the surrounding locations. People moved to the suburbs because they want to live in suburbia, but these actions will lead to sprawl.
- The Arlington Chamber of Commerce wrote to express their support for all the submitted projects included on the project list. The submitted projects encompass a wide range of important transportation improvements, across all modes. They state that a multifaceted approach to transportation improvements is critical for the long-term economic success of our metropolitan region.
- The Committee for Dulles commented that key transportation initiatives such as the American Legion Bridge/270 and Southside Express Lane projects are essential to sustain the economic advantage an international airport brings to the region. Supporting these essential projects leverage Dulles International Airport and benefit the entire DC Metro area.
- The Coalition for Smarter Growth Email Campaign generated 121 emails from Wednesday afternoon, April 17, until noon Tuesday, May 14, from community members urging the TPB Board to reject the entire draft project list for Visualize 2050 if no changes are made. Four of the emails contained the same content as the campaign last month but were received after the cut-off date for the April meeting. Of the remaining 117 email forms received, 15 emails contained some variation in content. There were six instances of an individual submitting the exact email more than once. Writers urged the TPB to reject the entire draft project list and ask TPB staff to prepare a new plan with a smart growth alternative scenario that will help the region meet its urgent climate and equity goals if no changes are made to the list of projects. Writers noted that the region's local elected official representatives on the TPB voted for resolutions to fight climate change, promote equity, improve street safety, foster more walkable and transit-oriented communities, and to do a major overhaul of the regional transportation plan to support these goals. They noted public comments in March and in prior outreach have been overwhelmingly in favor of these goals and opposed to highway expansion, which they state are consistent with TPB's Voices of the Region survey, showing 84% of the region's residents want elected officials to consider climate change when planning transportation. They comment that the draft plan of projects that will be voted on this month by the TPB Board would fail to address these goals. Emails specifically referenced removal of several highway and arterial expansion projects in favor of prioritizing investments that support walkable, transit-friendly and inclusive communities. The emails conclude with the statement that the Visualize 2050 plan will be the last that can make a difference in helping the region meet its 2030 climate change goals, appreciating the changes that some jurisdictions have made.

Several speakers from the May 15 meeting included written comments. Lyn Erikson said that remarks were submitted from Richard Parsons, Gary Hodge, and the Coalition for Smarter Growth.

## **2. APPROVAL OF THE APRIL 17, 2024 MEETING MINUTES**

Chair Henderson moved approval of the minutes. The motion was seconded by Vice Chair Walkinshaw and was approved with one abstention, Virginia Senator Jennifer Boysko.

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### **3. TECHNICAL COMMITTEE REPORT**

Lyn Erickson, reporting on behalf of Technical Committee Chair Amy Garbarini, said the TPB Technical Committee went over the Regional Roadway Safety Program project approvals, and TPB Item 8, the Visualize 2050 scope of work and air quality conformity analysis items. She said there were also items that were presented for information and consideration, including implementation considerations for on-road transportation greenhouse gas reduction strategies updates, a presentation on the TPB resources and applications page (TRAP), and a presentation on the Strategic highway Network. .

### **4. COMMUNITY ADVISORY COMMITTEE REPORT & ACCESS FOR ALL ADVISORY COMMITTEE REPORT**

Ra Amin, CAC Chair, provided highlights of the CAC meeting including discussion about the DMVMoves initiative and public outreach for the Visualize 2050 air quality conformity analysis. He said the CAC is pleased and excited to participate in the DMVMoves initiative as part of the Community Partners Advisory Group (CPAG). He said that the CAC resolved that Ra Amin will serve as the representative from the CAC with vice chairs: Ashley Hutson, Virginia; Richard Wallace, Maryland, also assisting as alternates. He said CAC members had a number of questions, including concerns about how the greater community may get involved and how consensus will be reached with such a diverse set of interests. He said the CAC is committed to participate actively in this effort. He said they also discussed the public outreach effort for Visualize 2050. He stated that CAC members are interested in learning more about how they might evaluate and improve this public comment process in the future.

Vice-Chair James Walkinshaw delivered the Access for All Advisory Committee report, noting the summary did a good job of describing the meeting. He said it was the first meeting of the AFA that had an in-person component since COVID. He encouraged board members to review the meeting summary.

### **5. STEERING COMMITTEE ACTIONS AND REPORT OF THE DIRECTOR**

Kanti Srikanth said that in the interest of time, he would not go over details in the report. He provided an announcement regarding Item 8. He stated that there were some additional documents that were posted to the meeting webpage and hard copies of those letters have been distributed to the members who were present. He stated that those letters are also on the meeting materials page and within the documents are a letter from Fairfax County, a letter from the City of Rockville, a letter from Maryland Department of Transportation, and a letter from Prince George's County. He said that all letters pertain to projects that are under consideration today for approval and inclusion of air quality conformity analysis as part of Item 8.

### **6. CHAIR'S REMARKS**

TPB Chair Christina Henderson announced that the TPB relaunched one of its flagship public outreach activities, the Community Leadership Institute. She said that twenty community leaders from across the region— from Charles County to Frederick to Manassas and jurisdictions in between—came together. She stated that over three evenings, the cohort learned about transportation planning and decision-making through interactive activities interspersed with informational presentations, including using an emissions calculator to decide which transportation strategies to use to reduce greenhouse gas emissions. Chair Henderson recognized CLI participants who received certificates for their completion of the program.

Chair Henderson commented that the board will take action on the Visualize 2050 inputs after much discussion and listening sessions. She stated that “now is the time to act” and every effort should be made to make the region even better than before. She said that the board has been working on updating the current Visualize 2045 plan for nearly a year and a half and will have the opportunity on May 15 to

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share thoughts and state their positions before voting on the Visualize 2050 project list for air quality conformity analysis.

## **7. REGIONAL ROADWAY SAFETY PROGRAM PROJECT APPROVALS**

Janie Nham, presented an overview of projects recommended for funding under the FY 2025 Regional Roadway Safety Program. She said that the program has funded 28 projects since it was established in 2020 for a total of approximately \$1.8 million. She stated that TPB staff received 18 applications for the FY 2025 solicitation period totaling \$1.5 million in funding requests. She described the project panel selection process and stated that the total program funding for this year is \$480,000.

Janie Nham described the following recommended projects:

- City of Frederick – South Jefferson Street engineering design to improve safety
- Montgomery County – Randolph Road Safety Improvement Project preliminary engineering designs for safety improvements along a 1.3-mile segment of Randolph Road in the Glenmont-Wheaton area.
- Prince George’s County – Study of methods for collecting, analyzing, and using data related to near misses, which are traffic events that have the potential to lead to injury, fatality, or physical damage that are not yet actualized.
- City of Alexandria – Seminary Road Safety Improvements Project to identify and develop conceptual designs for safety improvements on the segment of Seminary Road between North Beauregard Street and the city line.
- Arlington County – South George Mason Drive and South Four Mile Run Drive intersection alternatives analysis project
- City of Falls Church – Wilson Boulevard Safety Improvements Project which will develop conceptual design plans for multimodal improvements along Wilson Boulevard between Arlington Boulevard and John Marshall Drive/North McKinley Road.

Janie Nham said that upon board approval, TPB staff will coordinate with relevant jurisdictions to finalize project scope. She said that the project kickoff will be in fall 2024 with an anticipated completion date of June 30, 2025.

David Snyder said that the program is an initiative that arose out of an attentive look at highway safety. He stated that safety statistics are still not good and urged TPB members to approve the project recommendations.

The board voted unanimously to approve the FY 2025 Regional Roadway Safety Program projects.

## **8. NATIONAL CAPITAL REGION TRANSPORTATION PLAN: VISUALIZE 2050**

Providing an overview of how this item would proceed, Chairman Henderson said TPB staff would provide an introduction and then representatives from the state departments of transportation from Virginia and Maryland would each speak about projects for which public comments had been received. Following those remarks, motions and seconds would be sought to approve the resolution. TPB members would then have the opportunity to provide comments. Following that, the board would vote.

Referring to the posted material, Cristina Finch explained that at the conclusion of this item, the board would be asked to vote to advance a subset of the region's future transportation projects that are significant for the air quality conformity analysis to ensure that the region's plan for major transportation investments will achieve air quality standards in the future. She said that TPB member agencies and staff have been working on this plan for the last year and a half as part of a zero-based budgeting process. She

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said the public has been engaged throughout the process. She said the package before the board for approval includes a revised mix of regionally significant transit and highway projects, including changes to the proposed expansion of express lanes network, changes to roadway projects, including repurposing some travel lanes, and choosing to not widen roads in some locations. She said it also includes more active transportation projects as multimodal components of these regionally significant projects.

Cristina Finch said the board would be asked to take action on Item 8A in the agenda packet, which includes a proposed mix of highway and transit projects to be included in the federally required regional air quality conformity analysis and the regional transportation system performance analysis. This list of projects was in the resolution's Attachment 4. In addition, she said the board would be asked to approve the tolls and other assumptions for conducting the analysis within the scope of work, which was in the resolution as Attachment 3, including the COG-approved Round 10 cooperative forecast for future population employment and households, the models used to conduct the travel demand and emissions analysis, the years of analysis, non-transportation inputs to the models, and roadway and transit operating parameters.

Cristina Finch said that Item 8B included six letters included with the memo and posted on the webpage.

Cristina Finch described the remainder of the schedule for approving the new plan. She said that in April of 2025, the TPB will review analysis results and the draft plan and program. These two documents will also be available for public review and comment. In June of next year, the TPB will be asked to approve the final Visualize 2050 plan, the FY 2026-2029 Transportation Improvement Program, and the results from the air quality conformity analysis.

David Reid asked Cristina Finch to confirm that the 495 Southside Express Lanes would provide the opportunity for express bus services.

Cristina Finch answered that yes, the express lanes project would allow for transit.

Bill Cuttler said that Virginia had submitted a portfolio of projects, but he focused his remarks on the 495 Southside Express Lanes. He said this project would be the final 11 miles for Northern Virginia to complete Northern Virginia's express lanes, with the proposal of continuing it into Maryland and Prince George's County. These would be managed lanes that ensure reliable travel times, and they would be managed through tolls but he noted that the tolls would be eliminated if a vehicle has three or more occupants. He repeated that the lanes would accommodate express bus services. He said the lanes will connect to an existing network of 94 miles of express lanes that already exist in Northern Virginia, and noted the project incentivizes economic growth, as it provides reliable trips and mobility for users and sees as opportunities for improving travel connections to National Harbor, MGM Casino, and other facilities in Prince George's County, in Fairfax County, in Alexandria..

Speaking about transit services in the corridor and across the bridge, Bill Cuttler said that the Express Lanes would allow HOV3 vehicles for free and would also provide a guideway for buses. He cited Metro's bus NH4 line today that crosses the Wilson Bridge in the conventional lanes with the rest of the traffic in congestion. The Express lanes provide the Metrobus or any other local bus service reliable travel conditions which will help grow that customer base in the future for when our region is prepared for Metrorail to cross the Wilson Bridge. He noted that concessionaire agreements for these projects provide a percentage of revenues to transit.

He said that VDOT supports the Wilson Bridge eventually transitioning to Metrorail, as was written in the Commissioner's letter in the agenda packet. He said that VDOT was looking to make the best use of this existing asset of the Wilson Bridge that 20 year ago was designed to set aside space for transit, yet has been unused for transit for over 20 years.



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Bill Cuttler said that if consensus could not be reached at the meeting, VDOT would be open to the possibility of delaying this particular project decision for another month.

Eric Olson said that he believed the board had not reached consensus to support this project. He said he would be offering an amendment to remove this project.

Monique Ashton asked if a portion of the tolls collected through this project would be designated for Maryland and if there were going to be any caps on the tolls charged.

Bill Cuttler said that because this project crosses the river, Maryland would receive a percentage of the monies that would be agreed upon by contract with the concessionaire.

To a question about a cap on tolls, Bill Cuttler answered that no, when the demand is greatest, the tolls would go up until demand was curtailed. He reiterated, however, that HOV3 vehicles would use the lanes for free.

Chair Henderson noted that the District of Columbia has a piece of the Wilson Bridge, and therefore, she wondered if D.C. would receive a portion of the revenue.

Bill Cuttler said that VDOT would be open to discussing that point with the District of Columbia.

Chair Henderson asked how HOV restrictions are enforced.

Bill Cuttler said that vehicles claiming HOV3 status would be subject to observation by the concessionaires.

James Walkinshaw asked Bill Cuttler to expand upon the language in the letter discussing the inclusion in the 2000 NEPA study and the pending NEPA submission and the legal enforceability of the reversion of right-of-way to rail. He asked how that would be enforced.

Bill Cuttler said there are two enforcement opportunities. One is the NEPA document, and the second is the concessionaire agreement. He said the NEPA document would include a commitment to include Metrorail in the future, and the federal government would be able to hold VDOT accountable for that. He said the concessionaire agreement would explicitly state the region's intent is to transition to Metrorail in the future.

James Walkinshaw asked if the transit study for the project provided bus ridership numbers that would be estimated as a result of the project.

Bill Cuttler did not have the forecast ridership numbers from that study, but he did emphasize that the experience in Virginia has been significant reduction in travel times which directly lends to reliability of bus travel and this would help get more people across in buses.

Mr. Letourneau asked if the concessionaire would be responsible for the actual conversion of pavement to rail and about VDOT's thoughts on the length of time for the agreement?

Bill Cuttler said that the concessionaire would not be required to construct the conversion to rail. He said they did not anticipate there to be a major additional expense for the conversion to Metrorail because the deck on the bridge is there to be used for rail. Regarding the timing of the agreement, Mr. Cuttler said that is something that has to be negotiated with the concessionaire recognizing that the time would have to work for the concessionaire willing to put the money up front to build a multibillion-dollar project. He said the time entertained would allow for the conversion within it and could conceivably be something like converting from two lanes in each direction to a one lane in each direction.

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Jennifer Boysko said she represents the area in Fairfax County where the 495 NEXT project, which extends the Beltway HOT lanes north toward the American Legion Bridge, is located. She said the constituents are very unhappy with the congestion caused by the project. She asked what kind of assurances VDOT can provide that residents would not see the same kind of multi-hour congestion with the 495 Southside Express Lanes.

Bill Cuttler said that before the 495 NEXT project started there was already substantial congestion between Virginia and Maryland across the American Legion Bridge. He said that when the NEXT project is complete, he believes conditions will be much better. He said VDOT seeks to minimize impacts, but he did acknowledge that construction-related congestion comes with these kinds of projects.

Jennifer Boysko asked if the ramp construction for the new project would take future rail into consideration.

Bill Cuttler said yes, they would seek to develop that part of the project now so as to minimize the need for reconstruction later at the time that Metrorail would be added.

Drew Morrison from MDOT provided remarks in response to comments received regarding Maryland projects. He said that MDOT is not actively pursuing study or construction of the I-495 east of the I-270 spur, so therefore to avoid confusion and respond to comments, MDOT was removing the set of studies related to that location from the regional plan.

Regarding the Southern Maryland Rapid Transit (SMRT) project, he reaffirmed MDOT's support for the project. He said the state is actively studying that project, including launching a NEPA study. He did note, however, that the project does not yet have full financial commitments to permit it to be included as a project for construction that would be part of the long-range plan conformity analysis.

Will Pines, administrator for State Highway Administration, said the State of Maryland requested the Visualize 2050 plan move forward with the NEPA Record of Decision from the I-270 in order to avoid delays in advancing the important multimodal and transit elements of the project. He said that MDOT has worked with Montgomery County to reaffirm advancement of those transit commitments in the program, and has formalized this through the proposed resolution before the board. MDOT has also worked with the city of Rockville to formally deemphasize Segment D, as shown by the decision to shift out, per the request, to 2045, recognizing that the state has no funds committed to work in this area and no near-term plans to do so. Further, the state has committed to a complete engagement process with stakeholders prior to any advancements in the Record of Decision that would occur prior to any advancements in Segment D.

Mr. Morrison said that the base resolution maintains language from 2021 that the state agreed upon with Montgomery County on the American Legion Bridge/270 project related to transit commitments. He said the state is committed to working with Montgomery County over the next year to further solidify what that framework looks like. He said that MDOT will also be introducing language related to MDOT's commitments to Rockville, Gaithersburg, and Montgomery County.

Reuben Collins said he wanted to emphasize that SMRT is a regional project. He said the level of funding already dedicated to the project, including federal earmarks, should provide sufficient indication of a financial commitment for it to be included in the regional plan's constrained list of projects for conformity analysis.

Eric Olson thanked MDOT for their collaboration in removing the study of toll lanes on I-495 east of the I-270 spur. He also echoed Reuben Collins' comments regarding the SMRT. He said that project should be added to the constrained list of projects in the long-range plan as soon as possible.

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Monique Ashton thanked MDOT for the changes made in the I-270 project related to Segment D. She said she understood from MDOT that it could not be removed, although that is what Rockville would have wanted. She asked why it could not be changed from a “construct” project to a “study.” Mr. Morrison said the NEPA Record of Decision treats the full section from the Parkway up to I-370 (Segments A, B, C, and D) as a singular selected alternative. As such, the project could not be cut up into discrete phases.

Monique Ashton asked if it is possible that a future administration could put toll lanes in the City of Rockville through this project.

Mr. Morrison said that it is true that a future administration would have a Record of Decision that includes toll lanes for this segment.

Chair Henderson moved approval of Resolution R12-2024, approving the scope of work for the air quality conformity analysis, including the list of transit and highway projects proposed by member agencies authorizing staff to commence with the analysis for the Visualize 2050 and the FY 2026-2029 TIP.

The motion was seconded by David Reid.

Kanti Srikanth briefly explained the TPB’s parliamentary procedures. He described the amendment process, including friendly and unfriendly amendments. He said that after a vote is taken, the TPB bylaws permit any member to request a proportional vote, which is essentially a weighted voting system. He said that under the simple vote, every vote is counted as one vote and the board’s decision is determined by simple majority. Under the weighted vote or proportional vote, every vote is calibrated to the proportion of the jurisdiction’s population in the region. TPB staff uses a spreadsheet with a formula to calculate the results. He said that in a weighted vote, abstentions are not treated like “no” votes; abstentions are distributed to those who are present and are proportionately allocated to how those votes are cast.

Drew Morrison proposed an amendment to amend the base resolution to adjust the horizon year to 2045 for Segment D, which is the segment from Northwest Lake Terrace to I-370. The amendment would also reinforce the state’s commitment to engage with the jurisdictions along the corridor and to continue to evaluate the sections of the corridor throughout the process.

Chair Henderson accepted the amendment as friendly. The amendment language was displayed on the screen.

Eric Olson made a motion for an amendment to remove the I-95/I-495 Southside Express Lanes toll project in Virginia from R12-2024.

Oluseyi Olugbenle seconded the motion.

Speaking about his motion, Eric Olson said that now is not the time to move this project forward because it is still in a study phase. He highlighted serious concerns in Prince George’s County that this project would move the bottleneck into Maryland. He further noted that public comments received were largely in opposition to the project. He said his motion would remove this project as a construction project, but it could remain as a study like the SMRT.

Oluseyi Olugbenle thanked VDOT for engaging with the county about the I-95/I-495 Southside Express Lanes project and making some changes. But she said there remained too many unanswered questions. She noted the lack of public support for the project in the November 2023 Southside Express Lane study.

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James Walkinshaw called attention to a letter from Fairfax County Chairman McKay which outlined the county's position. He noted that this is the only remaining swath of Northern Virginia that does not have express lanes, which means this area does not have access to reliable and efficient bus service. He said it also happens to be a swath of Northern Virginia that has a disproportionate number of COG's Equity Emphasis Areas. He said that a DRPT study found that 8,000 bus riders could have access to bus service crossing the Woodrow Wilson Bridge every day if this project were to move forward. He further noted that if at any point Maryland was not supportive, it will not be built in Maryland.

James Walkinshaw said that Fairfax County supported the inclusion of this project in Visualize 2050, but because time was short and the project warranted additional discussion, he offered a friendly amendment to remove the project from the resolution currently under consideration and add it as an item for consideration at the TPB's June meeting.

Eric Olson accepted this amendment to the amendment. The motion was seconded.

Oluseyi Olugbenle said she agreed to the proposed delay in consideration, but she noted that the NEPA study will not be completed by the next meeting. She said the county's position was clear at this point.

Sharon Pandak said that Chair Henderson and David Reid would need to accept the amendment as a friendly amendment to their motion.

Chair Henderson and David Reid accepted the amendment as friendly.

Jeanette Rishell spoke in favor of the project list as it was submitted. She said the Southside Express Lanes project is important for regional connectivity and economic vitality. She said the project development done by staff was thorough and collaborative. She said it is important to remember that different areas have different needs and we should not be taking a narrow, ideological approach to developing projects.

Mr. Canek from the City of Alexandria noted that he was in support of the motion as it stands now.

Monique Ashton asked for TPB staff to comment on whether a motion to change Segment D of the Maryland Express lanes project from construct to study project could not happen, as MDOT has suggested in their letter.

Kanti Srikanth said that TPB staff does not have expertise in NEPA, so he would defer to MDOT's assessment. However, he said he did understand that when a federal agency issues its record on decision on a project it is doing so for all aspects of the project recognizing that the overall effectiveness of the project is derived from all of the aspects of the project. As such the ability to change this segment from construct to study would have to be looked at the what the record of decision for the project sees as the contribution from this segment and any action would be incumbent on what is in the language of the Record of Decision.

Monique Ashton again thanked MDOT for working with Rockville, but she said she needed to protect the residents of Rockville and in this project, Rockville would be losing a free lane. She said the city was concerned about equity and congestion.

Haley Peckett, speaking for Montgomery County DOT, thanked MDOT for working with the county on transit commitments. Speaking on behalf of County Executive Mark Elrich, she said the county agrees on the importance of the bridge in terms of overall regional mobility, but she wanted to echo Rockville's concerns, specifically about Segment D. The construction and capacity impacts of that segment on the residents of Rockville and Montgomery County are not a high priority in terms of congestion. She said

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they looked forward to working with MDOT and other partners around the region to see how the project might be refined.

David Snyder said a huge amount of work has been done by everyone, and the effort to find consensus is really remarkable. However, as an observation, he noted that this is more of a plan for 2024 than for 2050. He said he did not see thematic development to make this a vision plan for the coming decades. He noted that the project list does not address what the TPB wants this region to be in 2050 in addition to responding to the very legitimate needs and desires of today. He said he will be supporting the resolution, but he did hope that in the future he would like to see more specificity on how the plan meets the region's commitments to equity, the environment, and safety over the long term.

Kanti Srikanth reiterated that the board would be voting on Resolution R12-2024 as amended to include the language from Maryland Department of Transportation. On top of that, the resolution was amended to remove the I-495/Southside Express Lanes project from the list of projects for approval today with a commitment that consideration of that project would be an action item for the TPB at its meeting on June 20. He specified that the project to be removed was line 373 on the list of projects.

The motion to approve Resolution R12-2024, as amended, was approved with a "no" vote from Monique Ashton.

#### **9. TRANSPORTATION RESILIENCE IMPROVEMENT PLAN (TRIP) UPDATE**

Referring to the posted material, Katherine Rainone said that the draft Transportation Resilience Improvement Plan for the region had been made available and she looked forward to getting comments from TPB members. She said that at the June meeting, she would provide a full presentation on the draft plan. She said the TPB would be asked to approve the plan in June.

#### **10. ADJOURN**

Chair Henderson noted that the TPB would be meeting on June 20, which is a Thursday.

There being no other business, the meeting was adjourned at 2:03 P.M.





## Meeting Highlights TPB Technical Committee – June 7, 2024

The Technical Committee met on Friday, June 7, 2024. Meeting materials can be found here:  
<https://www.mwcog.org/events/2024/6/7/tpb-technical-committee/>

The following items were reviewed for inclusion on the TPB's June agenda:

### **TPB AGENDA ITEM 7 – VISUALIZE 2050: RECAP OF MAY ACTION AND NON-REGIONALLY SIGNIFICANT PROJECT SUBMISSIONS DUE**

Staff summarized the TPB action in May on the Air Quality Conformity Analysis Scope of Work and Technical Inputs, reviewed the TPB action item in June on the I 95/I-495 Southside Express Lanes project, and reminded members to submit their non-regionally significant projects by June 28.

The following items were presented for information and discussion:

### **TPB RESOURCES AND APPLICATIONS PAGE (TRAP) DEVELOPMENT UPDATE**

Staff provided an update on the development of a website that catalogs TPB's data and visualization products.

### **2023 WASHINGTON-BALTIMORE REGIONAL AIR PASSENGER SURVEY**

The committee was briefed on the general findings from the 2023 Washington-Baltimore Regional Air Passenger Survey, which took place in October. Discussions focused on weighted tabulations and longitudinal trends from previous surveys, including passenger characteristics, ground access, and preferences and behavior of surveyed air passengers.

### **PERFORMANCE-BASED PLANNING AND PROGRAMMING: UPDATE ON HIGHWAY ASSET AND HIGHWAY SYSTEMS PERFORMANCE MEASURES AND TARGETS**

The committee was briefed on the latest data for the federally required performance measures in the areas of highway assets (pavement and bridge condition) and highway system performance (travel time reliability, CMAQ Program).

### **2023 STATE OF PUBLIC TRANSPORTATION REPORT**

The committee was briefed on the 2023 annual State of Public Transportation report. The purpose of this report is to provide a concise overview of the state of regional public transportation in the National Capital Region.

### **VRE SYSTEM PLAN 2050 DRAFT**

The committee was briefed on VRE's recommended 2050 Service Vision, the recommended near-term 2030 Service Alternative, and the major benefits and costs expected from implementation of the proposed service.

### **ALEXANDRIA TRANSIT STRATEGIC PLAN (ATSP) UPDATE**

The committee was briefed on the status of the ATSP as well as the ongoing progress towards the 2030 Alexandria Transit Vision (ATV) Plan.

**OTHER BUSINESS**

- TPB meeting June 20 reminder
- Technical Committee Wednesday July 3 date
- TRIP TPB approval
- Curbside Management Symposium this Summer
- BTWD reflections
- DMV Moves
- EPA published proposed approval of 2008 ozone maintenance plan update with new Motor Vehicle Emissions Budgets (MVEBs) for Washington, DC region
- Staff Update



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**COMMUNITY ADVISORY COMMITTEE  
MONTHLY REPORT TO THE TPB**

June 20, 2024  
*Ra Amin, CAC Chair*

The June meeting of the CAC was held virtually on Thursday, June 13. The meeting featured a presentation and discussion on the Regional Bus Stop Design Forum and the State of Public Transportation report. There was also a debrief among members on the Community Leadership Institute, and a discussion about the first DMVMoves meeting on level-setting and vision.

### **REGIONAL BUS STOP DESIGN FORUM**

Pierre Gaunard, TPB Transportation Planner, recapped the presentation he gave last month of a workshop held by the Regional Public Transit Subcommittee on bus stop design held on April 23. CAC members got a closer look at the new types of stops, such as floating island stops and bulb-outs. Members discussed the differences between shared bus stops and island bus stops, highlighting the challenges and benefits of each design. Members provided feedback on the implemented bus stop designs and what might be the next steps for taking the prototypes forward. Members also commented on each of the designs regarding their safety and accessibility concerns.

Member questions and comments included the following:

**Did feedback on any of the designs change after they were implemented? Are these all prototypes or do some exist?**

Some of these designs have been implemented. There have been some changes after implementation. Temporary designs sometimes change before they become fixed. It varies by jurisdiction.

**Will these designs be made mandatory?**

Yes and no. There won't be anything mandatory across jurisdictions, but there does seem to be a need for some minimum standards. WMATA has a more uniform approach, and jurisdictions may tend to be more novel. There's interest in a standardized design, and in not making the stops too different to the point where WMATA may not serve the stop.

### **THE STATE OF PUBLIC TRANSPORTATION REPORT**

Pierre Gaunard, TPB Transportation Planner, also gave a presentation on The State of Public Transportation report, highlighting the purpose of the report, its sections, and the data used. The report includes information on climate change adaptation and mitigation efforts in public transportation, including the installation of green infrastructure and solar carports. It was noted that transit agencies are transitioning to zero-emission bus fleets, with several already completed. Regional transit statistics include the number of buses, stops, and routes in Maryland, Virginia, and DC. The revenue sources for transit agencies primarily come from state and local government funding.

Member discussion included whether there was bias in the distribution of services, questioning why there wasn't more of a need for development in suburban areas outside of DC. Job creation and accessibility were acknowledged as important factors. Communication and community engagement were highlighted as areas that still need improvement. In both the design and the provision of

transit, the local community should be involved. A comment was made about how these transit needs get surfaced, noting that the TPB doesn't come up with a regional plan, but relies on incrementally incorporating input from different jurisdictions.

Member questions and comments included the following:

Community input and participation in public meetings is crucial for the transportation planning process and has direct impacts on the end results. Design of these transit services should always involve the public.

**Is the increase in metrorail ridership equivalent to a decrease in metrobus ridership, or are those two numbers independent from each other? Is the increase on either of these two areas the result of a decrease in car ridership?**

The answer is we don't know for sure. We hope it is. Metrorail ridership feeds riders into metrobus, and vice versa. They support each other. It hasn't been a concern that they are trading off between each other. Overall, ridership is still down pre-pandemic.

**Can micro-mobility accessibility to public transportation be tracked in the state of public transportation report? For example, we're seeing record high capital bikeshare usage this year and it'd be interesting to layer into the broader review of public transportation.**

It's a topic that likely won't make it too much into the 2023 edition at this stage, but should get featured more prominently in the 2024 report. The first/last mile (and beyond) connections to transit are a big issue related to creating a sustainable and effective public transportation system. Data availability could be mixed for micro-mobility, but there's a lot on bikeshare we can collate.

## **COMMUNITY LEADERSHIP INSTITUTE RE-CAP**

CAC members who attended the training shared their reflections, noting overall the value of the training. It is worthwhile for anyone in public service. One member stated that it should be a part of any new CAC member's orientation.

Members reflections included the following:

- How fundamental land use decisions are.
- The cost of doing things and the trade-offs that necessitates.
- How challenging it is to reconcile different group's concerns.
- The process of making difficult decisions for the entire region.
- The value in looking at scenarios.
- The importance of hearing different voices, especially the underrepresented.
- How challenging it is to get out of one's own box.

Chair Amin asked if participants had a particular activist lens going into the training, how that might have influenced their experience, and what they have used from the training to inform their activism. The jobs/housing balance was mentioned. During the mapping exercise, no one seemed interested in moving jobs further out where the housing is. That's a new perspective for members in less developed areas. The role play exercise stuck with many people; putting yourself in the shoes of another stakeholder. Other take-aways included how important it is to motivate people through aspirations, the importance of community input—who is at the table really matters, and how the whole area is critical— not just one corner of it.

## **DMVMOVES UPDATE**

Chair Ra Amin, gave an update on the first meeting of the task force, noting that time was spent on level-setting; providing information on the current status of transit in the DMV. The meeting also discussed the concept of "world class transit" and asked participants to share their thoughts on what it means to them in two words. CAC members did the same exercise using a word cloud, oral comments and chat. Responses included access for all, reliable and frequent service, educating the public, incorporation of technology more, and seamless connectivity. Regarding involvement, members commented that car-drivers should not be left out of this discussion. For various reasons, some people cannot use transit. The discussion also touched on the importance of funding and budgeting for transit projects, with a focus on the need for consistency, predictability, and dedicated funding sources. Chair Amin promised to take these perspectives with him to the first Community Partners meeting June 21, and invited people to follow the initiative.

## **OTHER BUSINESS**

CAC Chair Ra Amin deferred discussion on an "Act Locally" component to add to each meeting in which CAC members could share something about what they are doing in their communities, and an oral history of the CAC. Laura Bachle mentioned that members had asked for some meeting ground rules. She welcomed member's ideas on ground rules that would be useful.

## **ATTENDANCE**

### **Members**

Ra Amin, Chair  
Daniel Papiernik  
Zach Israel  
Kalli Krumpos  
Lorena Rios  
Bernie LoCascio  
Jeff Parnes

Gail Sullivan  
Richard Wallace  
Rick Rybeck  
Tim Davis  
Heather Gaona  
Nancy Ables

### **Staff**

Lyn Erikson  
Leonardo Pineda  
Pierre Gaunard  
Laura Bachle  
John Swanson







## **MEMORANDUM**

**TO:** Transportation Planning Board  
**FROM:** Kanti Srikanth, TPB Staff Director  
**SUBJECT:** Steering Committee Actions and Report of the Director  
**DATE:** June 13, 2024

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The attached materials include:

- Steering Committee Actions
- Letters Sent/Received
- Announcements and Updates



## MEMORANDUM

**TO:** Transportation Planning Board  
**FROM:** Kanti Srikanth, TPB Staff Director  
**SUBJECT:** Steering Committee Actions  
**DATE:** June 13, 2024

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At its meeting on Friday, June 7, the TPB Steering Committee adopted a resolution to support submission of the VDOT list of SMART Scale projects not included in the Visualize 2045 plan and three resolutions approving amendments to the FY 2023–2026 Transportation Improvement Program (TIP) that are exempt from the air quality conformity requirement, as described below.

- TPB SR25-2024 – Localities, agencies and public transportation providers that wish to submit projects for the Commonwealth of Virginia SMART SCALE funding must demonstrate that the project is included in or is exempt from inclusion in Visualize 2045, or, if the project is not in the plan, the project must have an MPO resolution of support, in order to be considered for the SMART SCALE prioritization process. A list of projects that are not in the plan have been identified to be able to submit SMART SCALE applications.
- TPB SR26-2024 – requested by the District Department of Transportation to amend the South Capitol Street Trail Project (T6114) with an additional \$13.4M through Local, CMAQ, and RAISE Grant funding and includes a new DOEE Fast Charger Upgrade Project (T13614) at \$689,877 through a NEVI grant and local match. These projects are exempt from the air quality conformity requirement as defined in the Environmental Protection Agency’s (EPA) Transportation Conformity Regulations as of April 2012.
- TPB SR27-2024 – requested by MDOT to add a net total of approximately \$35.2 million to the Maryland portion of the TIP by adding approximately \$16.6 million to an existing program (T3760), operating funds (T2594), and a Low-No discretionary grant (T13566), nearly \$9.2 million through the Maryland Equitable Charging Infrastructure Discretionary Grant (T13613), and \$9.4 million to a shared-use path project (T13612), as described in the attached materials. These projects are also exempt from the air quality conformity requirement.
- TPB SR28-2024 – requested by VDOT to add a net total of approximately \$407 million to the Northern Virginia portion of the TIP by adding approximately \$150 million to two existing roadway projects (T6659 & T6634) and Amtrak operations (T13570) and a new VPRAs project (T13611) that separates the construction phase from an existing record, as described in the attached materials. These projects are also exempt from the air quality conformity requirement.

The TPB Bylaws provide that the Steering Committee “shall have the full authority to approve non-regionally significant items, and in such cases, it shall advise the TPB of its action.” The director’s report each month and the TPB’s review, without objection, shall constitute the final approval of any actions or resolutions approved by the Steering Committee.

Attachments:

- June 7, 2024 TPB Steering Committee Attendance (Members and alternates only)
- Adopted resolution SR25-2024 approving SMART Scale project list of projects not in Visualize 2045
- Adopted resolution SR26-2024 approving an amendment to the TIP, as requested by DDOT
- Adopted resolution SR27-2024 approving an amendment to the TIP, as requested by MDOT
- Adopted resolution SR28-2024 approving an amendment to the TIP, as requested by VDOT

**TPB Steering Committee Attendance – June 7, 2024**  
(only voting members and alternates listed)

TPB Chair/DC rep.:	Christina Henderson
TPB Vice Chair/MD Rep.:	Neil Harris
TPB Vice Chair/VA Rep.:	James Walkinshaw
Past TPB Chair:	Reuben Collins
DDOT:	Mark Rawlings
MDOT:	Kari Snyder
VDOT:	Amir Shahpar
	Maria Sinner
	Regina Moore

**NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD**  
777 North Capitol Street, N.E.  
Washington, D.C. 20002

**A RESOLUTION OF SUPPORT FOR SUBMISSION OF NORTHERN VIRGINIA PROJECTS  
FOR THE COMMONWEALTH OF VIRGINIA'S SMART SCALE TRANSPORTATION PROJECT  
PRIORITIZATION PROCESS**

**WHEREAS**, the National Capital Region Transportation Planning Board (TPB), as the federally designated metropolitan planning organization (MPO) for the Washington region, has the responsibility under the provisions of the Fixing America's Surface Transportation (FAST) Act, reauthorized November 15, 2021 when the Infrastructure Investment and Jobs Act (IIJA) was signed into law, for developing and carrying out a continuing, cooperative and comprehensive transportation planning process for the metropolitan area; and

**WHEREAS**, on June 15, 2022, the TPB approved the 2022 Update to Visualize 2045, the long-range transportation plan for the National Capital Region, which was developed as specified in the Federal Planning Regulations and is the MPO's metropolitan transportation plan of record; and

**WHEREAS**, localities, agencies and public transportation providers that wish to submit projects for the Commonwealth of Virginia SMART SCALE funding must demonstrate that the project is included in or is consistent with the MPO's metropolitan transportation plan, and, the project must have an MPO resolution of support, in order to be considered for the SMART SCALE prioritization process; and

**WHEREAS**, the Virginia Department of Transportation (VDOT) receives all SMART SCALE project submissions, has transmitted the attached list of preliminary applications received by the April 1 pre-application deadline, and has worked with TPB staff in reviewing the project submissions for submission eligibility; and

**WHEREAS**, submission of projects to the Commonwealth for the SMART SCALE process does not infer nor commit TPB to include any project into its Transportation Improvement Program; and

**WHEREAS**, VDOT expects the final list of projects submitted to be a subset of the attached preliminary list and will provide the TPB with a list of projects that were submitted at the August 1 deadline, and will also provide TPB with the list of projects that were awarded funding;

**NOW, THEREFORE, BE IT RESOLVED THAT** the National Capital Region Transportation Planning Board supports submission of the following Northern Virginia projects to the Commonwealth of Virginia SMART SCALE Project Prioritization Process as listed in the attached VDOT letter and materials:

**Adopted by the TPB Steering Committee at its meeting on Friday, June 7, 2024.**  
**Final approval following review by the full board on Thursday, June 20, 2024.**



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF TRANSPORTATION

Stephen C. Brich, P.E.  
Commissioner

1401 East Broad Street  
Richmond, Virginia 23219

May 28, 2024

The Honorable Christina Henderson, Chair  
National Capital Region Transportation Planning Board  
Metropolitan Washington Council of Governments  
777 North Capital Street, N.E., Suite 300  
Washington, DC 20002-4201

RE: Northern Virginia SMART SCALE application process – TPB resolution of support to apply for funding

Dear Chair Henderson:

The Virginia Department of Transportation (VDOT) seeks the National Capital Region Transportation Planning Board's (TPB) approval of a resolution of support for the submission of Northern Virginia SMART SCALE projects that are not currently in the recently adopted update of 2022 Visualize 2045 Plan.

Virginia House Bill 2, signed by the Virginia Governor on April 6, 2014, and effective as of July 1, 2014 required the development of a prioritization process, now known as SMART SCALE, and directed the Commonwealth Transportation Board (CTB) to develop and use a performance-based scoring process for project selection. The purpose of SMART SCALE is to fund the right transportation projects through a prioritization process that evaluates each project's merits using key factors, including improvements to safety, congestion reduction, accessibility, land use, economic development, and the environment. The evaluation focuses on the degree to which a project addresses an identified problem or need relative to requested funding for the project. Once projects are scored and prioritized, the CTB has the best information possible to select the right projects for funding.

As part of the SMART SCALE prioritization process, Virginia law requires that Northern Virginia localities, agencies and public transportation providers that wish to submit projects for Virginia SMART SCALE funding must show that the project is included in or is exempt from inclusion in each Virginia Metropolitan Planning Organization's (MPO) Constrained Long Range Plan (CLRP) or, if the project is not in the an MPO's CLRP, it must have a resolution of support.

There are several projects that Virginia TPB member jurisdictions wish to be considered for the SMART SCALE prioritization process, therefore the TPB, as the MPO representing Northern Virginia, is being asked to approve a resolution of support for projects that are not in the TPB's current

Hon. Henderson  
May 28, 2024  
Page Two

long-range plan, 2022 Visualize 2045. This resolution will not be an endorsement of a project, rather it will enable a project to be submitted for review. If the project does get awarded with SMART SCALE funding, it will then re-enter the TPB process as a new project and will be evaluated accordingly as specified in the TPB Technical Solicitation Submission Guide. In addition, the first year of the awarded funding will be FY2028, therefore, there will be time for any project that gets funded to be included in Visualize 2045.

Enclosed are the list of 28 Northern Virginia's projects submitted as pre-applications for the Commonwealth of Virginia 2024 SMART SCALE Project Prioritization Process. VDOT requests that the resolution of support be approved by the TPB Steering Committee at its June 7, 2024 meeting.

We appreciate your cooperation in this matter. Should you have any additional questions, please contact Regina Moore at (703) 963-5388 or via email at [Regina.Moore@vdot.virginia.gov](mailto:Regina.Moore@vdot.virginia.gov)

Sincerely,



Bill Cuttler, P.E.  
Northern Virginia District Engineer

Enclosure

Cc: Maria Sinner, P.E. VDOT-NoVA  
Amir Shahpar, P.E. VDOT-NoVA  
Rahul Trivedi, P.E. VDOT-NoVA



**NORTHERN VIRGINIA PROJECTS SUBMITTED TO THE COMMONWEALTH OF VIRGINIA  
2024 SMART SCALE PROJECT PRIORIZATION PROCESS**

*SMART SCALE PROJECT PROPOSALS NOT CURRENT INCLUDED IN THE 2022 VISUALIZE 2045 PLAN*

**Highway Projects (12)**

- |  |                       |
|--|-----------------------|
| • Eisenhower Ave. and Van Dorn St. Improvements            | Alexandria City       |
| • Glebe Rd Safety Improvements (I-66-Columbia Pike)        | Arlington County      |
| • US 50 at VA 27 Interchange Access Improvements           | Arlington County      |
| • Braddock Rd Phase II                                     | Fairfax County        |
| • Herndon Parkway Improvements at Sunset Park Drive        | Herndon Town          |
| • Old Ox Widening (Shaw Rd to Fairfax County Line)         | Loudoun County        |
| • Route 7 / Route 601 Intersection Improvements            | Loudoun County        |
| • Route 15 at Braddock Rd Roundabout                       | Loudoun County        |
| • Route 28 (Centreville Rd Corridor Improvements)          | Manassas Park City    |
| • Dale Blvd/Rippon Blvd Corridor Improvements              | Prince William County |
| • Prince William Parkway (Route 294) Corridor Improvements | Prince William County |
| • US 29 (Lee Highway) Corridor Improvements                | Prince William County |

**Bicycle and Pedestrian Projects (7)**

- |  |                 |
|--|-----------------|
| • Duke St and Route 1 Intersection Improvements                    | Alexandria City |
| • King St – Bradlee Safety and Mobility Enhancements               | Alexandria City |
| • Catoctin Circle Turn-lane and sidewalk                           | Leesburg Town   |
| • Cascades Parkway (Bike and Ped) Church Rd to Victoria Station Dr | Loudoun County  |
| • Cascades Parkway (Bike and Ped) Nokes Blvd to Woodshire Dr       | Loudoun County  |
| • East Broad Way Sidewalk  | Loudoun County  |
| • North Berlin Turnpike Shared Use Path                            | Loudoun County  |

***FOR INFORMATION ONLY***

*SMART SCALE PROJECT PROPOSALS ALREADY INCLUDED 2022 VISUALIZE 2045 PLAN*

**Highway Projects (9)**

- |   |                       |
|---|-----------------------|
| • Frontier Dr Extension (CE 3460)                                       | Fairfax County        |
| • Route 7 Widening (I-495 to I-66) (CE3161)                             | Fairfax County        |
| • Town Center Parkway Underpass (CE3699)                                | Fairfax County        |
| • I-395 Shirlington Rotary & S. Glebe Interchange Improvements (CE3762) | NVTA                  |
| • Route 7 Improvements – Route 9 to Dulles Greenway (CE3733)            | Loudoun County        |
| • Route 123 and Old Bridge Road Intersection Improvements (CE3757)      | Prince William County |
| • Route 234 (Clover Hill Rd Intersection Improvements) (CE3703)         | Prince William County |
| • Route 234 and Sudley Manor Dr Intersection Improvements (CE3467)      | Prince William County |
| • Van Buren Rd Improvements (Rt 234 to Cardinal Dr) (CE3372)            | Prince William County |

NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD  
777 North Capitol Street, N.E.  
Washington, D.C. 20002

**RESOLUTION ON AN AMENDMENT TO THE FY 2023-2026 TRANSPORTATION IMPROVEMENT PROGRAM (TIP) THAT IS EXEMPT FROM THE AIR QUALITY CONFORMITY REQUIREMENT TO INCLUDE TIP ACTION 23-41.1 WHICH ADDS FUNDING FOR THE SOUTH CAPITOL STREET TRAIL PROJECT (T6114) AND A NEW FAST CHARGER UPGRADE PROJECT (T13614) THROUGH THE DC DEPARTMENT OF ENERGY AND ENVIRONMENT (DOEE), AS REQUESTED BY THE DISTRICT DEPARTMENT TRANSPORTATION (DDOT)**

**WHEREAS**, the National Capital Region Transportation Planning Board (TPB), as the federally designated metropolitan planning organization (MPO) for the Washington region, has the responsibility under the provisions of the Fixing America's Surface Transportation (FAST) Act, reauthorized November 15, 2021 when the Infrastructure Investment and Jobs Act (IIJA) was signed into law, for developing and carrying out a continuing, cooperative and comprehensive transportation planning process for the metropolitan area; and

**WHEREAS**, the TIP is required by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) as a basis and condition for all federal funding assistance to state, local and regional agencies for transportation improvements within the Washington planning area; and

**WHEREAS**, on June 15, 2022, the TPB adopted the FY 2023-2026 TIP; and

**WHEREAS**, DDOT has requested an amendment to the FY 2023-2026 TIP to include TIP Action 23-41.1 which amends the **South Capitol Street Trail Project (T6114)** with an additional \$13.4M through Local, CMAQ, and RAISE Grant funding and includes a new **DOEE Fast Charger Upgrade Project (T13614)** at \$689,877 through a NEVI grant and local match, as described in the attached materials.

**WHEREAS**, the attached materials include:

- ATTACHMENT A) Programming Overview report showing how the amended record will appear in the TIP following approval,
- ATTACHMENT B) Amendment Summary report showing project's total cost before and after the amendment, the delta, and the percentage increase from the cost before, the reason for the amendment, and a Change Narrative, providing line-item changes to every programmed amount by fund source, fiscal year, and the project phase, and
- ATTACHMENT C) Letters from DDOT dated May 28, 2024 and June 6, 2024, requesting the amendment, and

**WHEREAS**, this amendment has been entered into the TPB's Project InfoTrak database under TIP Action 23-41.1, creating the 41<sup>st</sup> amended version of the FY 2023-2026 TIP, which supersedes all previous versions of the TIP and can be found online at [www.mwcog.org/ProjectInfoTrak](http://www.mwcog.org/ProjectInfoTrak); and

**WHEREAS**, these trail and fast charger projects are exempt from the air quality requirement, as defined in the Environmental Protection Agency's (EPA) Transportation Conformity Regulations as of April 2012; and

**WHEREAS**, this resolution and the amendment to the FY 2023-2026 TIP shall not be considered final until the Transportation Planning Board has had the opportunity to review and accept these materials at its next full meeting.

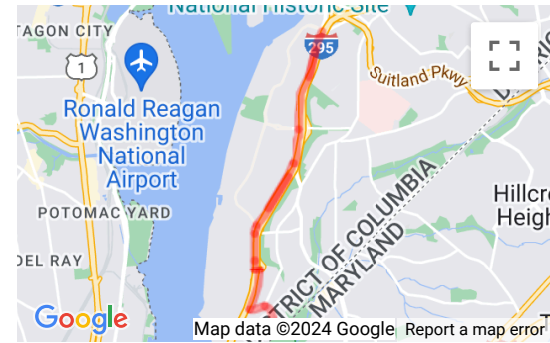
**NOW, THEREFORE, BE IT RESOLVED THAT** the Steering Committee of the National Capital Region Transportation Planning Board amends the FY 2023-2026 TIP to include TIP Action 23-41.1 which amends the **South Capitol Street Trail Project (T6114)** with an additional \$13.4M through Local, CMAQ, and RAISE Grant funding and includes a new **DOEE Fast Charger Upgrade Project (T13614)** at \$689,877 through a NEVI grant and local match, as described in the attached materials.

**Adopted by the TPB Steering Committee at its meeting on Friday, June 7, 2024.  
Final approval following review by the full board on Thursday, June 20, 2024.**



<i>TIP ID</i>	T6114	<i>Lead Agency</i>	District Department of Transportation	<i>Project Type</i>	Bicycle/Pedestrian - Bike/Ped
<i>Project Name</i>	South Capitol Street Trail	<i>County</i>		<i>Total Cost</i>	\$30,400,000
<i>Project Limits</i>	Firth Sterling Ave. to Southern Ave. Maryland	<i>Municipality</i>	District of Columbia	<i>Completion Date</i>	2025
		<i>Agency Project ID</i>	ZUT10C		
<i>Description</i>	Design and construct a paved bicycle and pedestrian trail along South Capitol Street.				

Phase	AC/ACCP Source	Prior	FY2023	FY2024	FY2025	FY2026	Future	4 Year Total	Total
CON	BUILD	-	-	\$10,000,000	-	-	-	\$10,000,000	\$10,000,000
CON	CMAQ	-	-	\$3,960,000	-	-	-	\$3,960,000	\$3,960,000
CON	DC/STATE	\$13,400,000	-	\$3,040,000	-	-	-	\$3,040,000	\$16,440,000
	<i>Total CON</i>	\$13,400,000	-	\$17,000,000	-	-	-	\$17,000,000	\$30,400,000
	<i>Total Programmed</i>	\$13,400,000	-	\$17,000,000	-	-	-	\$17,000,000	\$30,400,000



**Version History**

<i>TIP Document</i>		<i>MPO Approval</i>	<i>FHWA Approval</i>	<i>FTA Approval</i>
23-00	Adoption 2023-2026	06/15/2022	8/25/2022	8/25/2022
23-02	Amendment 2023-2026	09/16/2022	N/A	N/A
23-32	Amendment 2023-2026	01/16/2024	N/A	N/A
23-41.1	Amendment 2023-2026	06/20/2024	<i>Pending</i>	<i>Pending</i>

**Current Change Reason**

SCHEDULE / FUNDING / SCOPE - Cost change(s)

*Funding Change(s):*

Total project cost increased from \$17,000,000 to \$30,400,000



<i>TIP ID</i>	T13614	<i>Lead Agency</i>	District Department of Transportation	<i>Project Type</i>	Other - Alt Fuel Infrastructure
<i>Project Name</i>	DC DOEE Fast Charger Upgrade	<i>County</i>	Washington	<i>Total Cost</i>	\$689,877
<i>Project Limits</i>		<i>Municipality</i>	District of Columbia	<i>Completion Date</i>	2025
		<i>Agency Project ID</i>			

*Description* This project will replace an existing, inoperable, publicly accessible electric vehicle (EV) charging station located at 3355a Benning Road NW, Washington, DC. The station will be upgraded from a single port at 50kW DCFC to four ports at 150kW minimum (NEVI corridor standards).

Phase	AC/ACCP Source	Prior	FY2023	FY2024	FY2025	FY2026	Future	4 Year Total	Total
CON	NEVI	-	-	\$497,000	-	-	-	\$497,000	\$497,000
CON	DC/STATE	-	-	\$192,877	-	-	-	\$192,877	\$192,877
	<i>Total CON</i>	-	-	\$689,877	-	-	-	\$689,877	\$689,877
	<i>Total Programmed</i>	-	-	\$689,877	-	-	-	\$689,877	\$689,877

\*Map Has Not Been Marked

Version History

Current Change Reason

<i>TIP Document</i>	<i>MPO Approval</i>	<i>FHWA Approval</i>	<i>FTA Approval</i>
23-41.1 Amendment 2023-2026	06/20/2024	Pending	Pending

SCHEDULE / FUNDING / SCOPE - New project

**ATTACHMENT B**  
**Summary Report for TIP Action 23-41.1 Formal Amendment to the**  
**FY 2023-2026 Transportation Improvement Program**  
**Requested by District Department of Transportation**

TIP ID	PROJECT TITLE	COST BEFORE	COST AFTER	COST CHANGE	% CHANGE	CHANGE REASON	CHANGE SUMMARY
T6114	South Capitol Street Trail	\$17,000,000	\$30,400,000	\$13,400,000	79	Cost change(s)	PROJECT CHANGES (FROM PREVIOUS VERSION): DC/STATE + Increase funds in FFY 24 in CON from \$360,000 to \$3,040,000 BUILD ▶ Add funds in FFY 24 in CON for \$10,000,000 CMAQ + Increase funds in FFY 24 in CON from \$3,240,000 to \$3,960,000 <i>Total project cost increased from \$17,000,000 to \$30,400,000</i>
T13614	DC DOEE Fast Charger Upgrade	\$0	\$689,877	\$689,877	0	New project	PROJECT CHANGES (FROM PREVIOUS VERSION): DC/STATE ▶ Add funds in FFY 24 in CON for \$192,877 NEVI ▶ Add funds in FFY 24 in CON for \$497,000 <i>Total project cost \$689,877</i>
TOTAL		\$17,000,000	\$31,089,877	\$14,089,877			

# Government of the District of Columbia

## Department of Transportation



May 28, 2024

The Honorable Christina Henderson, Chair  
 National Capital Region Transportation Planning Board  
 Metropolitan Washington Council of Governments  
 777 North Capitol Street N.E., Suite 300  
 Washington, DC 20002-4290

Dear Chair Henderson,

The District Department of Transportation (DDOT) requests that the FY 2023-2026 Transportation Improvement Program (TIP) be amended as detailed below.

Name	Funding Type	TIP ID	Phase	Amount	Year	Fed/State Split	Published Notes	Revision Classification Reason
South Capitol Street Trail	Formula/CMAQ	T6114	Construction	\$ 900,000	2024	80/20	Increase Formula/CMAQ funding for Construction by \$900,000 in FY 2024	Increase in project cost of over 20%
South Capitol Street Trail	RAISE Grant	T6114	Construction	\$ 10,000,000	2024	100/00	Increase RAISE Grant funding for Construction by \$10,000,000 in FY 2024	Increase in project cost of over 20%
South Capitol Street Trail	DCSTATE	T6114	Construction	\$ 2,500,000	2024	00/100	Increase DCSTATE funding for Construction by \$2,500,000 in FY 2024	Increase in project cost of over 20%

The amendments do not add additional capacity for motorized vehicles and do not require conformity analysis or public review and comment. The funding sources have been identified, and the TIP will remain fiscally constrained. Therefore, DDOT requests that the TPB Steering Committee approve these amendments at its June 7<sup>th</sup> meeting.

We appreciate your cooperation in this matter. Should you have questions regarding these amendments, please contact Mark Rawlings at (202) 671-2234 or by e-mail at [mark.rawlings@dc.gov](mailto:mark.rawlings@dc.gov). Of course, please feel free to contact me directly.

Sincerely,

Shirley Kwan-Hui  
 Chief Administrative Officer  
 District Department of Transportation  
[Shirley.Kwan-Hui@dc.gov](mailto:Shirley.Kwan-Hui@dc.gov)

# Government of the District of Columbia

## Department of Transportation



June 6, 2024

The Honorable Christina Henderson, Chair  
 National Capital Region Transportation Planning Board  
 Metropolitan Washington Council of Governments  
 777 North Capitol Street N.E., Suite 300  
 Washington, DC 20002-4290

Dear Chair Henderson,

The District Department of Transportation (DDOT) requests that the FY 2023-2026 Transportation Improvement Program (TIP) be amended as detailed below.

Name	Funding Type	TIP ID	Phase	Amount	Year	Fed/State Split	Published Notes	Revision Classification Reason
DC DOEE Fast Charger Upgrade	NEVI Grant	N/A	Construction	\$ 689,877	2024	72/28	Increase EVC-RAA Grant funding for Construction by \$689,877 in FY 2024	Increase in project cost of over 20%

The amendment does not add additional capacity for motorized vehicles and does not require conformity analysis or public review and comment. The funding sources have been identified, and the TIP will remain fiscally constrained. Therefore, DDOT requests that the TPB Steering Committee approve the amendment at its June 7<sup>th</sup> meeting.

We appreciate your cooperation in this matter. Should you have questions regarding this amendment, please contact Mark Rawlings at (202) 369-7845 or by e-mail at [mark.rawlings@dc.gov](mailto:mark.rawlings@dc.gov). Of course, please feel free to contact me directly.

Sincerely,

Shirley Kwan-Hui  
 Chief Administrative Officer  
 District Department of Transportation  
[Shirley.Kwan-Hui@dc.gov](mailto:Shirley.Kwan-Hui@dc.gov)



NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD  
777 North Capitol Street, N.E.  
Washington, D.C. 20002

**RESOLUTION ON AN AMENDMENT TO THE FY 2023-2026 TRANSPORTATION IMPROVEMENT PROGRAM (TIP) THAT IS EXEMPT FROM THE AIR QUALITY CONFORMITY REQUIREMENT TO INCLUDE TIP ACTION 23-41.2 WHICH ADDS TWO NEW PROJECT RECORDS (T13612 & T13613) AND INCREASES FUNDING FOR THREE EXISTING PROJECT RECORDS (T2594, T3760, & T13566), AS REQUESTED BY THE MARYLAND DEPARTMENT TRANSPORTATION (MDOT)**

**WHEREAS**, the National Capital Region Transportation Planning Board (TPB), as the federally designated metropolitan planning organization (MPO) for the Washington region, has the responsibility under the provisions of the Fixing America's Surface Transportation (FAST) Act, reauthorized November 15, 2021 when the Infrastructure Investment and Jobs Act (IIJA) was signed into law, for developing and carrying out a continuing, cooperative and comprehensive transportation planning process for the metropolitan area; and

**WHEREAS**, the TIP is required by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) as a basis and condition for all federal funding assistance to state, local and regional agencies for transportation improvements within the Washington planning area; and

**WHEREAS**, on June 15, 2022, the TPB adopted the FY 2023-2026 TIP; and

**WHEREAS**, MDOT has requested an amendment to the FY 2023-2026 TIP to include TIP Action 23-41.2 which adds a net total of approximately \$35.2 million to the Maryland portion of the TIP by adding approximately \$16.6 million to an existing program, operating funds, and a Low-No discretionary grant, nearly \$9.2 million through the Maryland Equitable Charging Infrastructure Discretionary Grant, and \$9.4 million to a shared-use path project, as listed at the end of this resolution, and as described in the attached materials.

**WHEREAS**, the attached materials include:

- ATTACHMENT A) Programming Overview report showing how the amended record will appear in the TIP following approval,
- ATTACHMENT B) Amendment Summary report showing project's total cost before and after the amendment, the delta, and the percentage increase from the cost before, the reason for the amendment, and a Change Narrative, providing line-item changes to every programmed amount by fund source, fiscal year, and the project phase, and
- ATTACHMENT C) Letters from MDOT and MCDOT dated May 23, 2024, requesting the amendment, and

**WHEREAS**, this amendment has been entered into the TPB's Project InfoTrak database under TIP Action 23-41.2, creating the 41<sup>st</sup> amended version of the FY 2023-2026 TIP, which supersedes all previous versions of the TIP and can be found online at [www.mwcog.org/ProjectInfoTrak](http://www.mwcog.org/ProjectInfoTrak); and

**WHEREAS**, these projects and programs are exempt from the air quality requirement, as defined in the Environmental Protection Agency’s (EPA) Transportation Conformity Regulations as of April 2012; and

**WHEREAS**, this resolution and the amendment to the FY 2023-2026 TIP shall not be considered final until the Transportation Planning Board has had the opportunity to review and accept these materials at its next full meeting.

**NOW, THEREFORE, BE IT RESOLVED THAT** the Steering Committee of the National Capital Region Transportation Planning Board amends the FY 2023-2026 TIP to include TIP Action 23-41.2 which adds a net total of approximately \$35.2 million to the Maryland portion of the TIP by adding approximately \$16.6 million to an existing program, operating funds, and a Low-No discretionary grant, nearly \$9.2 million through the Maryland Equitable Charging Infrastructure Discretionary Grant, and \$9.4 million to a shared-use path project, as listed at the end of this resolution, and as described in the attached materials.

TIP ID	PROJECT TITLE	COST BEFORE	COST AFTER	COST CHANGE	% CHANGE
T2594	Small Urban Transit Systems - Operating Assistance	\$35,852,500	\$44,815,500	\$8,963,000	25
T3760	Ridesharing - Statewide Program	\$3,492,000	\$5,114,000	\$1,622,000	46
T13566	Prince George's County Bus and Bus Facilities Competitive Low-No	\$31,250,000	\$37,309,000	\$6,059,000	19
T13613	Maryland Equitable Charging Infrastructure Partnership (MECIP)	\$0	\$9,199,289	\$9,199,289	0
T13612	Dale Drive Shared Use Path and Safety Improvements	\$0	\$9,407,000	\$9,407,000	0

Adopted by the TPB Steering Committee at its meeting on Friday, June 7, 2024.  
 Final approval following review by the full board on Thursday, June 20, 2024.



<i>TIP ID</i>	T13566	<i>Lead Agency</i>	Maryland Department of Transportation - Maryland Transit Administration	<i>Project Type</i>	Transit - Other
<i>Project Name</i>	Prince George's County Bus and Bus Facilities Competitive Low-No	<i>County</i>	Prince Georges	<i>Total Cost</i>	\$37,309,000
<i>Project Limits</i>		<i>Municipality</i>		<i>Completion Date</i>	
		<i>Agency Project ID</i>			
<i>Description</i>	Prince George's County Government will receive funding to purchase 20 zero-emission, battery electric buses, upgrade the electrical system at their transit depot, add additional electric chargers at multiple transit hubs and install a microgrid.				

Phase	AC/ACCP Source	Prior	FY2023	FY2024	FY2025	FY2026	Future	4 Year Total	Total	*Not Location Specific
CON	LOCAL	-	-	\$7,159,000	-	-	-	\$7,159,000	\$7,159,000	
CON	S. 5339(B)	-	-	\$30,150,000	-	-	-	\$30,150,000	\$30,150,000	
	<i>Total CON</i>	-	-	\$37,309,000	-	-	-	\$37,309,000	\$37,309,000	
	<i>Total Programmed</i>	-	-	\$37,309,000	-	-	-	\$37,309,000	\$37,309,000	

Version History

<u>TIP Document</u>	<u>MPO Approval</u>	<u>FHWA Approval</u>	<u>FTA Approval</u>
23-23.2 Amendment 2023-2026	09/20/2023	Pending	Pending
23-41.2 Amendment 2023-2026	06/20/2024	Pending	Pending

Current Change Reason

SCHEDULE / FUNDING / SCOPE - Cost change(s)

*Funding Change(s):*  
 Total project cost increased from \$31,250,000 to \$37,309,000



<i>TIP ID</i>	T2594	<i>Lead Agency</i>	Maryland Department of Transportation - Maryland Transit Administration	<i>Project Type</i>	Bus/BRT - Operating
<i>Project Name</i>	Small Urban Transit Systems - Operating Assistance	<i>County</i>	Charles, Frederick	<i>Total Cost</i>	\$44,815,500
<i>Project Limits</i>		<i>Municipality</i>		<i>Completion Date</i>	
<i>Description</i>	Operating assistance to small urban transit systems in Charles and Frederick Counties				

Phase	AC/ACCP Source	FY2023	FY2024	FY2025	FY2026	4 Year Total	Total
OTHER	LOCAL	\$2,240,750	\$4,481,500	\$2,240,750	\$2,240,750	\$11,203,750	\$11,203,750
OTHER	S. 5307	\$4,481,500	\$8,963,000	\$4,481,750	\$4,481,750	\$22,408,000	\$22,408,000
OTHER	DC/STATE	\$2,240,750	\$4,481,500	\$2,240,750	\$2,240,750	\$11,203,750	\$11,203,750
	<i>Total Other</i>	\$8,963,000	\$17,926,000	\$8,963,250	\$8,963,250	\$44,815,500	\$44,815,500
	<i>Total Programmed</i>	\$8,963,000	\$17,926,000	\$8,963,250	\$8,963,250	\$44,815,500	\$44,815,500

\*Not Location Specific

Version History

<i>TIP Document</i>	<i>MPO Approval</i>	<i>FHWA Approval</i>	<i>FTA Approval</i>
23-00 Adoption 2023-2026	06/15/2022	8/25/2022	8/25/2022
23-41.2 Amendment 2023-2026	06/20/2024	Pending	Pending

Current Change Reason

SCHEDULE / FUNDING / SCOPE - Carrying over from earlier TIP

Funding Change(s):

Total project cost increased from \$35,852,500 to \$44,815,500



<i>TIP ID</i>	T3760	<i>Lead Agency</i>	Maryland Department of Transportation - Maryland Transit Administration	<i>Project Type</i>	TDM/Micromobility - Ridesharing
<i>Project Name</i>	Ridesharing - Statewide Program	<i>County</i>	Calvert, Charles, Frederick, Montgomery, Prince Georges	<i>Total Cost</i>	\$5,114,000
<i>Project Limits</i>		<i>Municipality</i>	Statewide MD	<i>Completion Date</i>	
		<i>Agency Project ID</i>			

*Description* To promote and encourage the establishment of carpools and vanpools. The ridesharing project covers the activities of the ridesharing unit of the Statewide Transportation Program with coordinators in Frederick, Prince George's, Montgomery Counties, and the Tri-County Council of Southern Maryland.

Phase	AC/ACCP Source	FY2023	FY2024	FY2025	FY2026	4 Year Total	Total	*Map Has Not Been Marked
OTHER	CMAQ	\$873,000	\$2,495,000	\$873,000	\$873,000	\$5,114,000	\$5,114,000	
	<i>Total Other</i>	\$873,000	\$2,495,000	\$873,000	\$873,000	\$5,114,000	\$5,114,000	
	<i>Total Programmed</i>	\$873,000	\$2,495,000	\$873,000	\$873,000	\$5,114,000	\$5,114,000	

**Version History**

<i>TIP Document</i>		<i>MPO Approval</i>	<i>FHWA Approval</i>	<i>FTA Approval</i>
23-00	Adoption 2023-2026	06/15/2022	8/25/2022	8/25/2022
23-41.2	Amendment 2023-2026	06/20/2024	<i>Pending</i>	<i>Pending</i>

**Current Change Reason**

SCHEDULE / FUNDING / SCOPE - Programming Update

**Funding Change(s):**

Total project cost increased from \$3,492,000 to \$5,114,000



<i>TIP ID</i>	T13613	<i>Lead Agency</i>	Maryland Department of Transportation - State Highway Administration	<i>Project Type</i>	Other - Alt Fuel Infrastructure
<i>Project Name</i>	Maryland Equitable Charging Infrastructure Partnership (MECIP)	<i>County</i>	Frederick, Montgomery, Prince Georges	<i>Total Cost</i>	\$9,199,289
<i>Project Limits</i>		<i>Municipality</i>		<i>Completion Date</i>	2031
		<i>Agency Project ID</i>			

*Description* will install 58 sites in communities across the State of Maryland. This project will provide density to the existing Alternative Fuel Corridors and giving rural, urban LMI and Justice40 areas access to EV Charging technology.

Phase	AC/ACCP Source	Prior	FY2023	FY2024	FY2025	FY2026	Future	4 Year Total	Total	
OTHER	LOCAL	-	-	-	\$2,138,868	-	-	\$2,138,868	\$2,138,868	*Map Has Not Been Marked
OTHER	SP	-	-	-	\$7,060,421	-	-	\$7,060,421	\$7,060,421	
	<i>Total Other</i>	-	-	-	\$9,199,289	-	-	\$9,199,289	\$9,199,289	
	<i>Total Programmed</i>	-	-	-	\$9,199,289	-	-	\$9,199,289	\$9,199,289	

Version History

*Current Change Reason*

<i>TIP Document</i>		<i>MPO Approval</i>	<i>FHWA Approval</i>	<i>FTA Approval</i>
23-41.2	Amendment 2023-2026	06/20/2024	Pending	Pending

SCHEDULE / FUNDING / SCOPE - New project



<i>TIP ID</i>	T13612	<i>Lead Agency</i>	Montgomery County	<i>Project Type</i>	Bicycle/Pedestrian - Bike/Ped
<i>Project Name</i>	Dale Drive Shared Use Path and Safety Improvements	<i>County</i>	Montgomery	<i>Total Cost</i>	\$9,407,000
<i>Project Limits</i>	Colesville to Georgia	<i>Municipality</i>		<i>Completion Date</i>	2028
		<i>Agency Project ID</i>	P502109		

*Description* This project provides for the design and construction of a new eight-foot wide shared use path approximately 1 mile of length along the north side of Dale Drive from Georgia Avenue (MD 97) to Colesville Road (US 29). The project also provides minor intersection safety improvements within the project limits to improve existing sight distance and crosswalks.

Phase	AC/ACCP Source	Prior	FY2023	FY2024	FY2025	FY2026	Future	4 Year Total	Total
PE	LOCAL	-	-	\$150,000	-	-	-	\$150,000	\$150,000
	<i>Total PE</i>	-	-	\$150,000	-	-	-	\$150,000	\$150,000
ROW	LOCAL	-	-	-	\$1,364,000	-	-	\$1,364,000	\$1,364,000
	<i>Total ROW</i>	-	-	-	\$1,364,000	-	-	\$1,364,000	\$1,364,000
CON	LOCAL	-	-	-	-	\$1,456,200	-	\$1,456,200	\$1,456,200
CON	TAP	-	-	-	-	\$5,824,800	-	\$5,824,800	\$5,824,800
	<i>Total CON</i>	-	-	-	-	\$7,281,000	-	\$7,281,000	\$7,281,000
UT	LOCAL	-	-	-	\$612,000	-	-	\$612,000	\$612,000
	<i>Total UT</i>	-	-	-	\$612,000	-	-	\$612,000	\$612,000
	<i>Total Programmed</i>	-	-	\$150,000	\$1,976,000	\$7,281,000	-	\$9,407,000	\$9,407,000

\*Map Has Not Been Marked

Version History

<i>TIP Document</i>	<i>MPO Approval</i>	<i>FHWA Approval</i>	<i>FTA Approval</i>
23-41.2 Amendment 2023-2026	06/20/2024	Pending	Pending

Current Change Reason

SCHEDULE / FUNDING / SCOPE - New project

**ATTACHMENT B**  
**Summary Report for TIP Action 23-41.2 Formal Amendment to the**  
**FY 2023-2026 Transportation Improvement Program**  
**Requested by Maryland Department of Transportation**

TIP ID	PROJECT TITLE	COST BEFORE	COST AFTER	COST CHANGE	% CHANGE	CHANGE REASON	CHANGE SUMMARY
T2594	Small Urban Transit Systems - Operating Assistance	\$35,852,500	\$44,815,500	\$8,963,000	25	Cost change(s)	PROJECT CHANGES (FROM PREVIOUS VERSION): LOCAL + Increase funds in FFY 24 in OTHER from \$2,240,750 to \$4,481,500 DC/STATE + Increase funds in FFY 24 in OTHER from \$2,240,750 to \$4,481,500 S. 5307 + Increase funds in FFY 24 in OTHER from \$4,481,500 to \$8,963,000 <i>Total project cost increased from \$35,852,500 to \$44,815,500</i>
T3760	Ridesharing - Statewide Program	\$3,492,000	\$5,114,000	\$1,622,000	46	Programming Update	PROJECT CHANGES (FROM PREVIOUS VERSION): CMAQ + Increase funds in FFY 24 in OTHER from \$873,000 to \$2,495,000 <i>Total project cost increased from \$3,492,000 to \$5,114,000</i>
T13566	Prince George's County Bus and Bus Facilities Competitive Low-No	\$31,250,000	\$37,309,000	\$6,059,000	19	Cost change(s)	PROJECT CHANGES (FROM PREVIOUS VERSION): LOCAL + Increase funds in FFY 24 in CON from \$6,250,000 to \$7,159,000 S. 5339(B) + Increase funds in FFY 24 in CON from \$25,000,000 to \$30,150,000 <i>Total project cost increased from \$31,250,000 to \$37,309,000</i>
T13613	Maryland Equitable Charging Infrastructure Partnership (MECIP)	\$0	\$9,199,289	\$9,199,289	0	New project	PROJECT CHANGES (FROM PREVIOUS VERSION): LOCAL ▶ Add funds in FFY 25 in OTHER for \$2,138,868 SP ▶ Add funds in FFY 25 in OTHER for \$7,060,421 <i>Total project cost \$9,199,289</i>
T13612	Dale Drive Shared Use Path and Safety Improvements	\$0	\$9,407,000	\$9,407,000	0	New project	PROJECT CHANGES (FROM PREVIOUS VERSION): LOCAL ▶ Add funds in FFY 24 in PE for \$150,000 ▶ Add funds in FFY 25 in ROW for \$1,364,000 UT for \$612,000 ▶ Add funds in FFY 26 in CON for \$1,456,200 TAP ▶ Add funds in FFY 26 in CON for \$5,824,800 <i>Total project cost \$9,407,000</i>
TOTAL		\$70,594,500	\$105,844,789	\$35,250,289			

\*ACCP is not part of the Total..



May 23, 2024

The Honorable Christina Henderson  
Chair  
National Capital Region Transportation Planning Board  
Metropolitan Washington Council of Governments  
777 North Capitol Street, NE, Suite 300  
Washington DC 20002

Dear Chair Henderson:

The Maryland Department of Transportation (MDOT) requests the following amendment to the Maryland portion of the National Capital Region Transportation Planning Board’s (TPB) Fiscal Year (FY) 2023-2026 Transportation Improvement Program (TIP) for three existing projects in the FY 2023-2026 TPB TIP on behalf of the Maryland Transit Administration (MTA) and one new project on behalf of the Maryland Clean Energy Center as described below and in the attached memo.

This action reflects MTA’s updated programmed expenditures and project schedules from FY 2023 to FY 2026 by increasing the funding in Small Urban Transit Operating funding and increasing the CMAQ funding for the Ridesharing Program. This amendment also supports a 2nd phase of a Low-No discretionary grant to Prince George’s County Department of Public Works and Transportation (DPW&T) for additional buses and charging units. Additionally, the Maryland Clean Energy Center received a Charging and Fueling Infrastructure Discretionary Grant to install electric vehicle charging stations throughout the region. These projects are either already included or do not affect the Air Quality Conformity Determination for the 2022 Update to Visualize 2045.

<b>TIP ID</b>	<b>Project</b>	<b>Amount of New Funding (In 000s)</b>	<b>Comment</b>
2594	Small Urban Transit - Operating	\$8,964	Adds new 5307 operating funds.
13566	Prince George’s County Bus and Bus Facilities Competitive Low-No	\$6,059	Adds new 5339 funds.
3760	Ridesharing – Statewide Program	\$1,622	Adds new CMAQ funds.
13613	Maryland Equitable Charging Infrastructure Partnership (MECIP)	\$9,199	Adds new project and new CFI funds.

The Honorable Christina Henderson  
Page Two

MDOT requests that this amendment be approved at the upcoming TPB Steering Committee meeting.

The revised funding status will not impact scheduling or funding availability for other projects in the current TIP, which continues to be fiscally constrained. The cost does not affect the portion of the federal funding which was programmed for transit, or any allocations of state aid in lieu of federal aid to local jurisdictions.

We appreciate your cooperation in this matter. Should you have additional questions or concerns, please contact me at 410-865-1305, toll free 888-713-1414 or via e-mail at [ksnyder3@mdot.maryland.gov](mailto:ksnyder3@mdot.maryland.gov). I will be happy to assist you.

Sincerely,



Kari Snyder  
Regional Planner  
Office of Planning and Capital Programming (OPCP)

Attachment

cc: Mr. Dan Janousek, Regional Planner, OPCP, MDOT

**TO:** OPCP REGIONAL PLANNING MANAGER TYSON BYRNE  
OFFICE OF PLANNING AND CAPITAL PROGRAMMING  
MARYLAND DEPARTMENT OF TRANSPORTATION (MDOT)

**ATTN:** DAN JANOUSEK, REGIONAL PLANNER  
KARI SNYDER, REGIONAL PLANNER

**FROM:** DIRECTOR ERIC BECKETT *Eric Beckett*  
OFFICE OF CAPITAL PROGRAMMING AND ASSET MANAGEMENT  
MARYLAND TRANSIT ADMINISTRATION (MTA)

**DATE:** APRIL 9, 2024

**SUBJECT:** REQUEST FOR AN ADMENDMENT TO THE FISCAL YEAR 2023-2026  
NATIONAL CAPITAL REGION TRANSPORTATION IMPROVEMENT  
PROGRAM (TIP)

**PURPOSE OF MEMORANDUM**

To request OPCP request National Capital Region Transportation Planning Board to approve the following TIP amendment and, upon TPB approval, notify the Federal Transit Administration (FTA) of the amendment to the TPB FY 2023-FY2026 TIP. This amendment modifies the 5307 Operating in FY 24 up by \$4,482,000 and the local matching funds by \$4,482,000 to support transit service in Charles and Frederick counties.

**SUMMARY**

The MTA requests the TPB amend the FY 2023-2026 TPB TIP to reflect the following action.

TIP	PROJECT	TYPE	FUNDING CHANGE
T2594	Small Urban Transit - Operating	5307 Operating	\$4,482,000
		STATE/LOCAL	\$4,482,000

## **ANALYSIS**

The Small Urban Transit – Operating provides operating assistance to Charles and Frederick counties. This action will allow Charles and Frederick counties to finance their transit operations. This amendment modifies the 5307 Operating in FY 24 up by \$4,482,000 and the state/local match up in FY 24 by \$4,482,000.

The attached Statewide Transportation Improvement Program (STIP) report documents MDOT’s requested amendment with respect to funding for the project above. The requested action will not impact scheduling or funding availability for other projects in the current STIP, which continues to be fiscally constrained.

Please amend the FY 2023-2026 TPB TIP and the FY 2022-2025 STIP to reflect the funding information provided in the attachments. If you have any questions, please do not hesitate to contact Mr. Stephen Miller, Chief of Strategic Planning, Statewide Project Development, at [smiller6@mta.maryland.gov](mailto:smiller6@mta.maryland.gov).

## **ATTACHMENTS**


- FY 2023-2026 TPB TIP Project Report
- FY 2022-2025 Maryland STIP Project Report

cc: Ms. Erika Falk, Capital Analyst, Capital Programming and Asset Management, MTA  
Ms. Kisha Joyner, Assistant Manager, Capital Programming and Asset Management, MTA  
Ms. Michelle Martin, Deputy Director, Planning and Capital Programming, TSO  
Mr. Stephen Miller, Chief of Strategic Planning, Statewide Project Development, MTA  
Mr. Darrell Smith, Director, Statewide Project Development, MTA

# National Capital Region TIP FY2023-2026

MDOT TIP # T2594															
<b>SUMMARY TABLE</b>															
Project	Amendment Criteria	Conformity Status	Environmental Status	Current Funding Level (in \$1,000)											
				Federal	State/Local	Total									
Small Urban Transit Operating	B	Exempt	n/a	\$ -	\$ -	\$ 35,852									
	Administration			Net Funding Change (000s)											
	Area/MPO	CTP Page	Federal	State/Local	Total										
	MDOT MTA	TPB		\$ 4,481	\$ 4,481	\$ 8,963									
Description:	Operating Assistance to small urban transit systems in Charles and Frederick Counties														
Justification:	Operating Assistance will enable Charles and Frederick Counties transportation systems to finance the operation of their services.														
<b>INDIVIDUAL REQUEST FORM</b>															
<b>STIP/TIP Amendment Criteria</b>				Funding	FY 2023	FY 2024	FY 2025	FY 2026	Total						
<input type="checkbox"/> A) Adds new individual projects to the current TIP				Current (000s)	<b>Total</b>	\$ 8,963	\$ 8,963	\$ 8,963	\$ 8,963	\$ 35,852					
<input checked="" type="checkbox"/> B) Increase/decrease, scope change, advance, delay, or phase change					Federal	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 17,926					
<input type="checkbox"/> C) Removes or deletes individual listed project from the TIP				Proposed (000s)	<b>Total</b>	\$ 8,963	\$ 17,926	\$ 8,963	\$ 8,963	\$ 44,815					
<input type="checkbox"/> D) Other [Administrative modification to add and shift federal/state construction fund					Federal	\$ 4,482	\$ 8,963	\$ 4,482	\$ 4,482	\$ 22,408					
MARYLAND DEPARTMENT OF TRANSPORTATION				Change (000s)	<b>Total</b>	\$ -	\$ 8,963	\$ -	\$ -	\$ 8,963					
					Federal	\$ -	\$ 4,481	\$ -	\$ -	\$ 4,481					
				State/Local	\$ -	\$ 4,481	\$ -	\$ -	\$ 4,481						
<b>PHASE DETAIL</b>															
Current		FY 2023		FY 2024		FY 2025		FY 2026		TOTAL					
Phase	Funding	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Total			
PE	5307 Operating	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 17,926	\$ 17,926	\$ 35,852			
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<b>Total</b>		\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 17,926	\$ 17,926	\$ 35,852			
Proposed		FY 2023		FY 2024		FY 2025		FY 2026		TOTAL					
Phase	Funding	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Total			
PE	5307 Operating	\$ 4,482	\$ 4,482	\$ 8,963	\$ 8,963	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 22,408	\$ 22,408	\$ 44,815			
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<b>Total</b>		\$ 4,482	\$ 4,482	\$ 8,963	\$ 8,963	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 22,408	\$ 22,408	\$ 44,815			
Change		FY 2023		FY 2024		FY 2025		FY 2026		TOTAL					
Phase	Funding	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Total			
PE	5307 Operating	\$ -	\$ -	\$ 4,481	\$ 4,481	\$ -	\$ -	\$ -	\$ -	\$ 4,481	\$ 4,481	\$ 8,963			
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<b>Total</b>		\$ -	\$ -	\$ 4,481	\$ 4,481	\$ -	\$ -	\$ -	\$ -	\$ 4,481	\$ 4,481	\$ 8,963			
<b>TOTAL PROJECT COST</b>															
Prior Cost (≤ FY 2023)				TIP Cost (FY 2024-2027)				Balance to Complete (≥ FY 2028)				Total Project Cost			
Federal		\$ -		Federal		\$ 22,408		Federal		\$ -		Federal		\$ 22,408	
State/Local		\$ -		State/Local		\$ 22,408		State/Local		\$ -		State/Local		\$ 22,408	
<b>Total</b>		\$ -		<b>Total</b>		\$ 44,815		<b>Total</b>		\$ -		<b>Total</b>		\$ 44,815	

# MARYLAND STATEWIDE TIP FY 2022-2025

MDOT TIP # TPB T2594														
<b>SUMMARY TABLE</b>														
Project	Amendment Criteria	Conformity Status	Environmental Status	Current Funding Level (in \$1,000)										
				Federal	State/Local	Total								
Small Urban Transit Operating	B	Exempt	n/a	\$ 17,926	\$ 17,926	\$ 35,852								
				Net Funding Change (000s)										
	Administration	Area/MPO	CTP Page	Federal	State/Local	Total								
	MDOT MTA	TPB		\$ 4,481	\$ 4,481	\$ 8,963								
Description	Operating Assistance to small urban transit systems in Charles and Frederick Counties													
Justification	Operating Assistance will enable Charles and Frederick Counties transportation systems to finance the operation of their services.													
<b>INDIVIDUAL REQUEST FORM</b>														
<b>STIP/TIP Amendment Criteria</b>					Funding	FY 2022	FY 2023	FY 2024	FY 2025	Total				
<input type="checkbox"/> A) Adds new individual projects to the current TIP				Current (000s)	<b>Total</b>	\$ 8,963	\$ 8,963	\$ 8,963	\$ 8,963	\$ 35,852				
<input checked="" type="checkbox"/> B) Increase/decrease, scope change, advance, delay, or phase change					Federal	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 17,926				
<input type="checkbox"/> C) Removes or deletes individual listed project from the TIP				Proposed (000s)	<b>Total</b>	\$ 8,963	\$ 8,963	\$ 17,926	\$ 8,963	\$ 44,815				
<input type="checkbox"/> D) Other [Administrative modification to add and shift federal/state construction fund					Federal	\$ 4,482	\$ 4,482	\$ 8,963	\$ 4,482	\$ 22,408				
				State/Local	\$ 4,482	\$ 4,482	\$ 8,963	\$ 4,482	\$ 22,408					
				Change (000s)	<b>Total</b>	\$ -	\$ -	\$ 8,963	\$ -	\$ 8,963				
					Federal	\$ -	\$ -	\$ 4,481	\$ -	\$ 4,481				
				State/Local	\$ -	\$ -	\$ 4,481	\$ -	\$ 4,481					
<b>PHASE DETAIL</b>														
Current		FY 2022		FY 2023		FY 2024		FY 2025		TOTAL				
Phase	Funding	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Total		
CO	5307 Operating	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 17,926	\$ 17,926	\$ 35,852		
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<b>Total</b>		\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 17,926	\$ 17,926	\$ 35,852		
Proposed		FY 2022		FY 2023		FY 2024		FY 2025		TOTAL				
Phase	Funding	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Total		
CO	5307 Operating	\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 8,963	\$ 8,963	\$ 4,482	\$ 4,482	\$ 22,408	\$ 22,408	\$ 44,815		
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<b>Total</b>		\$ 4,482	\$ 4,482	\$ 4,482	\$ 4,482	\$ 8,963	\$ 8,963	\$ 4,482	\$ 4,482	\$ 22,408	\$ 22,408	\$ 44,815		
Change		FY 2022		FY 2023		FY 2024		FY 2025		TOTAL				
Phase	Funding	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Total		
CO	5307 Operating	\$ -	\$ -	\$ -	\$ -	\$ 4,481	\$ 4,481	\$ -	\$ -	\$ 4,481	\$ 4,481	\$ 8,963		
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<b>Total</b>		\$ -	\$ -	\$ -	\$ -	\$ 4,481	\$ 4,481	\$ -	\$ -	\$ 4,481	\$ 4,481	\$ 8,963		
<b>TOTAL PROJECT COST</b>														
Prior Cost (≤ FY 2021)				TIP Cost (FY 2022-2025)				Balance to Complete (≥ FY 2026)				Total Project Cost		
Federal		\$ -		Federal		\$ 22,408		Federal		\$ -		Federal		\$ 22,408
State/Local		\$ -		State/Local		\$ 22,408		State/Local		\$ -		State/Local		\$ 22,408
<b>Total</b>		\$ -		<b>Total</b>		\$ 44,815		<b>Total</b>		\$ -		<b>Total</b>		\$ 44,815

**TO:** OPCP DEPUTY DIRECTOR MICHELLE MARTIN  
OFFICE OF PLANNING AND CAPITAL PROGRAMMING  
MARYLAND DEPARTMENT OF TRANSPORTATION (MDOT)

**ATTN:** OPCP REGIONAL PLANNER DAN JANOUSEK  
OPCP REGONIAL PLANNER KARI SNYDER

**FROM:** DIRECTOR ERIC BECKETT *Eric Beckett*  
OFFICE OF CAPITAL PROGRAMMING AND ASSET MANAGEMENT  
MARYLAND TRANSIT ADMINISTRATION (MTA)

**DATE:** MAY 21, 2024

**SUBJECT:** REQUEST FOR AN AMENDMENT TO THE FISCAL YEAR 2023-2026  
TRANSPORTATION PLANNING BOARD (TPB) TRANSPORTATION  
IMPROVEMENT PROGRAM (TIP)

**PURPOSE OF MEMORANDUM**

To request OPCP request TPB to approve the following TIP amendment and, upon TPB approval, notify the Federal Transit Administration (FTA) of the amendment to the TPB FY 2023-FY2026 TIP. This amendment will add \$5,150,000 in 5339 funds and \$909,000 in local match to FY 24.

**SUMMARY**

The MTA requests that the TPB amend the FY 2023-2026 TPB TIP to reflect the following action.

TIP	PROJECT	FUNDING TYPE	NEW FUNDING
T-13566	Prince George’s County Bus and Bus Facilities Competitive Low-No	5339	\$5,150,000

## **ANALYSIS**

This amendment supports a 2<sup>nd</sup> phase of a Low-No discretionary grant in Prince George's County for additional buses and charging units. The amendment will increase the federal 5339 funds by \$5,150,000 and local by \$909,000 in FY 24.

The attached Statewide Transportation Improvement Program (STIP) report documents MDOT's requested amendment with respect to funding for the project above. The requested action will not impact scheduling or funding availability for other projects in the current STIP, which continues to be fiscally constrained.

Please modify the FY 2023-2026 TPB TIP and the FY 2022-2025 STIP to reflect the funding information provided in the attachments. If you have any questions, please do not hesitate to contact Ms. Erika Falk, MDOT MTA Office of Planning and Capital Programming, at 410-767-3895 or via email at [efalk@mdot.maryland.gov](mailto:efalk@mdot.maryland.gov).

## **ATTACHMENTS**


- FY 2024-2027 TPB TIP Project Report
- FY 2022-2025 Maryland STIP Project Report

cc: Ms. Erika Falk, Capital Analyst, Office of Planning and Programming, MTA  
Ms. Kisha Joyner, Assistant Manager, Capital Programming and Asset Management, MTA  
Mr. Stephen Miller, Chief of Strategic Planning, Statewide Project Development, MTA  
Mr. Darrell Smith, Director, Statewide Project Development, MTA



# TPB TIP FY 2023-2026

MDOT TIP # 13566						
<b>SUMMARY TABLE</b>						
Project	Amendment Criteria	Conformity Status	Environmental Status	Current Funding Level (in Millions)		
				Federal	State/Local	Total
Prince George's County Bus and Bus Facilities Competitive Low-No	A	Exempt	n/a	\$ -	\$ -	\$ 31,250
	Administration		Area/MPO	Net Funding Change (000s)		
	MDOT MTA		TPB	CTP Page	Federal	State/Local
				\$ 5,150	\$ 909	\$ 6,059
Description	Prince George's County Government will receive funding to purchase 20 zero-emission, battery electric buses, upgrade the electrical system at their transit depot, add additional electric chargers at multiple transit hubs and install a microgrid.					
Justification	The project will create good-paying jobs, reduce greenhouse gas emissions by an estimated 1,228 metric tons per year, and provide access to jobs, schools, and essential services, particularly for those in historically disadvantaged communities.					

<b>INDIVIDUAL REQUEST FORM</b>										
<b>STIP/TIP Amendment Criteria</b>				Funding	FY 2024	FY 2025	FY 2026	FY 2027	Total	
<input checked="" type="checkbox"/> A) Adds new individual projects to the current TIP				Current (000s)	<b>Total</b>	\$ -	\$ -	\$ -	\$ -	\$ -
<input type="checkbox"/> B) Increase/decrease, scope change, advance, delay, or phase change					Federal	\$ -	\$ -	\$ -	\$ -	\$ -
<input type="checkbox"/> C) Removes or deletes individual listed project from the TIP				Proposed (000s)	State/Local	\$ -	\$ -	\$ -	\$ -	\$ -
<input type="checkbox"/> D) Other [Administrative modification to add and shift federal/state construction funding]					<b>Total</b>	\$ -	\$ -	\$ -	\$ -	\$ -
				Change (000s)	Federal	\$ -	\$ -	\$ -	\$ -	\$ -
					State/Local	\$ -	\$ -	\$ -	\$ -	\$ -
				<b>Total</b>	\$ -	\$ -	\$ -	\$ -	\$ -	

<b>PHASE DETAIL</b>												
<b>Current</b>		FY 2023		FY 2024		FY 2025		FY 2026		TOTAL		
Phase	Funding	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Total
CO	5339	\$ -	\$ -	\$ 25,000	\$ 6,250	\$ -	\$ -	\$ -	\$ -	\$ 25,000	\$ 6,250	\$ 31,250
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>		\$ -	\$ -	\$ 25,000	\$ 6,250	\$ -	\$ -	\$ -	\$ -	\$ 25,000	\$ 6,250	\$ 31,250

<b>Proposed</b>												
		FY 2023		FY 2024		FY 2025		FY 2026		TOTAL		
Phase	Funding	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Total
CO	5339	\$ -	\$ -	\$ 30,150	\$ 7,159	\$ -	\$ -	\$ -	\$ -	\$ 30,150	\$ 7,159	\$ 37,309
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>		\$ -	\$ -	\$ 30,150	\$ 7,159	\$ -	\$ -	\$ -	\$ -	\$ 30,150	\$ 7,159	\$ 37,309

<b>Change</b>												
		FY 2023		FY 2024		FY 2025		FY 2026		TOTAL		
Phase	Funding	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Total
CO	5339	\$ -	\$ -	\$ 5,150	\$ 909	\$ -	\$ -	\$ -	\$ -	\$ 5,150	\$ 909	\$ 6,059
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>		\$ -	\$ -	\$ 5,150	\$ 909	\$ -	\$ -	\$ -	\$ -	\$ 5,150	\$ 909	\$ 6,059

<b>TOTAL PROJECT COST</b>													
Prior Cost (≤ FY 2021)				STIP Cost (FY 2022-2025)				Balance to Complete (≥ FY 2026)				Total Project Cost	
Federal		\$ -		Federal		\$ 30,150		Federal		\$ -		Federal	\$ 30,150
State/Local		\$ -		State/Local		\$ 7,159		State/Local		\$ -		State/Local	\$ 7,159
<b>Total</b>		\$ -		<b>Total</b>		\$ 37,309		<b>Total</b>		\$ -		<b>Total</b>	\$ 37,309

## MARYLAND STATEWIDE TIP FY 2022-2025

MDOT TIP ID: T13566														
SUMMARY TABLE														
Project:	Amendment Criteria	Conformity Status	Environmental Status	Current Funding Level (000s)										
				Federal	State/Local	Total								
Prince George's County Bus and Bus Facilities Competitive Low-No	B	Exempt		\$ 25,000	\$ 6,250	\$ 31,250								
	Administration	Area/MPO	CTP Page	Net Funding Change (000s)										
				Federal	State/Local	Total								
	MTA	TPB	Multiple	\$ 5,150	\$ 909	\$ 6,059								
Description	Prince George's County Government will receive funding to purchase 20 zero-emission, battery electric buses, upgrade the electrical system at their transit depot, add additional electric chargers at multiple transit hubs and install a microgrid.													
Justification	The project will create good-paying jobs, reduce greenhouse gas emissions by an estimated 1,228 metric tons per year, and provide access to jobs, schools, and essential services, particularly for those in historically disadvantaged communities.													
INDIVIDUAL REQUEST FORM														
STIP/TIP Amendment Criteria														
<input type="checkbox"/> A) Adds new individual projects to the current STIP <input checked="" type="checkbox"/> B) Increase/decrease, scope change, advance, delay, or phase change <input type="checkbox"/> C) Removes or deletes individual listed project from the STIP <input type="checkbox"/> D) Other				Current (000s)	Total	FY 2022	FY 2023	FY 2024	FY 2025	Total				
				Federal	\$ -	\$ -	\$ 25,000	\$ -	\$ 31,250	\$ 31,250				
				State/Local	\$ -	\$ -	\$ 6,250	\$ -	\$ 6,250	\$ 6,250				
				Proposed (000s)	Total	FY 2022	FY 2023	FY 2024	FY 2025	Total				
				Federal	\$ -	\$ -	\$ 30,150	\$ -	\$ 30,150	\$ 30,150				
				State/Local	\$ -	\$ -	\$ 7,159	\$ -	\$ 7,159	\$ 7,159				
				Change (000s)	Total	FY 2022	FY 2023	FY 2024	FY 2025	Total				
				Federal	\$ -	\$ -	\$ 5,150	\$ -	\$ 5,150	\$ 5,150				
				State/Local	\$ -	\$ -	\$ 909	\$ -	\$ 909	\$ 909				
PHASE DETAIL														
Current														
Phase	Funding	FY 2022		FY 2023		FY 2024		FY 2025		TOTAL				
		Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local			
CO	5339	\$ -	\$ -	\$ -	\$ -	\$ 25,000	\$ 6,250	\$ -	\$ -	\$ 25,000	\$ 6,250			
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
<b>Total</b>		<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 25,000</b>	<b>\$ 6,250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 25,000</b>	<b>\$ 6,250</b>			
Proposed														
Phase	Funding	FY 2022		FY 2023		FY 2024		FY 2025		TOTAL				
		Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local			
CO	5339	\$ -	\$ -	\$ -	\$ -	\$ 30,150	\$ 7,159	\$ -	\$ -	\$ 30,150	\$ 7,159			
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
<b>Total</b>		<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 30,150</b>	<b>\$ 7,159</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 30,150</b>	<b>\$ 7,159</b>			
Change														
Phase	Funding	FY 2022		FY 2023		FY 2024		FY 2025		TOTAL				
		Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local			
CO	5339	\$ -	\$ -	\$ -	\$ -	\$ 5,150	\$ 909	\$ -	\$ -	\$ 5,150	\$ 909			
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
<b>Total</b>		<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 5,150</b>	<b>\$ 909</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 5,150</b>	<b>\$ 909</b>			
TOTAL PROJECT COST														
Prior Cost (≤ FY 2021)				STIP Cost (FY 2022-2025)				Balance to Complete (≥ FY 2026)				Total Project Cost		
Federal		\$ -	\$ -	Federal		\$ 30,150	\$ -	Federal		\$ -	\$ -	Federal		\$ 30,150
State/Local		\$ -	\$ -	State/Local		\$ 7,159	\$ -	State/Local		\$ -	\$ -	State/Local		\$ 7,159
<b>Total</b>		<b>\$ -</b>	<b>\$ -</b>	<b>Total</b>		<b>\$ 37,309</b>	<b>\$ -</b>	<b>Total</b>		<b>\$ -</b>	<b>\$ -</b>	<b>Total</b>		<b>\$ 37,309</b>

**TO:** OPCP DEPUTY DIRECTOR MICHELLE MARTIN  
OFFICE OF PLANNING AND CAPITAL PROGRAMMING  
MARYLAND DEPARTMENT OF TRANSPORTATION (MDOT)

**ATTN:** OPCP REGIONAL PLANNER DAN JANOUSEK  
OPCP REGONIAL PLANNER KARI SNYDER

**FROM:** DIRECTOR ERIC BECKETT *Eric Beckett*  
OFFICE OF CAPITAL PROGRAMMING AND ASSET MANAGEMENT  
MARYLAND TRANSIT ADMINISTRATION (MTA)

**DATE:** MAY 20, 2024

**SUBJECT:** REQUEST FOR AN AMENDMENT TO THE FISCAL YEAR 2023-2026  
TRANSPORTATION PLANNING BOARD (TPB) TRANSPORTATION  
IMPROVEMENT PROGRAM (TIP)

**PURPOSE OF MEMORANDUM**

To request OPCP request TPB to approve the following TIP amendment and, upon TPB approval, notify the Federal Transit Administration (FTA) of the administrative modification to the TPB FY 2023-FY2026 TIP. This amendment will add \$1,622,000 in CMAQ funds to FY 24.

**SUMMARY**

The MTA requests that the TPB amend the FY 2023-2026 TPB TIP to reflect the following action.

TIP	PROJECT	FUNDING TYPE	NEW FUNDING
T-3760	Ridesharing – Statewide Program	CMAQ	\$1,622,000

## **ANALYSIS**

This amendment supports ridesharing in Frederick, Prince George's, Montgomery and the Tri-County Council of Southern Maryland. The amendment will increase the FY 24 CMAQ by \$1,622,000. This increase is allowing for the MTA to obligate the FY 22, FY 23 and FY 24 CMAQ grants.

The attached Statewide Transportation Improvement Program (STIP) report documents MDOT's requested amendment with respect to funding for the project above. The requested action will not impact scheduling or funding availability for other projects in the current STIP, which continues to be fiscally constrained.

Please modify the FY 2023-2026 TPB TIP and the FY 2022-2025 STIP to reflect the funding information provided in the attachments. If you have any questions, please do not hesitate to contact Ms. Erika Falk, MDOT MTA Office of Planning and Capital Programming, at 410-767-3895 or via email at [efalk@mdot.maryland.gov](mailto:efalk@mdot.maryland.gov).

## **ATTACHMENTS**

- FY 2024-2027 TPB TIP Project Report
- FY 2022-2025 Maryland STIP Project Report

cc: Ms. Erika Falk, Capital Analyst, Office of Planning and Programming, MTA  
Ms. Kisha Joyner, Assistant Manager, Capital Programming and Asset Management, MTA  
Mr. Stephen Miller, Chief of Strategic Planning, Statewide Project Development, MTA  
Mr. Darrell Smith, Director, Statewide Project Development, MTA

# TPB TIP FY 2023-2026

MDOT TIP ID: 3760

## SUMMARY TABLE

Project:	Amendment Criteria	Conformity Status	Environmental Status	Current Funding Level (000s)		
				Federal	State/Local	Total
Ridesharing - Statewide Program	B	Nonattainment	PCE anticipated (tbd)	\$ 3,492	\$ -	\$ 3,492
	Administration	Area/MPO	CTP Page	Net Funding Change (000s)		
	MDOT MTA	TPB		\$ 1,622	\$ -	\$ 1,622

**Description:** The Ridesharing Program is to promote the use of alternatives to the single occupant vehicle through mass transit, carpools, and vanpools with financial assistance under the Rideshare Program. The ridesharing project covers activities of the ridesharing unit of the Statewide Transportation Program in Frederick, Prince George's, Montgomery Counties, and the Tri-County Council of Southern Maryland.

**Justification:** To promote the use of alternatives to the single occupant vehicle through mass transit, carpools, and vanpools.

## INDIVIDUAL REQUEST FORM

STIP/TIP Amendment Criteria	Funding	FY 2024	FY 2025	FY 2026	FY 2027	Total
<input type="checkbox"/> A) Adds new individual projects to the current STIP <input checked="" type="checkbox"/> B) Increase/decrease, scope change, advance, delay, or phase change <input type="checkbox"/> C) Removes or deletes individual listed project from the STIP <input type="checkbox"/> D) Other	Current (000s)	Total \$ 873	\$ 873	\$ 873	\$ 873	\$ 3,492
		Federal \$ 873	\$ 873	\$ 873	\$ 873	\$ 3,492
		State/Local \$ -	\$ -	\$ -	\$ -	\$ -
	Proposed (000s)	Total \$ 873	\$ 2,495	\$ 873	\$ 873	\$ 5,114
		Federal \$ 873	\$ 2,495	\$ 873	\$ 873	\$ 5,114
		State/Local \$ -	\$ -	\$ -	\$ -	\$ -
	Change (000s)	Total \$ -	\$ 1,622	\$ -	\$ -	\$ 1,622
		Federal \$ -	\$ 1,622	\$ -	\$ -	\$ 1,622
		State/Local \$ -	\$ -	\$ -	\$ -	\$ -

## PHASE DETAIL

Current		FY 2023		FY 2024		FY 2025		FY 2026		TOTAL		
Phase	Funding	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Total
Other		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CMAQ	\$ 873	\$ -	\$ 873	\$ -	\$ 873	\$ -	\$ 873	\$ -	\$ 3,492	\$ -	\$ 3,492
	State	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>		<b>\$ 873</b>	<b>\$ -</b>	<b>\$ 873</b>	<b>\$ -</b>	<b>\$ 873</b>	<b>\$ -</b>	<b>\$ 873</b>	<b>\$ -</b>	<b>\$ 3,492</b>	<b>\$ -</b>	<b>\$ 3,492</b>


Proposed		FY 2023		FY 2024		FY 2025		FY 2026		TOTAL		
Phase	Funding	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Total
Other	P3	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CMAQ	\$ 873	\$ -	\$ 2,495	\$ -	\$ 873	\$ -	\$ 873	\$ -	\$ 5,114	\$ -	\$ 5,114
	State	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>		<b>\$ 873</b>	<b>\$ -</b>	<b>\$ 2,495</b>	<b>\$ -</b>	<b>\$ 873</b>	<b>\$ -</b>	<b>\$ 873</b>	<b>\$ -</b>	<b>\$ 5,114</b>	<b>\$ -</b>	<b>\$ 5,114</b>

Change		FY 2023		FY 2024		FY 2025		FY 2026		TOTAL		
Phase	Funding	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Total
Other	P3	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CMAQ	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,622	\$ -	\$ 1,622
	State	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>		<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,622</b>	<b>\$ -</b>	<b>\$ 1,622</b>

## TOTAL PROJECT COST

Prior Cost (≤ FY 2021)		STIP Cost (FY 2023-2026)		Balance to Complete (≥ FY 2026)		Total Project Cost	
Federal	\$ -	Federal	\$ 5,114	Federal	\$ -	Federal	\$ 5,114
State/Local	\$ -	State/Local	\$ -	State/Local	\$ -	State/Local	\$ -
<b>Total</b>	<b>\$ -</b>	<b>Total</b>	<b>\$ 5,114</b>	<b>Total</b>	<b>\$ -</b>	<b>Total</b>	<b>\$ 5,114</b>

# MARYLAND STATEWIDE TIP FY 2022-2025

MDOT TIP # TPB T3760												
<b>SUMMARY TABLE</b>												
Project	Amendment Criteria	Conformity Status	Environmental Status	Current Funding Level (in \$1,000)								
Small Urban Transit Operating	A	Exempt	n/a	Federal	State/Local	<b>Total</b>						
				\$ 2,619	\$ -	<b>\$ 2,619</b>						
				Net Funding Change (000s)								
	Administration	Area/MPO	CTP Page	Federal	State/Local	<b>Total</b>						
	MDOT MTA	TPB		\$ 1,622	\$ -	<b>\$ 1,622</b>						
Description:	The Ridesharing Program is to promote the use of alternatives to the single occupant vehicle through mass transit, carpools, and vanpools with financial assistance under the Rideshare Program. The ridesharing project covers activities of the ridesharing unit of the Statewide Transportation Program in Frederick, Prince George's, Montgomery Counties, and the Tri-County Council of Southern Maryland.											
Justification:	To promote the use of alternatives to the single occupant vehicle through mass transit, carpools, and vanpools.											
<b>INDIVIDUAL REQUEST FORM</b>												
<b>STIP/TIP Amendment Criteria</b>				Funding	FY 2022	FY 2023	FY 2024	FY 2025	Total			
<input type="checkbox"/> A) Adds new individual projects to the current TIP				Current (000s)	<b>Total</b>	\$ -	\$ 873	\$ 873	\$ 873	<b>\$ 2,619</b>		
<input checked="" type="checkbox"/> B) Increase/decrease, scope change, advance, delay, or phase change				Federal	\$ -	\$ 873	\$ 873	\$ 873	\$ 2,619			
<input type="checkbox"/> C) Removes or deletes individual listed project from the TIP				State/Local	\$ -	\$ -	\$ -	\$ -	\$ -			
<input type="checkbox"/> D) Other [Administrative modification to add and shift federal/state construction fund				Proposed (000s)	<b>Total</b>	\$ -	\$ 873	\$ 2,495	\$ 873	<b>\$ 4,241</b>		
				Federal	\$ -	\$ 873	\$ 2,495	\$ 873	\$ 4,241			
				State/Local	\$ -	\$ -	\$ -	\$ -	\$ -			
				Change (000s)	<b>Total</b>	\$ -	\$ -	\$ 1,622	\$ -	<b>\$ 1,622</b>		
Federal	\$ -	\$ -	\$ 1,622	\$ -	\$ 1,622							
State/Local	\$ -	\$ -	\$ -	\$ -	\$ -							
<b>PHASE DETAIL</b>												
<b>Current</b>		FY 2022		FY 2023		FY 2024		FY 2025		TOTAL		
Phase	Funding	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Total
OTH	CMAQ	\$ -	\$ -	\$ 873	\$ -	\$ 873	\$ -	\$ 873	\$ -	\$ 2,619	\$ -	\$ 2,619
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>		\$ -	\$ -	\$ 873	\$ -	\$ 873	\$ -	\$ 873	\$ -	\$ 2,619	\$ -	\$ 2,619
<b>Proposed</b>		FY 2022		FY 2023		FY 2024		FY 2025		TOTAL		
Phase	Funding	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Total
OTH	CMAQ	\$ -	\$ -	\$ 873	\$ -	\$ 2,495	\$ -	\$ 873	\$ -	\$ 4,241	\$ -	\$ 4,241
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>		\$ -	\$ -	\$ 873	\$ -	\$ 2,495	\$ -	\$ 873	\$ -	\$ 4,241	\$ -	\$ 4,241
<b>Change</b>		FY 2022		FY 2023		FY 2024		FY 2025		TOTAL		
Phase	Funding	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Federal	State/Local	Total
OTH	CMAQ	\$ -	\$ -	\$ -	\$ -	\$ 1,622	\$ -	\$ -	\$ -	\$ 1,622	\$ -	\$ 1,622
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>		\$ -	\$ -	\$ -	\$ -	\$ 1,622	\$ -	\$ -	\$ -	\$ 1,622	\$ -	\$ 1,622
<b>TOTAL PROJECT COST</b>												
Prior Cost (≤ FY 2021)				TIP Cost (FY 2022-2025)				Balance to Complete (≥ FY 2026)				<b>Total Project Cost</b>
Federal		\$ -		Federal		\$ 4,241	Federal		\$ 873	Federal		\$ 5,114
State/Local		\$ -		State/Local		\$ -	State/Local		\$ -	State/Local		\$ -
<b>Total</b>		\$ -		<b>Total</b>		<b>\$ 4,241</b>	<b>Total</b>		<b>\$ 873</b>	<b>Total</b>		<b>\$ 5,114</b>



Amy Gillespie  
Grants Administration and Compliance Officer  
Maryland Clean Energy Center  
5000 College Ave - Suite 31010  
College Park, MD 20740

May 23, 2024

Kari Snyder  
Regional Planner  
Office of Planning and Capital Programming  
Maryland Department of Transportation  
7201 Corporate Center Drive, Hanover, MD 21076

Dear Ms. Snyder:

Please accept this letter as an official request to the Maryland Department of Transportation to present an amendment to the FY 2023-2026 National Capital Region Transportation Planning Board (TPB) Transportation Improvement Program (TIP) on behalf of the Maryland Clean Energy Center (MCEC). MCEC also requests that this project be presented as an amendment to the FY 2022-2025 Statewide Transportation Improvement Program (STIP).

MCEC was awarded a grant from the U.S. Department of Transportation, Federal Highway Administration's (FHWA) Charging and Fueling Infrastructure Discretionary Grant Opportunity (CFI). The project is entitled Maryland Equitable Charging Infrastructure Partnership (MECIP) and will install 58 sites in communities across the State of Maryland.

This project will provide density to the existing Alternative Fuel Corridors and gives rural, urban, and Justice40 areas access to EV Charging technology.

There will be 40 of these sites in the National Capital Region which will invest \$7,060,421 of federal funds with a local match of \$2,138,868 in the Maryland National Capital Region to complete this project. Total overall project cost is \$9,199,289.

Additional information about this program is available at

<https://www.mdcleanenergy.org/15m-federal-grant-awarded-to-maryland-public-private-partnership-to-support-ev-charging-network/>

Thank you for your consideration.

Sincerely,

A handwritten signature in blue ink that reads "Amy Gillespie".

Amy Gillespie  
Grants Administration and Compliance Officer  
Maryland Clean Energy Center





DEPARTMENT OF TRANSPORTATION

Marc Elrich  
*County Executive*

Christopher R. Conklin  
*Director*

May 23, 2024

The Honorable Cristina Henderson, Chair  
National Capital Region Transportation Planning Board  
Metropolitan Washington Council of Governments  
777 North Capitol Street, N.E., Suite 300  
Washington, DC 20002

RE: Request to Amend the FY 2023 - 2026 Transportation Improvement Program

Dear Chair Henderson:

The Montgomery County Department of Transportation requests an amendment to the National Capital Region Transportation Planning Board's (TPB) FY 2023-2026 Transportation Improvement Program, as identified in the attachment. This project, Dale Drive Shared Use Path and Safety Improvements, is not a capacity enhancement project and therefore does not need air quality conformity analysis. The purpose of the project is to add it to the current TIP FY 2023-2026. The funding is from the Transportation Assistance Program (TAP). Local match funding is from Montgomery County. The total project cost is \$9,407,000.

This project provides for the design and construction of a new eight-foot-wide shared use path approximately 1 mile of length along the north side of Dale Drive from Georgia Avenue (MD 97) to Colesville Road (US 29). The project also provides minor intersection safety improvements within the project limits to improve existing sight distance and crosswalks.

Montgomery County requests that this amendment be approved by the TPB Steering Committee at its June 7, 2024 meeting. Following approval of the TIP amendment, we will request that the Maryland Department of Transportation amend its Statewide Transportation Improvement Program (STIP) so that we may begin to obligate the federal funding.

**Office of the Director**

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101 Monroe Street, 10<sup>th</sup> Floor, Rockville, MD 20850 · 240-777-7170 · 240-777-7178 Fax  
[www.montgomerycountymd.gov/mcdot](http://www.montgomerycountymd.gov/mcdot)

[montgomerycountymd.gov/311](http://montgomerycountymd.gov/311)  301-251-4850 TTY



We appreciate your cooperation in this matter. If you have any comments or questions, please do not hesitate to contact Christopher Van Alstyne at [chris.vanalstyne@montgomerycountymd.gov](mailto:chris.vanalstyne@montgomerycountymd.gov) or Gary Erenrich at [gary.erenrich@montgomerycountymd.gov](mailto:gary.erenrich@montgomerycountymd.gov).

Sincerely,

  
Haley Peckett (May 22, 2024 13:26 EDT)

Haley Peckett  
Deputy Director of Policy  
Montgomery County DOT

HP:ge

Enclosure: Dale Drive Shared Use Path and Safety Improvements form

Cc: Kanti Srikanth, Director of Transportation, WMCOG  
Kari Synder, Regional Planner, Maryland Department of Transportation  
Gary Erenrich, Montgomery County DOT  
Chris Van Alstyne, Montgomery County DOT

## PROJECT DESCRIPTION

<b>Title</b>	Dale Drive Shared Use Path and Safety Improvements
<b>Project ID</b>	T13612
<b>Lead Agency</b>	Montgomery County



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## PROJECT INFORMATION

Route/Facility Name	Dale Drive
From	Colesville
To	Georgia
Primary Project Type	Bicycle/Pedestrian - Bike/Ped
County	Montgomery
Municipality	
Accommodations	Included
Complete Street Advance	Advances Goals
Primary Contact	Angel Cheng
Contact Email	angel.cheng@montgomerycountymd.gov
Project Information URL	<a href="https://www.montgomerycountymd.gov/dot-dte/project">https://www.montgomerycountymd.gov/dot-dte/project</a>
Project Description	This project provides for the design and construction of a new eight-foot wide shared use path approximately 1 mile of length along the north side of Dale Drive from Georgia Avenue (MD 97) to Colesville Road (US 29). The project also provides minor intersection safety improvements within the project limits to improve existing sight distance and crosswalks.

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## SCHEDULE AND FUNDING INFORMATION

Estimated Project Completion Date	2028
Current Implementation Status	Engineering/Plans, Specifications and Estimates
Total Project Cost	\$9,407,000.00

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## ENVIRONMENTAL REVIEW INFORMATION

Environmental Document Type	Categorical Exclusion
Environmental Review Status	Under preparation

## PROJECT DESCRIPTION

**Title** Dale Drive Shared Use Path and Safety Improvements

**Project ID** T13612

**Lead Agency** Montgomery County



- This project has been identified for the following potential environmental mitigation activities.

-

## REGIONAL POLICY QUESTION RESPONSES

- 32a.  This project promotes non-auto travel or can be expected to reduce VMT in the region.
- 32b.  Please identify all travel mode options that this project promotes, enhances, or supports.
- **Bicycling**
  - **Local Bus**
  - **Walking**
33.  This project improves accessibility for historically transportation-disadvantaged individuals (i.e., persons with disabilities, low-incomes, and/or limited English proficiency)
- 34a.  This project is physically located in an Equity Emphasis Area (EEA)
- 34b.  Please provide additional written information that describes how this project further supports or advances equity as described by the TPB July 2020 resolution.
- Project provides safe pedestrian, bike access along a major roadway that connects to several public schools and to regional trails. Connects and is adjacent to equity emphasis areas.**
- 35a.  This project begins or ends in an Activity Center.
- 35b.  This project connects two or more Activity Centers.
- 35c.  This project promotes non-auto travel within one or more Activity Centers.
- 35d.  This project connects an Equity Emphasis Area to an Activity Center.
36.  This project contributes to enhanced system maintenance or preservation.
37.  This project is primarily designed to reduce travel time on highways and/or transit without building new capacity (e.g., ITS, bus priority treatments, etc.).
38.  This project expected to significantly reduce fatalities or injuries among motorists, transit users, pedestrians, and/or bicyclists.
39.  This project is expected to contribute to reductions in emissions of criteria pollutants, specifically, to attainment of ozone levels consistent with the National Ambient Air Quality Standard (NAAQS).

## PROJECT DESCRIPTION

Title Dale Drive Shared Use Path and Safety Improvements

Project ID T13612

Lead Agency Montgomery County



- 40a.  This project is expected to contribute to reductions in emissions of greenhouse gases by 50% below 2005 levels by 2030.
- 40b.  If the answer to question 40a. regarding contributing to greenhouse gas emission reductions was yes, then how is this project anticipated to reduce emissions?
41.  This project enhances, supports, or promotes the following freight carrier modes.  
-
42.  This project enhances, supports, or promotes the following passenger carrier modes.  
-
43.  Please check each strategy that is implemented by this project.
- **Apply effective technologies that advance the TPB's goals.**
  - **Apply the endorsed safety strategies to design and operate safer infrastructure and encourage safer behavior.**
  - **Improve Walk and Bike Access to Transit.**
- 44a.  Please provide additional written information that describes how this project further supports or advances the TPB Strategies.
- 44b.  Please provide additional written information that describes how this project further supports or advances other regional goals or needs.
45.  Federal Planning Factors: This project supports the following planning factors (select all that apply)
- **Emphasize the preservation of the existing transportation system**
  - **Enhance the integration and connectivity of the transportation system across and between modes for people and freight**
  - **Enhance travel and tourism**
  - **Improve resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation**
  - **Increase accessibility and mobility of people**

NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD  
777 North Capitol Street, N.E.  
Washington, D.C. 20002

**RESOLUTION ON AN AMENDMENT TO THE FY 2023-2026 TRANSPORTATION IMPROVEMENT PROGRAM (TIP) THAT IS EXEMPT FROM THE AIR QUALITY CONFORMITY REQUIREMENT TO INCLUDE TIP ACTION 23-41.3 WHICH ADDS A NEW VPRA PROJECT (T13611) THAT SEPARATES THE CONSTRUCTION PHASE FROM AN EXISTING RECORD AND INCREASES FUNDING FOR THREE PROJECTS (T13570, T6659, & T6634), AS REQUESTED BY THE VIRGINIA DEPARTMENT TRANSPORTATION (VDOT)**

**WHEREAS**, the National Capital Region Transportation Planning Board (TPB), as the federally designated metropolitan planning organization (MPO) for the Washington region, has the responsibility under the provisions of the Fixing America's Surface Transportation (FAST) Act, reauthorized November 15, 2021 when the Infrastructure Investment and Jobs Act (IIJA) was signed into law, for developing and carrying out a continuing, cooperative and comprehensive transportation planning process for the metropolitan area; and

**WHEREAS**, the TIP is required by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) as a basis and condition for all federal funding assistance to state, local and regional agencies for transportation improvements within the Washington planning area; and

**WHEREAS**, on June 15, 2022, the TPB adopted the FY 2023-2026 TIP; and

**WHEREAS**, VDOT has requested an amendment to the FY 2023-2026 TIP to include TIP Action 23-41.3 which adds a net total of approximately \$407 million to the Northern Virginia portion of the TIP by adding approximately \$150 million to two existing roadway projects (T6659 & T6634) and Amtrak operations (T13570) and a new VPRA project (T13611) that separates the construction phase from an existing record, as listed at the end of this resolution, and as described in the attached materials.

**WHEREAS**, the attached materials include:

- ATTACHMENT A) Programming Overview report showing how the amended record will appear in the TIP following approval,
- ATTACHMENT B) Amendment Summary report showing project's total cost before and after the amendment, the delta, and the percentage increase from the cost before, the reason for the amendment, and a Change Narrative, providing line-item changes to every programmed amount by fund source, fiscal year, and the project phase, and
- ATTACHMENT C) Letter from VDOT dated May 24, 2024, requesting the amendment, and

**WHEREAS**, this amendment has been entered into the TPB's Project InfoTrak database under TIP Action 23-41.3, creating the 41<sup>st</sup> amended version of the FY 2023-2026 TIP, which supersedes all previous versions of the TIP and can be found online at [www.mwcog.org/ProjectInfoTrak](http://www.mwcog.org/ProjectInfoTrak); and

**WHEREAS**, these projects and programs are exempt from the air quality requirement, as defined in the Environmental Protection Agency’s (EPA) Transportation Conformity Regulations as of April 2012; and

**WHEREAS**, this resolution and the amendment to the FY 2023-2026 TIP shall not be considered final until the Transportation Planning Board has had the opportunity to review and accept these materials at its next full meeting.

**NOW, THEREFORE, BE IT RESOLVED THAT** the Steering Committee of the National Capital Region Transportation Planning Board amends the FY 2023-2026 TIP to include TIP Action 23-41.3 which adds a net total of approximately \$407 million to the Northern Virginia portion of the TIP by adding approximately \$150 million to two existing roadway projects (T6659 & T6634) and Amtrak operations (T13570) and a new VPRA project (T13611) that separates the construction phase from an existing record, as listed at the end of this resolution, and as described in the attached materials.

TIP ID	PROJECT TITLE	COST BEFORE	COST AFTER	COST CHANGE	% CHANGE
T13570	Virginia State-Supported Amtrak Operations	\$239,620,799	\$274,074,889	\$34,454,090	14
T13611	Intercity Rail Service Expansion	\$0	\$257,200,000	\$257,200,000	0
T6659	VA Route 645 - Westwind Drive (Loudoun Co. Parkway to Rt. 606)	\$43,278,410	\$136,350,324	\$93,071,914	215
T6634	Northstar Blvd. Extension	\$170,843,682	\$193,446,682	\$22,603,000	13

**Adopted by the TPB Steering Committee at its meeting on Friday, June 7, 2024.  
Final approval following review by the full board on Thursday, June 20, 2024.**

<i>TIP ID</i>	T13570	<i>Lead Agency</i>	Virginia Department of Transportation	<i>Project Type</i>	Other
<i>Project Name</i>	Virginia State-Supported Amtrak Operations	<i>County</i>		<i>Total Cost</i>	\$274,074,889
<i>Project Limits</i>		<i>Municipality</i>		<i>Completion Date</i>	
		<i>Agency Project ID</i>	124309		

*Description* Operating expenses for two trains on the Roanoke route (Route 46), two trains on the Newport News route (Route 47), three trains on the Norfolk route (Route 50), and one train on the Richmond route (Route 51). The cost included is only for a portion of the routes, and a portion of the train costs is estimated for the jurisdiction. This TIP ID is connected to TIP ID T13611.

Phase	AC/ACCP	Source	Prior	FY2023	FY2024	FY2025	FY2026	Future	4 Year Total	Total	
PE		CMAQ	-	-	\$81,901,009	-	-	-	\$81,901,009	\$81,901,009	*Not Location Specific
PE	AC	CMAQ	-	-	\$43,296,138	-	-	-	\$43,296,138	\$43,296,138	
PE	ACCP	CMAQ	-	-	-	\$19,197,761	\$22,302,363	\$1,796,014	*	*	
PE		DC/STATE	-	-	\$138,053,707	-	-	-	\$138,053,707	\$138,053,707	
PE	AC	DC/STATE	-	-	\$10,824,035	-	-	-	\$10,824,035	\$10,824,035	
PE	ACCP	DC/STATE	-	-	-	\$4,762,575	\$5,628,498	\$432,961	*	*	
		<i>Total PE</i>	-	-	\$274,074,889	-	-	-	\$274,074,889	\$274,074,889	
		<i>Total Programmed</i>	-	-	\$274,074,889	-	-	-	\$274,074,889	\$274,074,889	

Version History

<i>TIP Document</i>			<i>MPO Approval</i>	<i>FHWA Approval</i>	<i>FTA Approval</i>
23-23.3	Amendment	2023-2026	09/20/2023	Pending	Pending
23-41.3	Amendment	2023-2026	06/20/2024	Pending	Pending

Current Change Reason

SCHEDULE / FUNDING / SCOPE - Programming Update

Funding Change(s):

Total project cost increased from \$239,620,799 to \$274,074,889

\* ACCP is not part of the Total



<i>TIP ID</i>	T13611	<i>Lead Agency</i>	Virginia Department of Transportation	<i>Project Type</i>	Other
<i>Project Name</i>	Intercity Rail Service Expansion	<i>County</i>		<i>Total Cost</i>	\$257,200,000
<i>Project Limits</i>		<i>Municipality</i>		<i>Completion Date</i>	
		<i>Agency Project ID</i>	120532		
<i>Description</i>	Operating expenses for two trains on the Roanoke route (Route 46), two trains on the Newport News route (Route 47), three trains on the Norfolk route (Route 50), and one train on the Richmond route (Route 51). The cost included is only for a portion of the routes, and a portion of the train costs is estimated for the jurisdiction. This TIP ID is connected to TIP ID T13570.				

Phase	AC/ACCP	Source	Prior	FY2023	FY2024	FY2025	FY2026	Future	4 Year Total	Total	*Not Location Specific
CON		CMAQ	-	-	\$15,296,413	-	-	-	\$15,296,413	\$15,296,413	
CON	AC	CMAQ	-	-	\$4,688,475	-	-	-	\$4,688,475	\$4,688,475	
CON	ACCP	CMAQ	-	-	-	\$670,243	\$819,001	\$3,199,231	*	*	
CON		DC/STATE	-	-	\$236,042,993	-	-	-	\$236,042,993	\$236,042,993	
CON	AC	DC/STATE	-	-	\$1,172,119	-	-	-	\$1,172,119	\$1,172,119	
CON	ACCP	DC/STATE	-	-	-	\$167,613	\$205,121	\$799,385	*	*	
		<i>Total CON</i>	-	-	\$257,200,000	-	-	-	\$257,200,000	\$257,200,000	
		<i>Total Programmed</i>	-	-	\$257,200,000	-	-	-	\$257,200,000	\$257,200,000	

Version History

Current Change Reason

<i>TIP Document</i>	<i>MPO Approval</i>	<i>FHWA Approval</i>	<i>FTA Approval</i>
23-41.3 Amendment 2023-2026	06/20/2024	Pending	Pending

SCHEDULE / FUNDING / SCOPE - New project





<i>TIP ID</i>	T6634	<i>Lead Agency</i>	Virginia Department of Transportation	<i>Project Type</i>	Road - New Construction
<i>Project Name</i>	Northstar Blvd. Extension	<i>County</i>	Loudoun	<i>Total Cost</i>	\$193,446,682
<i>Project Limits</i>	US 50 John Mosby Highway to Shreveport Drive	<i>Municipality</i>		<i>Completion Date</i>	2025
		<i>Agency Project ID</i>	106994		
<i>Description</i>	Northstar Blvd. Extension between US 50 (John Mosby Highway) & Shreveport Drive in Loudoun with a 6-lane divided roadway				

Phase	AC/ACCP Source	Prior	FY2023	FY2024	FY2025	FY2026	Future	4 Year Total	Total
PE	REVSH	\$2,307,744	-	-	-	-	-	-	\$2,307,744
PE	DC/STATE	\$2,307,744	-	-	-	-	-	-	\$2,307,744
	<i>Total PE</i>	\$4,615,488	-	-	-	-	-	-	\$4,615,488
ROW	BUILD	\$8,081,055	-	-	-	-	-	-	\$8,081,055
ROW	LOCAL	\$91,716,721	-	\$18,000,000	-	-	-	\$18,000,000	\$109,716,721
ROW	REVSH	\$7,295,256	-	-	-	-	-	-	\$7,295,256
ROW	DC/STATE	\$7,292,256	-	-	-	-	-	-	\$7,292,256
	<i>Total ROW</i>	\$114,385,288	-	\$18,000,000	-	-	-	\$18,000,000	\$132,385,288
CON	BUILD	\$16,918,945	-	-	-	-	-	-	\$16,918,945
CON	LOCAL	\$34,926,961	-	\$4,600,000	-	-	-	\$4,600,000	\$39,526,961
	<i>Total CON</i>	\$51,845,906	-	\$4,600,000	-	-	-	\$4,600,000	\$56,445,906
	<i>Total Programmed</i>	\$170,846,682	-	\$22,600,000	-	-	-	\$22,600,000	\$193,446,682



Version History

<i>TIP Document</i>		<i>MPO Approval</i>	<i>FHWA Approval</i>	<i>FTA Approval</i>
23-00	Adoption 2023-2026	06/15/2022	8/25/2022	8/25/2022
23-15.3	Amendment 2023-2026	04/19/2023	4/19/2023	N/A
23-41.3	Amendment 2023-2026	06/20/2024	Pending	Pending

Current Change Reason

SCHEDULE / FUNDING / SCOPE - Programming Update

Funding Change(s):

Total project cost increased from \$170,843,682 to \$193,446,682



**TIP ID** T6659  
**Project Name** VA Route 645 - Westwind Drive (Loudoun Co. Parkway to Rt. 606)  
**Project Limits** VA 607 Loudoun County (opposite Moorefield Boulevard) Parkway to VA 606 Old Ox Road

**Lead Agency** Virginia Department of Transportation  
**County** Loudoun  
**Municipality**  
**Agency Project ID** 111670

**Project Type** Road - Add Capacity/Widening  
**Total Cost** \$136,350,324  
**Completion Date** 2026

**Description** Westwind Drive/Ladbrook Drive (VA Route 645 Extended) will provide an additional road connection across Broad Run between Loudoun County Parkway (VA Route 607) (in the Ashburn Community) and the Old Ox Road (VA Route 606) corridor. Future construction of this four lane divided road segment (Loudoun Typical Section for U4M) and bridge crossing will provide another east west connection in Loudoun's UDA. Between the Dulles Greenway and Evergreen Mills Road there are no other east west roadways across Broad Run, thereby hindering economic development and increasing vehicle miles travels for residents. This project can be found in Loudoun County's Capital Improvement Program and missing link #101 in Eastern Loudoun's Transportation Study.

Phase	AC/ACCP Source	Prior	FY2023	FY2024	FY2025	FY2026	Future	4 Year Total	Total
PE	HIP	\$2,062,290	-	-	-	-	-	-	\$2,062,290
PE	LOCAL	-	-	\$3,675,109	-	-	-	\$3,675,109	\$3,675,109
PE	STBG	\$1,481,501	-	-	-	-	-	-	\$1,481,501
	<i>Total PE</i>	\$3,543,791	-	\$3,675,109	-	-	-	\$3,675,109	\$7,218,900
ROW	LOCAL	-	-	-	-	\$48,115,960	-	\$48,115,960	\$48,115,960
	<i>Total ROW</i>	-	-	-	-	\$48,115,960	-	\$48,115,960	\$48,115,960
CON	TBD	-	-	-	-	-	\$81,015,464	-	\$81,015,464
	<i>Total CON</i>	-	-	-	-	-	\$81,015,464	-	\$81,015,464
	<i>Total Programmed</i>	\$3,543,791	-	\$3,675,109	-	\$48,115,960	\$81,015,464	\$51,791,069	\$136,350,324



**Version History**

<i>TIP Document</i>		<i>MPO Approval</i>	<i>FHWA Approval</i>	<i>FTA Approval</i>
23-00	Adoption 2023-2026	06/15/2022	8/25/2022	8/25/2022
23-21.4	Amendment 2023-2026	09/20/2023	10/18/2023	10/18/2023
23-41.3	Amendment 2023-2026	06/20/2024	Pending	Pending

**Current Change Reason**

SCHEDULE / FUNDING / SCOPE - Programming Update

**Funding Change(s):**

Total project cost increased from \$43,278,410 to \$136,350,324

**ATTACHMENT B**  
**Summary Report for TIP Action 23-41.3 Formal Amendment to the**  
**FY 2023-2026 Transportation Improvement Program**  
**Requested by Virginia Department of Transportation**

TIP ID	PROJECT TITLE	COST BEFORE	COST AFTER	COST CHANGE	% CHANGE	CHANGE REASON	CHANGE SUMMARY
T13570	Virginia State-Supported Amtrak Operations	\$239,620,799	\$274,074,889	\$34,454,090	14	Programming Update	<p>PROJECT CHANGES (FROM PREVIOUS VERSION):</p> <p>DC/STATE</p> <ul style="list-style-type: none"> <li>▶ Delete funds in FFY 23 in</li> <li>+ Increase funds in FFY 24 in PE from \$0 to \$148,877,742</li> <li>- Decrease funds in FFY 24 in OTHER from \$45,539,603 to \$0</li> <li>▶ Delete funds in FFY 25 in</li> <li>▶ Delete funds in FFY 26 in</li> <li>▶ Add funds in FFY 25 in PE for \$4,762,575</li> <li>▶ Add funds in FFY 26 in PE for \$5,628,498</li> <li>▶ Add funds in FFY 27 in PE for \$432,961</li> </ul> <p>CMAQ</p> <ul style="list-style-type: none"> <li>+ Increase funds in FFY 24 in PE from \$0 to \$125,197,147</li> <li>- Decrease funds in FFY 24 in OTHER from \$12,196,898 to \$0</li> <li>▶ Delete funds in FFY 25 in</li> <li>▶ Delete funds in FFY 26 in</li> <li>▶ Add funds in FFY 25 in PE for \$19,197,761</li> <li>▶ Add funds in FFY 26 in PE for \$22,302,363</li> <li>▶ Add funds in FFY 27 in PE for \$1,796,014</li> </ul> <p><i>Total project cost increased from \$239,620,799 to \$274,074,889</i></p>
T13611	Intercity Rail Service Expansion	\$0	\$257,200,000	\$257,200,000	0	New project	<p>PROJECT CHANGES (FROM PREVIOUS VERSION):</p> <p>DC/STATE</p> <ul style="list-style-type: none"> <li>▶ Add funds in FFY 24 in CON for \$237,215,112</li> <li>▶ Add funds in FFY 25 in CON for \$167,613</li> <li>▶ Add funds in FFY 26 in CON for \$205,121</li> <li>▶ Add funds in FFY 27 in CON for \$799,385</li> </ul> <p>CMAQ</p> <ul style="list-style-type: none"> <li>▶ Add funds in FFY 24 in CON for \$19,984,888</li> <li>▶ Add funds in FFY 25 in CON for \$670,243</li> <li>▶ Add funds in FFY 26 in CON for \$819,001</li> <li>▶ Add funds in FFY 27 in CON for \$3,199,231</li> </ul> <p><i>Total project cost \$257,200,000</i></p>

**ATTACHMENT B**  
**Summary Report for TIP Action 23-41.3 Formal Amendment to the**  
**FY 2023-2026 Transportation Improvement Program**  
**Requested by Virginia Department of Transportation**

TIP ID	PROJECT TITLE	COST BEFORE	COST AFTER	COST CHANGE	% CHANGE	CHANGE REASON	CHANGE SUMMARY
T6659	VA Route 645 - Westwind Drive (Loudoun Co. Parkway to Rt. 606)	\$43,278,410	\$136,350,324	\$93,071,914	215	Programming Update	<p>PROJECT CHANGES (FROM PREVIOUS VERSION):</p> <p>LOCAL</p> <ul style="list-style-type: none"> <li>▶ Add funds in FFY 24 in PE for \$3,675,109</li> <li>▶ Add funds in FFY 26 in ROW for \$48,115,960</li> <li>TBD</li> <li>▶ Add funds in FFY 28 in CON for \$81,015,464</li> <li>DC/STATE</li> <li>▶ Delete funds in FFY 26 in ROW for \$7,600,000</li> <li>▶ Delete funds in FFY 27 in CON for \$31,024,700</li> <li>STBG</li> </ul> <p>- Decrease funds in FFY 22 in PE from \$2,591,420 to \$1,481,501  <i>Total project cost increased from \$43,278,410 to \$136,350,324</i></p>
T6634	Northstar Blvd. Extension	\$170,843,682	\$193,446,682	\$22,603,000	13	Programming Update	<p>PROJECT CHANGES (FROM PREVIOUS VERSION):</p> <p>LOCAL</p> <ul style="list-style-type: none"> <li>▶ Delete funds in FFY 20 in PE for \$2,307,744 ROW for \$7,292,256 CON for \$19,561,484</li> <li>▶ Add funds in FFY 22 in ROW for \$91,716,721 CON for \$34,926,961 <ul style="list-style-type: none"> <li>▶ Delete funds in FFY 23 in CON for \$15,365,477</li> </ul> </li> <li>▶ Add funds in FFY 24 in ROW for \$18,000,000 CON for \$4,600,000</li> <li>REVSH</li> <li>▶ Add funds in FFY 22 in PE for \$2,307,744 ROW for \$7,295,256</li> <li>DC/STATE</li> <li>▶ Delete funds in FFY 20 in PE for \$2,307,744 ROW for \$7,108,458 <ul style="list-style-type: none"> <li>+ Increase funds in FFY 22 in PE from \$0 to \$2,307,744</li> <li>+ Increase funds in FFY 22 in ROW from \$183,798 to \$7,292,256</li> </ul> </li> <li>HIP</li> <li>▶ Delete funds in FFY 20 in ROW for \$8,081,055 CON for \$16,918,945</li> <li>BUILD</li> <li>▶ Add funds in FFY 22 in ROW for \$8,081,055 CON for \$16,918,945</li> <li>NVTA</li> <li>▶ Delete funds in FFY 20 in ROW for \$7,080,084</li> <li>▶ Delete funds in FFY 22 in ROW for \$38,288,007</li> <li>▶ Delete funds in FFY 23 in ROW for \$46,348,630</li> </ul> <p><i>Total project cost increased from \$170,843,682 to \$193,446,682</i></p>
TOTAL		\$453,742,891	\$861,071,895	\$407,329,004			

\*ACCP is not part of the Total..



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF TRANSPORTATION

Stephen C. Brich, P.E.  
Commissioner

1401 East Broad Street  
Richmond, Virginia 23219

(804) 786-2701  
Fax: (804) 786-2940

May 24, 2024

The Honorable Christina Henderson, Chair  
National Capital Region Transportation Planning Board  
Metropolitan Washington Council of Governments  
777 North Capitol Street, N.E., Suite 300  
Washington, DC 20002-4201

- RE: FY 2023-2026 Transportation Improvement Program (TIP) Amendments:
1. Westwind Drive (Loudoun Co Pkwy to Route 606) (TIP ID T6659 / UPC 111670)
  2. Northstar Blvd Extension (Evergreen Mills Road to Route 50) (TIP ID 6634 / UPC 106994)
  3. Transforming Rail in Virginia VPRA (TIP ID T13570 / UPC 124309)
  4. Intercity Rail Service Expansion (TIP ID T13611 / UPC 120532) – New Project

Dear Chair Henderson:

The Virginia Department of Transportation (VDOT) requests the following three project amendments and one new project be added to the FY 2023-2026 Transportation Improvement Program (TIP).

Westwind Drive (Loudoun Co Pkwy to Route 606) (TIP ID T6659 / UPC 111670)

This project provides for the planning, design, right-of-way acquisition, and construction of Westwind Drive (Route 2988) between Loudoun County Parkway and Old Ox Road (Route 606). The scope of work includes the widening of the existing roadway; construction of a new four-lane, median-divided roadway as a suburban controlled access minor arterial facility; construction of a sidewalk on one side of the road; construction of a shared use path on the other side of the road within a 90-foot right-of-way; and construction of a bridge over Broad Run. This amendment is needed to reflect an update in the project cost to include local funding in the PE and RW phases. It will enhance traffic safety and congestion and is included in the air quality conformity analysis. The proposed amendment will:

- Add \$329,468 (STP) Previous FFY for PE Phase
- Add \$2,062,290 (HIP) Previous FFY for PE Phase
- Add \$1,152,033 (STP) Previous FFY for PE Phase
- Add \$3,675,109 (Local) FFY24 for PE Phase
- Add \$48,115,960 (Local) FFY26 for RW Phase
- Add \$81,015,464 (Local) Future TBD for CN Phase

Northstar Blvd Extension (Shreveport Drive to Route 50) (TIP ID 6634 / UPC 106994)

This project will design and construct 1.6 mile four-lane, median divided segment of Northstar Boulevard from Evergreen Mills Road (formerly Shreveport Drive) to U.S. Route 50. The project scope includes a 10 foot wide shared use path on both sides of the roadway and a traffic signal at Evergreen Mills Road. At the northern end of the project, a new bridge will carry Northstar Boulevard over North Fork Broad Run. Arcola Mills Drive will then be realigned to the south to intersect with Northstar Boulevard. This amendment is needed to reflect an update in

the project cost to include local funding in the RW and CN phases. It will enhance traffic safety and congestion and is included in the air quality conformity analysis. The proposed amendment will:

- Add \$2,307,744 (RS) Previous FFY for PE Phase
- Add \$2,307,744 (State) Previous FFY for PE Phase
- Add \$8,081,055 (BUILD) Previous FFY for RW Phase
- Add \$91,716,721 (Local) Previous FFY for RW Phase
- Add \$18,000,000 (Local) FFY24 for RW Phase
- Add \$7,292,256 (RS) Previous FFY for RW Phase
- Add \$7,292,256 (State) Previous FFY for RW Phase
- Add \$16,918,945 (BUILD) Previous FFY for CN Phase
- Add \$34,926,961 (Local) Previous FFY for CN Phase
- Add \$4,600,000 (Local) FFY24 for CN Phase

Virginia State-Supported Amtrak Operations (TIP ID T13570 / UPC 124309)

This VPRA project is for operating expenses for two trains on the Roanoke route (Route 46), two trains on the Newport News route (Route 47), three trains on the Norfolk route (Route 50), and one train on the Richmond route (Route 51). The cost included is only for a portion of the routes, and a portion of the train costs estimated for the jurisdiction. This TIP ID is connected to TIP ID T13611. The proposed amendment is requested to reflect a cost increase of approximately \$34M in project's PE Phase. This project is not considered regionally significant for air quality, based on FHWA's rules on CMAQ-funded Amtrak projects to be exempt from air quality conformity requirements. The proposed amendment will:

- Add \$81,901,009 (CMAQ) FFY24 for PE Phase
- Add \$20,475,252 (State) FFY24 for PE Phase
- Add \$117,578,455 (State) FFY24 for PE Phase
- Add \$43,296,138 (CMAQ-AC) FFY24 for PE Phase
- Add \$10,824,035 (State-AC) FFY24 for PE Phase
- Add \$19,197,761 (CMAQ-ACC) FFY25 for PE Phase
- Add \$4,762,575 (State-ACC) FFY25 for PE Phase
- Add \$22,302,363 (CMAQ-ACC) FFY26 for PE Phase
- Add \$5,628,498 (State-ACC) FFY26 for PE Phase
- Add \$1,796,014 (CMAQ-ACC) FFY27 for PE Phase
- Add \$432,962 (State-ACC) FFY27 for PE Phase

**New Project Request Added to TIP**

Intercity Rail Service Expansion (TIP ID T13611 / UPC 120532)

This Virginia Passenger Rail Authority (VPRA) project is part of the Virginia State-Supported Amtrak Operations project as identified in TIP ID T13570. The proposed new amendment is requested to separate out and update the CN Phase. It includes operating expenses for two trains on the Roanoke route (Route 46), two trains on the Newport News route (Route 47), three trains on the Norfolk route (Route 50), and one train on the Richmond route (Route 51). The cost included is only for a portion of the routes, and a portion of the train costs estimated for the jurisdiction. This project is not considered regionally significant for air quality, based on FHWA's rules on CMAQ-funded Amtrak projects to be exempt from air quality conformity requirements. The proposed amendment will:

- Add \$15,296,413 (CMAQ) FFY24 for CN Phase
- Add \$3,824,103 (State) FFY24 for CN Phase
- Add \$4,688,475 (CMAQ-AC) FFY24 for CN Phase

Hon. Henderson  
May 24, 2024  
Page Three

- Add \$1,172,119 (State-AC) FFY24 for CN Phase
- Add \$232,218,890 (State) FFY24 for CN Phase
- Add \$670,243 (CMAQ-ACC) FFY25 for CN Phase
- Add \$167,613 (State-ACC) FFY25 for CN Phase
- Add \$819,001 (CMAQ-ACC) FFY26 for CN Phase
- Add \$205,121 (State-ACC) FFY26 for CN Phase
- Add \$3,199,231 (CMAQ-ACC) FFY27 for CN Phase
- Add \$799,385 (State-ACC) FFY27 for CN Phase

VDOT requests approval of this project to the TIP by the Transportation Planning Board's Steering Committee at its meeting on June 7, 2024. VDOT and VPRA representatives will be available to answer any questions about these amendment requests.

Thank you for your consideration of this matter.

Sincerely,



Bill Cuttler, P.E.  
Northern Virginia District Engineer

Cc: Ms. Maria Sinner, P.E., VDOT-NoVA  
Mr. Amir Shahpar, P.E., VDOT-NoVA  
Ms. Naomi Klein, VPRA



## **MEMORANDUM**

**TO:** Transportation Planning Board  
**FROM:** Kanti Srikanth, TPB Staff Director  
**SUBJECT:** Letters Sent/Received  
**DATE:** June 13, 2024

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The attached letters were sent/received since the last TPB meeting.





National Capital Region  
**Transportation Planning Board**

May 9, 2024

Dr. Morteza Farajian  
Executive Director  
Build America Bureau  
U.S. Department of Transportation  
1200 New Jersey Ave, SE  
Washington, DC 20590

Re: Innovative Finance and Asset Concession Grant Application by the Maryland Department of Transportation

Dear Director Farajian:

I am writing to express the support of the National Capital Region Transportation Planning Board (TPB), the Metropolitan Planning Organization (MPO) for the National Capital Region, for an application by the Maryland Department of Transportation (MDOT) for an Innovative Finance and Asset Concession Grant program grant.

In partnership with state agencies and local jurisdictions, MDOT is comprehensively examining Transit Oriented Development (TOD) opportunities along the Maryland Area Rail Commuter (MARC) Penn Line and Baltimore's MetroLink Subway system. The Penn Line stations are the busiest in the MARC system, representing great potential to create focal points for community growth and activity. There are about 50 acres of state-owned land adjacent to MARC stations along this line, offering a major starting point for catalyzing TOD in the State of Maryland.

MDOT will utilize the grant to support statewide goals of increasing transit ridership, creating inclusionary housing opportunities, and reducing greenhouse gas emissions by creating denser activity centers near transit. The grant would help fund these efforts and build organizational capacity to develop and enter into innovative finance arrangements and public-private partnerships to execute sustainable and equitable TOD projects. Specifically, MDOT is seeking assistance in identifying opportunities to consolidate potentially redundant publicly owned parking sites at MARC Penn Line stations to encourage denser land-use patterns near rail transit.

The work proposed for this grant directly responds to the regional transportation goals adopted by the TPB and identified in the Washington region's metropolitan transportation plan, Visualize 2045; bring jobs and housing closer together and improved access to transit are two of the seven Aspirational Initiatives of the plan. This grant would advance the region's long-term transportation priorities in accordance with the TBP's Vision and Regional Transportation Priorities Plan.

The TPB requests your favorable consideration of this request by MDOT for Innovative Finance and Asset Concession Grant Program funding.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Christina Henderson'.

Christina Henderson  
Chair, National Capital Region Transportation Planning Board

Cc: Sean Winkler, Manager, Federal Infrastructure Strategy, Office of Government Affairs, MDOT



National Capital Region  
**Transportation Planning Board**

June 12, 2024

The Honorable Peter Buttigieg  
Secretary  
U.S. Department of Transportation  
1200 New Jersey Avenue, SE  
Washington, DC 20590-0001

Re: FY 2023 ATIIIP Program Grant Application for Manassas Line Rail with Trail Project by Prince William County, Virginia

Dear Secretary Buttigieg:

I write to express the support of the National Capital Region Transportation Planning Board (TPB), the Metropolitan Planning Organization (MPO) for the National Capital Region, to support an application by Prince William County for grant funding under the FY2023 Active Transportation Infrastructure Investment Program (ATIIIP) to plan and design Phase 1 of the Virginia Railway Express (VRE) Manassas Line Trail: Landmark to City of Manassas project from the VRE Manassas Station to Fairfax County.

The Manassas Line Rail with Trail Study will develop a conceptual active transportation network plan for a shared used path along a 3-mile section of the Manassas VRE commuter rail line connecting Historic Downtown Manassas with the Bull Run Trail in Fairfax County. The Rail with Trail Study will take a holistic, network-level approach to walking, biking, and rolling by addressing gaps in active transportation routes to connect economic hubs and activity centers to parks and open space. Additionally, the Rail with Trail Study will safely connect multi-modal users to two VRE stations located adjacent to and within multiple federally designated Historically Disadvantaged Communities with significant existing and planned residential and commercial land use.

The project is consistent with the regional transportation goals adopted by the TPB in our Regional Transportation Priorities Plan and the Washington region's long-range transportation plan, Visualize 2045. The Manassas Line Trail is part of the TPB's adopted National Capital Trail Network. The TPB has long supported investment in pedestrian and bicycling infrastructure and active transportation options to provide a broad range of transportation choices for our region. This grant would advance the region's long-term transportation priorities in accordance with the TBP's Vision and Regional Transportation Priorities Plan.

The TPB requests your favorable consideration of this request by Prince William County. I anticipate that upon a successful grant award, subject to the availability of the required match funding, the region's transportation improvement program (TIP) will be amended to include the project and grant funding.

Sincerely,

Christina Henderson  
Chair, National Capital Region Transportation Planning Board

Cc: Mr. Paolo Belita, Prince William County Department of Transportation



## **MEMORANDUM**

**TO:** Transportation Planning Board  
**FROM:** Kanti Srikanth, TPB Staff Director  
**SUBJECT:** Announcements and Updates  
**DATE:** June 13, 2024

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The attached documents provide updates on activities that are not included as separate items on the TPB agenda.

## COG, WMATA hold first DMVMoves regional Task Force meeting

ARLINGTON, VA – June 11 – Yesterday, the regional task force overseeing DMVMoves, a joint initiative of the Metropolitan Washington Council of Governments (COG) and the Washington Metropolitan Area Transit Authority (WMATA), held its inaugural meeting at the Arlington County Bozman Government Center. The group of leaders – co-chaired by COG Board Chair and District of Columbia Councilmember Charles Allen and WMATA Board Chair Paul C. Smedberg – met to discuss local and regional transit systems’ ridership, service levels, assets, and finances with the goal of developing a unified vision and sustainable funding model for the region’s transit network, which are fundamental to the advancement of the National Capital Region’s transportation, environmental, and economic goals.

The task force took an in-depth look at topics that vary across local transit systems – from fare policies and payment methods to service hours and signage. Members expressed interest in exploring how to provide more frequent transit service regionwide as well as creating a more seamless network among the region’s more than dozen systems to enhance transit users’ experience and make transit their preferred option. The group also discussed the funding models of peer transit agencies across the nation as a next step in establishing dedicated capital and operational funding that will serve as a foundation for the future of transit in the DMV. Officials have outlined an ambitious timeline for the DMVMoves initiative with final recommendations planned for May 2025.

“We are starting from a good place with a lot of really great transit. Now, how do we make it better and more integrated, seamless, and reliable?” said Smedberg. “We have a lot of work ahead of us, but by next May, we hope to have everyone on the same page about what world class transit means to the DMV and how to fund it.”

Smedberg and Allen said they were encouraged by the collective sense of urgency to address a transit funding issue that has been around for nearly 50 years.

“Today was a great starting point for a very big conversation. We look forward to identifying the region’s priorities for great transit and coming up with a plan to make it a reality,” said Allen. “We can find our way towards solutions, but I think what the discussion represented today was the will to get it done.”

The discussion was the first of many as part of the DMVMoves work plan. [The task force is made up of 23 regional leaders](#) – eighteen COG appointees, four WMATA appointees, and a federal representative. Additionally, two government and community advisory groups will be providing insight to help guide task force recommendations and support action plans. The selected individuals represent the region and will provide strategic direction to shape the DMVMoves initiative.

Last week, COG and WMATA announced the launch of the DMVMoves website, [www.dmvmoves.org](http://www.dmvmoves.org). The site provides a central location for news, resources, and updates on the progress of the initiative as well as livestreams of the task force meetings. The next task force meeting will be held in September 2024 at a location in Maryland.

**MORE:**

For documents and video of the June 10 DMVMoves Task Force meeting, [visit the event page](#).

**CONTACT:**

Whitney Nichels, [wnichels@wmata.com](mailto:wnichels@wmata.com)

Steve Kania, [skania@mwkog.org](mailto:skania@mwkog.org)

**About DMVMoves**

*DMV Moves is a joint initiative of the Metropolitan Washington Council of Governments and Washington Metropolitan Area Transit Authority to create a unified vision and sustainable funding model for the region's transit network.*



## MEMORANDUM

**TO:** Transportation Planning Board  
**FROM:** Kanti Srikanth, TPB Staff Director  
**SUBJECT:** USDOT Finalizes New Fuel Economy and Fuel Efficiency Standards for Model Years 2027 and beyond  
**DATE:** June 13, 2024

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On June 7, 2024, the U.S. Department of Transportation's (USDOT) National Highway Traffic Safety Administration (NHTSA) announced final [fuel economy and fuel efficiency standards](#) for model years 2027 and beyond. The TPB, along with COG's Climate, Energy, and Environment Policy Committee (CEEPC) and the Metropolitan Washington Air Quality Committee (MWAQC), sent a [joint comment letter](#) dated September 27, 2023 in support of the proposed rule.

According to a [press release](#):

In this final rule, fuel economy will increase 2% per year for model years 2027-2031 for passenger cars, while light trucks will increase 2% per year for model years 2029-2031.<sup>1</sup> These increases will bring the average light-duty vehicle fuel economy up to approximately 50.4 miles per gallon by model year 2031, saving passenger car and light truck owners more than \$600 in fuel over the lifetime of their vehicles

Heavy-duty pickup truck and van fuel efficiency will increase 10% per year for model years 2030-2032 and 8% per year for model years 2033-2035.<sup>2</sup> This will result in a fleetwide average of approximately 35 miles per gallon by model year 2035, saving heavy-duty pickup and van owners more than \$700 in fuel over the lifetime of their vehicles.

The press release notes that "though NHTSA does not consider electric and other alternative fuels when setting standards, manufacturers may use all available technologies – including advanced internal combustion engines, hybrid technologies and electric vehicles – for compliance." NHTSA estimates that new standards will prevent 710 million metric tons of carbon dioxide emissions by 2050.

NHTSA's fuel economy standards compliment the Environmental Protection Agency's (EPA) "Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles," which were announced on March 20, 2024 and the TPB, MWAQC, and CEEPC also [supported](#).

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<sup>1</sup> From the press release: "Passenger cars are generally sedans, station wagons, and two-wheel drive crossovers and SUVs, while light trucks are generally four-wheel drive SUVs, pickups, minivans, and passenger/cargo vans."

<sup>2</sup> From the press release: "Heavy-duty pickup trucks and vans are generally Class 2b/3 work trucks, fleet SUVs, work vans, and cutaway chassis-cab vehicles."



**ITEM 7 – Action  
June 20, 2024**

Visualize 2050: The I-95/I-495 Southside Express Lanes Project will be reconsidered for inclusion in the Air Quality Conformity Analysis of Visualize 2050 and the FY 2026-2029 TIP

**Action:** Adopt Resolution R13-2024 to approve the I-95/I-495 Southside Express Lanes Project for inclusion in the Air Quality Conformity Analysis of Visualize 2050 and the FY 2026-2029 TIP.

**Background:** At the May TPB meeting, the Board approved the project inputs for the Air Quality Conformity Analysis of Visualize 2050 and the FY 2026-2029 TIP, electing to remove the I-95/I-495 Southside Express Lanes Project from R12-2024 to allow more time to consider this project’s inclusion in the analysis. At this meeting, the Board will act on R13-2024 to approve the inclusion of the I-95/I-495 Southside Express Lanes in the analysis.



TPB R13-2024  
June 20, 2024

**NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD**  
777 North Capitol Street, N.E.  
Washington, D.C. 20002

**RESOLUTION ON INCLUSION OF THE I-95/I-495 SOUTHSIDE EXPRESS LANES PROJECT IN  
THE MAY 15, 2024 APPROVED PROJECT SUBMISSIONS FOR THE  
AIR QUALITY CONFORMITY ANALYSIS OF THE  
VISUALIZE 2050 NATIONAL CAPITAL REGION TRANSPORTATION PLAN AND THE  
FY 2026-2029 TRANSPORTATION IMPROVEMENT PROGRAM (TIP)**

**WHEREAS**, the National Capital Region Transportation Planning Board (TPB), as the federally designated metropolitan planning organization (MPO) for the Washington region, has the responsibility under the provisions of the Fixing America's Surface Transportation (FAST) Act, reauthorized November 15, 2021 when the Infrastructure Investment and Jobs Act (IIJA) was signed into law, for developing and carrying out a continuing, cooperative and comprehensive transportation planning process for the metropolitan area; and

**WHEREAS**, the federal metropolitan planning regulations (23 CFR.450) assign TPB the responsibility to cooperatively develop the metropolitan transportation plan (MTP) and transportation improvement program (TIP) specified in Sections 450.324 and 450.326; and

**WHEREAS**, the TIP is required by the Federal Transit Administration (FTA) and the Federal Highway Administration (FHWA) as a basis and condition for all federal funding assistance to state, local and regional agencies for transportation improvements within the metropolitan Washington, D.C. planning area; and

**WHEREAS**, the Statewide and Metropolitan Transportation Planning rule as published in the May 27, 2016, Federal Register by the FTA and FHWA requires that the MTP and the TIP be reviewed and updated at least every four years; and

**WHEREAS**, federal conformity regulations, originally published by the Environmental Protection Agency in the November 24, 1993, Federal Register and with latest amendments published in April 2012, based on the federal Clean Air Act (CAA Section 176(c)), require that the metropolitan transportation plan, program and projects in metropolitan areas not in attainment of national ambient air quality standards, demonstrate conformity to the area's state implementation plan; and

**WHEREAS**, federal conformity regulations require that the conformity analysis of the plan, program and projects be reviewed and updated at least every four years; and

**WHEREAS**, on June 15, 2022, the TPB adopted resolution R16-2022 determining that the 2022 Update to Visualize 2045 Plan and FY 2023-2026 TIP conform with the requirements of the Clean Air Act Amendments of 1990, resolution R15-2022 approving the 2022 Update to Visualize 2045 Plan and approving the FY 2023-2026 TIP, and

**WHEREAS**, the 2022 Update to Visualize 2045 Plan and FY 2023-2026 TIP were approved by the FTA and FHWA on August 25, 2022; and

**WHEREAS**, TPB's resolution R19-2021 called for updating Visualize 2045 using a "zero-based budgeting" approach to update projects in the MTP that would have the TPB member agencies re-examine all of the projects in Visualize 2045 and resubmit an updated mix of projects in order to better achieve the region's goals, while providing for projects under construction or funded to be exempt from the above requirement; and

**WHEREAS**, the TPB issued the Visualize 2050 and FY 2026-2029 Technical Inputs Solicitation Submission Guide on February 15, 2023, asking the TPB member agencies to review the Visualize 2045 re-submit projects, and on April 19, 2023, approved an updated schedule providing additional time for projects input and moving final plan approval to June 2025; and

**WHEREAS**, following the direction from TPB's resolution R19-2021, as part of the Visualize 2050 Technical Inputs Solicitation, TPB and agency staffs conducted a process to re-examine the current Visualize 2045 capacity-related project list, where such improvements are significant for consideration in the air quality conformity analysis, and resubmit an updated mix of projects supported by updated revenue and expenditure estimates for new capital projects through 2050; and

**WHEREAS**, TPB staff launched an open period for public input on projects that would be submitted for Visualize 2050 between February 15 through November 30, 2023, sharing the feedback monthly with the TPB and TPB Technical Committee; and

**WHEREAS**, in March 2023, TPB staff hosted three virtual facilitated listening sessions, for the staff of its member agencies during which the Transportation agencies presented their processes for re-examining the projects in the current transportation plan and developing new projects proposed for inclusion while also hearing from the TPB members about the types of projects the TPB would like to see proposed to be included in Visualize 2050; and

**WHEREAS**, on March 1, 2024, the scope of work for the air quality conformity analysis of the Visualize 2050 National Capital Region Transportation Plan and the FY 2026-2029 Transportation Improvement Program (TIP), which includes projects submitted for air quality conformity analysis were released for a 30-day public comment period and inter-agency review; and

**WHEREAS**, the submitted inputs for the update to the Visualize 2050 Plan and the FY 2026-2029 TIP and the Air Quality Conformity Analysis Scope of Work have been reviewed by the Technical Committee at its meetings on October 6, November 3, 2023, February 2, March 1, April 5, and May 3, 2024; and

**WHEREAS**, the TPB was briefed on the submissions for the Visualize 2050 Plan and the FY 2026-2029 TIP at its November 15, December 20, 2023, March 21, and April 17, 2024 meetings and a board work session was conducted on March 21, 2024 to provide a facilitated review of those inputs; and

**WHEREAS**, the project submissions for the Visualize 2050 Plan and the FY 2026-2029 TIP have been developed to meet the financial constraint requirements in the Metropolitan Planning Rules and show the consistency of the proposed projects with already available and projected sources of transportation revenues; and

**WHEREAS**, prior to the May 15, 2024 TPB meeting, members of the Board had expressed concerns regarding the preservation of space on the Woodrow Wilson Memorial Bridge (WWMB) for future rail transit and had sought clarification on how the I-95/I-496 Southside Express Lanes (SSEL) project would be developed and executed especially through a public private partnership; and

**WHEREAS**, the TPB's 2022 Update to Visualize 2045 plan endorsed the regional pursuit to expand the express highway network as an effective strategy to incentivize carpools and vanpools and expedite transit service, while using dynamic tolling to manage congestion; and,

**WHEREAS**, per the September 14, 1998 fact sheet from the U.S. Department of Transportation, Attachment 1, compliance with the Record of Decision entails no more than 12 traffic lanes, including 8 general purpose lanes, 2 merging/diverging lanes, and 2 high occupancy vehicle, express bus, or rail transit lanes; and

**WHEREAS**, since March 2022, the Virginia Department of Transportation has been undergoing a study in coordination with the State of Maryland and other partners on the SSEL project compliant with the National Environmental Policy Act (NEPA) process to potentially extend the express lanes system by approximately 11 miles from the Springfield Interchange (I-95/I-395/I-495) in Fairfax County, Virginia, across the Woodrow Wilson Memorial Bridge, to the MD 210 interchange in Prince George's County, Maryland; and

**WHEREAS**, in April 2023, the Virginia Department of Rail and Public Transportation published its final report on the I-495 Southside Transit/TDM Study outlining recommendations for expansion of regional transit services within and beyond the SSEL project corridor including connections to existing metro rail stations in Maryland, the District of Columbia, and Virginia; and

**WHEREAS**, VDOT has provided a letter, Attachment 2, stating VDOT is fully supportive of future rail transit over the WWMB and as such is continuing to pursue rail preservation by advancing alternatives that can be pursued in the near term while including flexibility for the long term, the concepts under NEPA review incorporate rail preservation either through retaining existing, unoccupied space or by incorporating a commitment to convert necessary space to rail transit in the future and that terms within any future contract or concessionaire agreement would similarly incorporate a requirement for conversion to rail transit in the future; and

**WHEREAS**, VDOT further notes in its letter, Attachment 2, regarding transit investments, that should the project proceed to procurement through a concessionaire agreement it intends to continue the practice of the Commonwealth to incorporate on-going transit payments from express lane projects in Northern Virginia to enhance multimodal options in the respective corridor.

**WHEREAS**, on May 15, 2024, the TPB approved Resolution R12-2024, which included the Air Quality Conformity Analysis Scope of Work, amended project submissions of the TPB member agencies for inclusion in the Air Quality Conformity Analysis for the proposed FY 2026-2029 TIP and Visualize 2050 Plan, and the draft Round 10.0 Cooperative Forecasts of employment, population and households developed by COG's Planning Director's Technical Advisory Committee for use in the Air Quality Conformity Analysis; and

**WHEREAS**, during discussion on Resolution R12-2024, the Board noted the need for additional time to address concerns with and get additional information on the Virginia I-95/I-495 Southside Express Lanes project (Line 373) and decided to remove that project from this approval, and the Board agreed to reconsider this project for inclusion in the Air Quality Conformity Analysis of Visualize 2050 and the FY 2026-2029 TIP at the June 20, 2024 TPB meeting; and

**WHEREAS**, as noted in Resolution R12-2024, VDOT agrees to incorporate a requirement for conversion to rail transit across the Woodrow Wilson Memorial Bridge in the future consistent with the preferred alternative approved through the NEPA process into any future concessionaire agreement and further agrees to explore with a future concessionaire, the ability to incorporate on-going transit payments to invest in multimodal enhancements in the project corridor; and

**NOW, THEREFORE, BE IT RESOLVED THAT:** the National Capital Region Transportation Planning Board amends the projects to be included in the Air Quality Conformity Analysis for the proposed Visualize 2050 and the FY 2026-2029 TIP by adding Virginia's construction of the I-95/I-495 Southside Express Lanes project as shown in Attachment 3.



# Fact Sheet

WOODROW WILSON MEMORIAL BRIDGE							
Year	1997	1998	1999	2000	2001	2002	2003
Authorization	(\$30M)*	\$25M	\$75M	\$150M	\$200M	\$225M	\$225M

\*Funded from FHWA's administrative takedown.

**Program Purpose**

Design and construction of a new bridge where Interstate 95 crosses the Potomac River, along with related approaches and interchanges, as well as any needed interim repairs to the existing Woodrow Wilson Memorial Bridge (together, the "Project").

**Background**

On September 26, 1996, the Woodrow Wilson Bridge Coordinating Committee identified its preferred alternative for improvement to the Woodrow Wilson Bridge.

The preferred alternative for the Project has now been selected: two side-by-side, 70-foot-high drawbridges along the current alignment, plus associated improvements at 4 interchanges in Maryland and Virginia.

On November 25, 1997, a record of decision (ROD) was executed in compliance with the 1969 NEPA.

**Funding Features** [1116(c)]

A total of \$900 million in HTF contract authority is authorized, to remain available until expended.

None of the funds shall be available for construction before the execution of an agreement concerning transferring ownership of the Bridge. Until such time, only maintenance and rehabilitation of the Bridge, the design of the Project, and right-of-way acquisition (including early acquisition of construction staging areas) can be funded.

Costs associated with the new bridge shall be given priority for funding over other eligible Project costs, other than design costs.

**Federal Share** [1116(c)]

The Federal share of the Bridge component of the Project shall not exceed 100 percent.

The Federal share of the cost of any other component of the Project shall not exceed 80 percent.

**Ownership Agreement** [1116(b)]

TEA-21 requires that an agreement be entered into between the Secretary and the Authority (or another designated political jurisdiction) that accepts ownership of the new bridge.

In compliance with the ROD, the agreement must require that —

- the Project is to include no more than 12 traffic lanes, including 8 general purpose lanes, 2 merging/diverging lanes, and 2 high occupancy vehicle, express bus, or rail transit lanes.
- all provisions described in the environmental impact statement for the Project or a ROD for mitigation of environmental and other impacts of the Project are to be implemented.

The agreement must also contain a financial plan satisfactory to the Secretary that specifies —

- the total cost of the Project
- a schedule for Project implementation
- the sources of funding for the non-Federal share of Project costs

September 14, 1998



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF TRANSPORTATION

Stephen C. Brich, P.E.  
Commissioner

1401 East Broad Street  
Richmond, Virginia 23219

April 30, 2024

The Honorable Christina Henderson, Chair  
National Capital Region Transportation Planning Board  
Metropolitan Washington Council of Governments  
777 North Capitol Street, N.E., Suite 300  
Washington, DC 20002-4201

RE: I-495 Southside Express Lanes Study

Dear Chair Henderson:

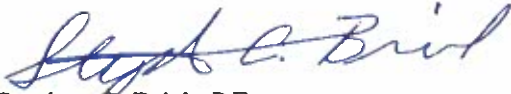
The Virginia Department of Transportation (VDOT) continues to value the partnership with the Transportation Planning Board (TPB) as we collectively seek to update the Visualize 2050 Constrained Long Range Plan (CLRP). The efforts and collaboration amongst TPB and its member states, jurisdictions, legislative representatives, and regional authorities is critical to the support of regionally significant projects. As you are aware, project submissions for Visualize 2050 by VDOT include the I-495 Southside Express Lanes project. This critical project seeks to develop a multimodal solution with a goal of moving the most people as efficiently as possible through this congested segment of the Capital Beltway. The project presents the opportunity to create and expand transit connections within the region while also providing congestion relief and increased travel reliability. The project is consistent with the TPB's adopted goals for the development of Visualize 2050, specifically through its objective to reduce travel times for transit services and the free use of the express lanes network by these services and other high occupancy vehicles.

Over the last several months, we have heard concerns regarding the preservation of space on the Woodrow Wilson Memorial Bridge (WWMB) for future rail transit. The National Environmental Policy Act (NEPA) study completed in 2000 delineated the inside lanes of the bridge for future rail transit and its ensuing Record of Decision memorialized this requirement. I am writing to clearly state that VDOT is fully supportive of future rail transit over the WWMB and as such is continuing to pursue rail preservation by advancing alternatives that can be pursued in the near term while including flexibility for the long term, are cost effective, and can be built largely within the footprint of the existing corridor. The concepts under NEPA review incorporate rail preservation either through retaining existing, unoccupied space or by incorporating a commitment to convert necessary space to rail transit in the future when Washington Metropolitan Area Transit Authority (WMATA) and the region are positioned to implement service across the WWMB. Incorporating this commitment as part of the NEPA process and its ultimate federal approval means this requirement is legally enforceable. VDOT's adherence to this requirement will not result in costs for WMATA to convert the space when they are ready to implement service. Further, VDOT has stated, and I reiterate, that terms within any future contract or concessionaire agreement would similarly incorporate a requirement for conversion to rail transit in the future consistent with the preferred alternative approved through the NEPA process. This means a future agreement would make clear the need for the concessionaire to vacate the space necessary to operate heavy rail.

The Honorable Christina Henderson  
April 30, 2024  
Page Two

Regarding transit investments, it has been the practice of the Commonwealth to incorporate on-going transit payments from express lane projects in Northern Virginia to enhance multimodal options in the respective corridor. It is VDOT's intent to continue the advocacy for our established practice with this project. However, since this project is still at preliminary stages, we are not able to identify the amount nor the nature of funding for transit investments in the corridor at this time. To underscore the Commonwealth's commitment to this approach, it is worth noting that since 2017 VDOT alone and in conjunction with our express lane partners have provided \$156 million to the Commuter Choice Program which has been used to fund park and ride lots, bus purchases, shared use paths, and transit stations.

In closing, we understand the importance of future rail transit on the Woodrow Wilson Bridge and are committed to ensuring the space will be available. I hope you will continue to support the Commonwealth's efforts to solve the region's most challenging congestion in the near term while also retaining the flexibility necessary to adjust our problem-solving approaches in the future.  
Sincerely,



Stephen C. Brich, P.E.  
Commissioner of Highways

C: The Honorable W. Sheppard Miller, III, Secretary of Transportation  
Mr. Kanti Srikanth, TPB, Executive Director  
Ms. Cathy McGhee, P.E., VDOT, Chief Deputy Commissioner  
Ms. Angel Deem, VDOT, Chief of Policy  
Mr. Bill Cuttler, P.E., VDOT-NoVA, District Engineer  
Ms. Maria Sinner, P.E., VDOT-NoVA, ADA Planning and Investment

**TPB R13-2024 ATTACHMENT 3**

**DRAFT 6/20/2024**

**VISUALIZE 2050 AIR QUALITY CONFORMITY NETWORK INPUTS  
(highway)**

	PIT Project ID	Con ID	Project ID	Agency ID	Improvement	Facility	From	To	Fr	To	Lanes From	Lanes To	Completion Date
373	CE3814	24840 28929			Construct	I-95/I-495 Southside Express Lanes (SEL)	East of Springfield Interchange	East of MD 210	1	1	varies	+2 express in each direction	2031
374	CE3814	24840 28929			Construct	I 95/I 495 Express Lanes access ramps	Van Dorn St., US 1, I-295, and MD 210		1	1			2031





## **MEMORANDUM**

**TO:** Transportation Planning Board  
**FROM:** Cristina Finch, Transportation Planner  
**SUBJECT:** Visualize 2050: The I-95/I-495 Southside Express Lanes Project will be reconsidered for inclusion in the Air Quality Conformity Analysis of Visualize 2050 and the FY 2026-2029 TIP  
**DATE:** June 13, 2024

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The purpose of this memorandum is to provide information to support the TPB's consideration of including the I-95/I-495 Southside Express Lanes (SSEL) project in the scope of work and technical inputs for the Air Quality Conformity Analysis of Visualize 2050 and the FY 2026-2029 Transportation Improvement Program (TIP). The SSEL project would be modeled in the Air Quality Conformity Analysis to include two (2) express lanes in each direction from east of the Springfield Interchange to east of MD 210 including express lane access ramps at Van Dorn Street, US-1, I-295, and MD 210, allowing vehicles with 3 or more people to ride for free or toll vehicles with one or two passengers.

### **BACKGROUND**

The TPB is currently engaged in updating its long-range transportation plan, Visualize 2045. The updated plan, Visualize 2050, would not only extend the horizon year of the plan, but it would also reflect a completed re-examination of the region's current planned transportation investments, using a process referred to as "zero-based budgeting". After undergoing the TPB's zero-based budgeting exercise, VDOT proposed the SSEL project's inclusion in Visualize 2050 for construction. The project was included in the larger list of projects the TPB released for public comments in March 2024. The TPB reviewed the comments received and responses from the transportation agencies at its April 17, 2024 meeting.

On May 15, 2024, the TPB adopted Resolution R12-2024, approving the Scope of Work for the Air Quality Conformity Analysis, including the list of transit and highway capacity-related projects proposed by the member agencies, authorizing staff to commence with the analysis for Visualize 2050 and the FY 2026-2029 TIP. In its action adopting the resolution, the TPB removed the I-95/I-495 SSEL project from the AQC inputs table pending further discussion. The TPB noted that it will consider including the I-95/I-495 SSEL project in the Air Quality Conformity Analysis at its June 20 meeting.

Since the TPB's adoption of Visualize 2045 in October 2018 and subsequently in its June 2022 update, the expansion of the express lanes network in the National Capital Region has been promoted as an aspirational initiative. As part of the TPB's Synthesized Policy Framework guiding the development of Visualize 2050, the expansion of the express highway network, with rapid transit, and allowing carpools/vanpools to ride free, has continued as a priority strategy to achieve the TPB's goals including reliability, affordable and convenient, efficient system operations, environmental protection and livable and prosperous communities.

The I-95/I-495 SSEL project was included as a study in current plan, Visualize 2045, and was not part of the Air Quality Conformity Analysis, and over the past few years, the Virginia Department of Transportation (VDOT) has continued development of this project. Since March 2022, VDOT has been undergoing a [study](#) in coordination with the State of Maryland and other partners on the SSEL project compliant with the NEPA process to potentially extend the express lanes system by approximately 11 miles from the Springfield Interchange (I-95/I-395/I-495) in Fairfax County, Virginia, across the Woodrow Wilson Memorial Bridge, to the MD 210 interchange in Prince George's County, Maryland.

Additionally, in April 2023, the Virginia Department of Rail and Public Transportation published its [final report on the I-495 Southside Transit/TDM Study](#) outlining recommendations for expansion of regional transit services within and beyond the SSEL project corridor including connections to existing metro rail stations in Maryland, the District of Columbia, and Virginia.

In 1997, the [Woodrow Wilson Memorial Bridge Final Supplemental Environmental Impact Statement/Section 4\(f\) Evaluation](#) was completed, and the Record of Decision (the ROD) signed on November 24, 1997 (see PDF page 127). The ROD set the maximum number of lanes on the bridge to 12 specifying how the lanes could be used and provided a typical section of the Preferred Alternative 4A's space configuration. A simple [Fact Sheet](#) on FHWA's website summarizes the ROD noting the requirement to include no more than 8 general purpose lanes, 2 merging/diverging lanes, and 2 HOV, express bus, or rail transit lanes, leaving flexibility in how transit could be provided across the bridge.

## **ACTION OVERVIEW**

The TPB will consider approving resolution R13-2024 to amend the R12-2024 approved list of project submissions for use in the Air Quality Conformity Analysis and add the I-95/I-495 Southside Express Lanes project with details as shown in Attachment 3 of R13-2024.

## **SUPPLEMENTAL INFORMATION**

Related supplementary information provided at the May TPB meeting on the SSEL project included [two letters from VDOT and a letter from Fairfax County](#). At the May TPB meeting, VDOT reviewed their response letters to public comments and provided additional information verbally to the TPB. Additionally, the TPB received a copy of the May 31, 2024 letter from the Washington Metropolitan Area Transit Authority (WMATA) to VDOT with questions surrounding the SSEL project to which VDOT has provided a response letter dated June 13, 2024. VDOT has also provided TPB with a copy of a June 13, 2024 letter to Prince George's County.

## **ATTACHMENTS**

1. R13-2024 Resolution on inclusion of the I-95/I-495 Southside Express Lanes project in the May 15, 2024 approved project submissions for the Air Quality Conformity Analysis of the Visualize 2050 National Capital Region Transportation Plan and the FY 2026-2029 Transportation Improvement Program (TIP)
2. May 31, 2024 WMATA letter to VDOT
3. June 13, 2024 VDOT letter to WMATA
4. June 13, 2024 VDOT letter to Prince George's County



May 31, 2024

Mr. Bill Cuttler, P.E.  
Northern Virginia District Engineer, VDOT  
4975 Alliance Drive  
Fairfax, VA 22030

Dear Mr. Cuttler:

I am writing regarding VDOT's interest in including the I-495 Southside Express Lanes Study (I-495 SEL) as a funded project<sup>1</sup> in the National Capital Region Transportation Planning Board's (TPB) Constrained Long Range Transportation Plan prior to selecting a locally preferred alternative. The Washington Metropolitan Area Transit Authority (Metro) has the following questions about the proposed near-term bus service and the future opportunity for high-capacity transit, including bus rapid transit, light rail, or Metrorail, across the Woodrow Wilson Bridge.

The 2000 Wilson Bridge Record of Decision documented the need to preserve the center through lanes for future transit use, including rail transit, which resulted in the center bridge spans being built to accommodate that possibility. As noted previously, Metro strongly supports transit investments in the I-495 corridor, including near term bus service and preserving right-of-way for future high-capacity transit along I-495 and across the Woodrow Wilson Bridge. To meet the region's adopted climate mitigation goals of 50 percent greenhouse gas emission reductions below 2005 levels by 2030 and 80 percent reduction by 2050, a future I-495 SEL project must incorporate robust transit and manage congestion.

Providing answers to the questions below will assist Metro and our regional partners to better understand the Virginia Department of Transportation's (VDOT) and a potential future concessionaire's ability to provide transit in the near-term and preserve the region's future high-capacity transit options. This information will enable a more thorough consideration for the project's inclusion in the Long-Range Transportation Plan. Key open issues include how bus service will be integrated into the project and questions about rail transit preservation and future conversion.

**Washington  
Metropolitan Area  
Transit Authority**

300 7th Street, SW  
Washington, DC 20024  
202-962-1234

[wmata.com](http://wmata.com)

*A District of Columbia,  
Maryland and Virginia  
Transit Partnership*

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<sup>1</sup> Projects included in TPB's long range plan must have reasonable expectation of funding.

### **Future Rail Transit Right-of-way Preservation**

1. Based on the potential future Metrorail concept alignment and typical section documentation provided to VDOT in February 2024,<sup>2</sup> please provide documentation that details that sufficient space will exist within the I-495 SEL Beltway corridor to accommodate future rail transit, including access onto the Beltway and across the Woodrow Wilson Bridge.
2. Please describe in detail how VDOT believes future construction and operation of a rail line (light rail or Metrorail) would occur once the current alternative concepts of one or two Express Lanes in each direction are constructed and operational.
3. Please provide the near-term commitments VDOT will make prior to final Commonwealth Transportation Board approval of a I-495 SEL project to ensure future rail transit can be constructed efficiently with no additional cost burden to a future rail project.
4. Is the future conversion of Express Lanes to rail transit use contingent on agreement by a concessionaire in a future solicitation? Can VDOT commit to making this term non-negotiable?
5. If an Express Lane concessionaire is selected to build and operate a future I-495 SEL project, would the concessionaire also be required to provide temporary access to enable adjacent construction of a future rail transit project? Would there be any cost (to the entity requesting access) or penalty (to VDOT in terms of reduced revenue or concessionaire payment or otherwise) for such construction access to be granted?
6. Please provide a construction cost estimate for the conversion of the two I-495 SEL Express Lanes (one in each direction) from operating highway travel lanes to a fully available rail transit right-of-way for future rail construction (not the rail construction itself). Please describe what is included in those costs, and which organization (between VDOT and Metro) would be responsible for which costs.
7. Please provide examples of where a successful conversion from managed highway lanes to rail transit has been completed, including the interplay with a concessionaire.

### **Near-Term Bus Service**

8. How does VDOT plan to integrate bus service into the I-495 SEL Project? At what point in the project development process will bus service planning

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<sup>2</sup> This potential future Metrorail concept is aligned with Metro's Blue, Orange, Silver Study.

- and decision-making begin? When does VDOT expect that bus service funded by the project would begin?
9. Please provide documentation, assumptions, and analysis from the Virginia Department of Rail and Public Transportation study that was completed in 2023 that recommended four new bus routes and estimated 8,000 daily riders.
  10. Assuming buses are integrated into the future I-495 SEL project, would the concessionaire be required to directly fund the full operational cost of new Metrobus service between Virginia and Maryland? Would existing service be eligible for funding? What would the start and end of such an agreement be? Please provide confirmation that no transit provider will be required to pay to use the Express Lanes.
  11. Will the I-495 SEL alternative study concepts include Express Lane access points at Telegraph Road and I-295 in Maryland? Current and future Metrobus service – notably the current NH2 and future P94 route<sup>3</sup> – would benefit from direct Express Lane access including to National Harbor.

We look forward to further discussions about how the region can provide near-term and long-term opportunities for transit within the I-495 SEL study area. If you have any questions regarding the study or this memo, please contact Jonathan Parker at [jhparker@wmata.com](mailto:jhparker@wmata.com) and (202) 962-1040.

Sincerely,

Thomas J. Webster  
Executive Vice President and  
Chief Planning and Performance Officer

cc: Randy Clarke, General Manager & Chief Executive Officer, Metro  
WMATA Board of Directors  
Kanti Srikanth, TPB Executive Director  
Christina Henderson, TPB Chair  
Jennifer DeBruhl, Director, DRPT  
Allison H. Davis, SVP, Planning and Sustainability, Metro

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<sup>3</sup> Based on Metro's Proposed 2025 Better Bus Network.



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF TRANSPORTATION

Stephen C. Brich, P.E.  
Commissioner

1401 East Broad Street  
Richmond, Virginia 23219

June 13, 2024

Mr. Thomas J. Webster  
Executive Vice President and Chief Planning Officer  
Washington Metropolitan Area Transit Authority  
300 7<sup>th</sup> Street, SW  
Washington, DC 20024

Dear Mr. Webster:

On behalf of the Virginia Department of Transportation (VDOT), thank you for your letter on May 31, 2023, regarding the I-495 Southside Express Lanes Study (495 Southside Study). We greatly value our continued partnership with the Washington Metropolitan Area Transit Authority (WMATA) regarding the 495 Southside Study, which began when the Study was initiated in 2022.

VDOT continues to lead a robust agency coordination effort to ensure key regional partners such as WMATA are informed and have many opportunities to provide input on the 495 Southside Study. This coordination with agency and regional partners involved establishing a Stakeholder Technical Advisory Group (STAG). To date, three STAG meetings have been held, in which WMATA staff attended and provided input. VDOT also invited WMATA to participate with other stakeholders and agencies in our monthly agency meetings, referred to as NEPA Day, which provide additional opportunities to engage on the 495 Southside Study. VDOT has presented the 495 Southside Study eighteen (18) times at NEPA Day and WMATA has participated in several of these meetings.

Following our 495 Southside Study public information meetings held in fall 2023, WMATA provided written comments (dated October 10, 2023) responding to the information presented at the meeting. VDOT is appreciative of those comments, as they provided needed information and offered support for the alternatives under consideration, noting the need for these alternatives to support transit options across the WWMB including buses in the shorter term and rail transit in the longer term.

In the May 31, 2024, letter several specific questions were raised regarding the 495 Southside Study. Responses that will provide clarity to the study, our processes, and commitments moving forward are included below.

### **1. Based on the potential future Metrorail concept alignment and typical section**

**documentation provided to VDOT in February 2024, please provide documentation that details that sufficient space will exist within the I-495 SEL Beltway corridor to accommodate future rail transit, including access onto the Beltway and across the Woodrow Wilson Bridge.**

The existing WWMB is 52' wide in the local lanes (outer span), and 52' wide in the through lanes section (inner span) in each direction. A typical section across the bridge that includes one, new express lane and barrier-separated rail transit in each direction can be accommodated within this available space through utilization of the existing 18' inside shoulder in the through section. Discussions of space needs for rail transit in November and December 2023, along with WMATA's February 2, 2024, correspondence to VDOT confirmed the adequacy of the 18' rail typical section assumption. Based on the width of the through lanes section on the WWMB, there is enough room to provide two Express Lanes in the near-term, or to accommodate one Express Lane and space for rail transit in the long-term. The difference would be a shift of one through lane into the local lanes section.

- 2. Please describe in detail how VDOT believes future construction and operation of a rail line (light rail or Metrorail) would occur once the current alternative concepts of one or two Express Lanes in each direction are constructed and operational.**

While construction and operations details will be evaluated later in the project development process, common practices employed within confined work areas and complex construction activities include temporary reductions to lane and shoulder widths to accommodate work areas, temporary lane closures, and reduction of speed limits. Additionally, there may be opportunities to shift lanes between the local and through sections (barrier separated) on the WWMB, subject to final engineering details, along with means and methods of construction.

- 3. Please provide near-term commitments VDOT will make prior to final Commonwealth Transportation Board approval of a I-495 SEL project to ensure future rail transit can be constructed efficiently with no additional cost burden to a future rail project?**

Please see Commissioner Brich's correspondence to TPB members dated April 30, 2024, for an outline of VDOT's commitments to rail preservation on the WWMB. This letter makes clear that the alternatives under construction in the ongoing NEPA process incorporate rail preservation, therefore, selection of a preferred alternative by the Commonwealth Transportation Board will be one that provides the opportunity for future rail transit. Further, the letter states regarding the federal approval of the preferred alternative, "VDOT's adherence to this requirement will not result in costs for WMATA to convert the space when they are ready to implement service."

- 4. Is the future conversion of Express Lanes to rail transit use contingent on agreement by a concessionaire in a future solicitation? Can VDOT commit to making this term non-negotiable?**

As stated in the April 30, 2024, letter, the concepts included in the 495 Southside Study incorporate rail preservation either through retaining existing, unoccupied space or by incorporating a commitment to convert necessary space to rail transit in the future when

WMATA and the region are positioned to implement service across the WWMB. Terms within any future contract or concessionaire agreement would incorporate a requirement for conversion to rail transit in the future consistent with the recommended, preferred alternative approved through the NEPA process. The future procurement process and resulting agreement would make clear the need for the concessionaire to vacate the space necessary to operate heavy rail. As such, a separate solicitation for the conversion will not be required.

- 5. If an Express Lanes concessionaire is selected to build and operate a future I-495 SEL project, would the concessionaire also be required to provide temporary access to enable adjacent construction of a future rail project? Would there be any cost (to the entity requesting access) or penalty (to VDOT in terms of reduced revenue or concessionaire payment or otherwise) for such construction access to be granted?**

A comprehensive agreement with a concessionaire could include provisions to coordinate construction activities with the rail contractor. The efforts associated with this coordination along with vacating the space for rail will be the subject of future negotiations between the Commonwealth and a potential concessionaire. As we have stated, VDOT is fully supportive of future rail transit over the WWMB at such time WMATA and the region are positioned to implement service.

- 6. Please provide a construction cost estimate for the conversion of the two I-495 SEL Express Lanes (one in each direction) from operating highway travel lanes to a fully available rail transit right-of-way for future rail construction (not the rail construction itself). Please describe what is included in those costs, and which organization (between VDOT and Metro) would be responsible for which costs.**

Construction cost estimates are not available. Detailed engineering and the associated cost estimating will follow the NEPA study as part of VDOT's project development process. As stated in the April 30, 2024, letter to TPB members from Commissioner Brich, "VDOT's adherence to this requirement will not result in costs for WMATA to convert the space when they are ready to implement service."

- 7. Please provide examples of where a successful conversion from managed highway lanes to rail transit has been completed, including the interplay with a concessionaire.**

The Department is not aware of a managed lane highway project that was converted to transit. VDOT's Transform 66 is an example of a managed lanes project that successfully includes provisions for transit, BRT and the Orange Line, from the beginning. More specifically, the Orange Line is listed as an Alternative Facility in the contract, which states that only the opening of the Orange Line within 10 years from project completion of the Transform 66 project would constitute a compensation event.



**8. How does VDOT plan to integrate bus service into the I-495 SEL Project? At what point in the project development processes will bus service planning and decision making begin? When does VDOT expect that bus service funded by the project would begin?**

It has been the practice of the Commonwealth to incorporate on-going transit payments from express lanes projects in Northern Virginia to enhance multimodal options in the respective corridor. The Virginia Department of Rail and Public Transportation (DRPT) completed the [I-495 Southside Transit/Transportation Demand Management Study](#) in April 2023 for the purpose of identifying a range of multimodal solutions in the corridor to inform VDOT's NEPA study. Should the I-495 Southside Express Lanes project advance under a concessionaire agreement, as currently anticipated, it could provide a dedicated source of revenue to implement the types of investments identified in the DRPT study which include express and local bus routes, as well as commuter assistance programs and technology enhancements.

**9. Please provide documentation, assumptions, and analysis from the Virginia Department of Rail and Public Transportation study that was completed in 2023 that recommended four new bus routes and estimated 8,000 daily riders.**

For reference, the DPRT study can be found at the following link: <https://drpt.virginia.gov/studies-and-reports/i-495-southside-transit-tdm-study/>. Specific sections in the study that describe the assumptions and methodology for the transit recommendations are on pages 88-149, with pages 134-136 summarizing the data for the refined transit recommendations. Additionally, within the study, eight new bus routes are recommended in the refined transit recommendations that are estimated to generate 7,875 daily riders by 2045. Appendix E also provides information on each new bus route. If there are additional questions regarding the DPRT study, a direct contact with DPRT can be provided.

**10. Assuming buses are integrated into the future I-495 SEL project, would the concessionaire be required to directly fund the full operational cost of new Metrobus service between Virginia and Maryland? Would existing service be eligible for funding? What would the start and end of such an agreement be? Please provide confirmation that no transit provider will be required to pay to use the Express Lanes.**

Multimodal solutions, including bus service and transit funding, have been a focal point of negotiations for all concessionaire-operated facilities in Northern Virginia. Since 2017, the Commuter Choice program has received \$156 million, which has funded 42 buses, 29 bus service improvements, 14 new express bus routes, 6 commuter incentive programs, 4 rail station enhancements, 3 park and ride lots, and 1 BRT line. VDOT intends to continue our established practice to incorporate on-going transit payments for the I-495 SEL project. Since this project is still in the study phase, VDOT is not able to identify the amount nor the nature of funding for transit investments in the corridor at this time. The tolling policy for the I-495 SEL project will

Mr. Thomas Webster  
June 13, 2024  
Page Five

be consistent with the existing express lanes in Northern Virginia, which include free use by buses and vehicles carrying 3 or more travelers.

**11. Will the I-495 SEL alternative study concepts include Express Lane access points at Telegraph Road and I-295 in Maryland? Current and future Metrobus service- notably the current NH2 and future P94 route- would benefit from direct Express Lane access including to National Harbor.**

Both build alternatives under consideration in the 495 Southside Study assume access at the I-295 interchange. These build alternatives also assume access just East of the Springfield Interchange for entering and exiting the Express Lanes, at the interchanges of Van Dorn Street, US Route 1, MD 210, and just east of MD 210 for entering and exiting the Express Lanes. Key consideration for access is based on spacing, geometry, and potential impacts. Access was reviewed for the Telegraph Road interchange and dismissed from further consideration due to its close proximity to Route 1, existing complex CD roads through the interchange, existing flyover ramps/bridge piers, adjacent development and limited right of way.

We look forward to a continued partnership as the 495 Southside Study advances. I hope WMATA will support our efforts to bring near-term solutions to solve the region's complex transportation challenges while maintaining a long-term goal of accommodation of rail transit.

Sincerely,



Bill Cuttler, P.E.  
Northern Virginia District Engineer



# COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION  
1401 EAST BROAD STREET  
RICHMOND, VIRGINIA 23219-2000

**Stephen C. Brich, P.E.**  
COMMISSIONER

June 13, 2024

Mr. Floyd E. Holt  
Deputy Chief Administrative Officer  
Prince George's County, Maryland  
1301 McCormick Drive  
Largo, MD 20774

Dear Mr. Holt:

Thank you again for our recent discussion and Prince George's County's continued engagement with the Virginia Department of Transportation (VDOT) team working on the Commonwealth's project submissions for the Visualize 2050 Constrained Long Range Plan (CLRP) update. As we discussed and I reiterated on a call with your team on June 7, 2024, the I-495 Southside Express Lanes Project is a regionally significant project intended to address the remaining segment of interstate along the Capital Beltway in Virginia without an Express Lanes component. Inclusion of an Express Lanes component along this critical segment from the Springfield Interchange across the Woodrow Wilson Memorial Bridge (WWMB) to MD 210 in Prince George's County provides a generational opportunity to deliver near-term congestion relief to Virginia and Maryland commuters, create and expand transit connections in the region, and increase travel reliability throughout the National Capital Region.

In 2021, the I-495 Southside Express Lanes study area was identified in the Commonwealth Transportation Board's adopted I-95 Corridor Improvement Plan as an area for additional study. As a result, the study was included in VDOT's Six Year Improvement Program and the National Capital Region's Visualize 2045 CLRP and VDOT is underway with the NEPA analysis to identify a preferred alternative for the corridor. The upcoming action by the Transportation Planning Board (TPB) to include the project in the air quality conformity analysis is a critical next step that is a requirement of the NEPA process. For purposes of this air quality analysis the project is proposed as the addition of two Express Lanes to represent the maximum cross section with potentially the highest impact on air quality. The preferred alternative approved through the NEPA process may or may not match this assumption. Modeling this maximum cross section, or worst-case scenario, ensures the air quality analysis does not underestimate mobile source emissions.

Mr. Floyd E. Holt  
June 13, 2024  
Page 2 of 3

Importantly, the NEPA process cannot conclude and VDOT cannot receive NEPA approval from the Federal Highway Administration until the project has been included for construction in the CLRP and its approved air quality conformity analysis. VDOT's timeline for the advancement of this critical project is linked to this requirement and any delay of its inclusion in the CLRP will result in a delay of over two years, further delaying the delivery of tangible benefits to the region. In addition to the time delay, a decision to not include the project now will result in the Commonwealth expending additional resources to update analyses that inform the NEPA study to ensure its validity upon its inclusion in the CLRP. In response to the suggestion that the I-495 Southside Express Lanes project is not ready for inclusion in the CLRP, I would point out that it is both appropriate and acceptable for projects included in a CLRP update to have either not begun NEPA or to have the NEPA analysis underway. The projects approved by the TPB in May 2024 evidence this.

As the Commonwealth advances the NEPA study, potential project benefits specifically for needs identified for Prince George's County, along with traffic analysis and resource impacts will be vetted with environmental agencies, the public and key stakeholders. As we advance, we are confident the project will demonstrate a considerable opportunity to unlock congestion and increase transit investments in the corridor. The project provides a foundation to establish robust transit ridership that will serve as a customer base for the future extension of Metrorail across the WWMB. The Virginia Department of Rail and Public Transportation (DRPT) completed the I-495 Southside Transit/Transportation Demand Management Study in April 2023 for the purpose of identifying a range of multimodal solutions in the corridor to inform VDOT's NEPA study. As you are aware, the only transit service between Virginia and Maryland across the WWMB is the Metrobus NH2 route connecting Alexandria and National Harbor, however the current levels of congestion across the bridge result in little to no travel time savings for this service. The DRPT study recommendations include investments for transit service across the bridge such as express bus routes from Prince George's County to Tysons. Should the I-495 Southside Express Lanes project advance under a concessionaire agreement as currently anticipated it could provide a dedicated source of revenue for such investments as well as a dedicated route for buses to take increasing their reliability and ridership. The long-standing practice of the Commonwealth to incorporate on-going transit payments from express lanes projects to enhance multimodal options in the respective corridor clearly demonstrates the importance the Commonwealth places on reliable and robust transit investments. The I-495 Southside Express Lanes project presents the opportunity to deliver on enhanced multimodal options in this critical corridor.

Let me assure you again that VDOT is fully committed to preserving capacity for future rail on the WWMB and has only advanced alternatives that meet this requirement. VDOT is also fully committed to continue pursuing transit investment opportunities as part of our Express Lanes program. These assurances underscore our demonstrated intent to work collaboratively to solve the region's transportation challenges. Simply stated, the Commonwealth cannot and will not advance this project to implementation without the support of Prince George's County and the region. Further delay is not in the best interest of the citizens and visitors that travel the I-495 corridor. The time to act is now.

Mr. Floyd E. Holt  
June 13, 2024  
Page 3 of 3

I trust the clarifications provided here along with the April 30, 2024, letter provided to TPB Chair Henderson (attached here for your reference) address the questions and concerns of Prince George's County and I ask for your support for the inclusion of the I-495 Southside Express Lanes project in the Air Quality Conformity Analysis project inputs for Visualize 2050.

Sincerely,

A handwritten signature in blue ink that reads "Stephen C. Brich". The signature is fluid and cursive, with the first name being the most prominent.

Stephen C. Brich, P.E.  
Commissioner of Highways

C: Ms. Oluseyi Olugbenie, Deputy Director, Public Works & Transportation,  
Prince George's County, Maryland  
Mr. Eric Olson, County Council, Prince George's County, Maryland  
Ms. Christina Henderson, Chair, National Capital Region Transportation Planning Board  
Mr. Kanti Srikanth, Executive Director, Transportation Planning Board  
Mr. Jeffrey C. McKay, Chairman, Fairfax County Board of Supervisors  
Ms. Cathy McGhee, P.E., VDOT Chief Deputy Commissioner  
Mr. Bill Cuttler, P.E., VDOT Northern Virginia District Engineer  
Ms. Angel Deem, VDOT Chief of Policy





**Northern Virginia Transportation Authority**  
*The Authority for Transportation in Northern Virginia*

June 13, 2024

The Honorable Christina Henderson, Chair  
 National Capital Region Transportation Planning Board (TPB)  
 Metropolitan Washington Council of Governments  
 777 North Capitol Street, N.E., Suite 300  
 Washington, DC 20002-4201

Re: NVTA Endorsement of Virginia Department of Transportation's (VDOT) I-495 Southside Express Lanes (SEL) Project for Inclusion in Visualize 2050 Plan Update and FY2026-29 Transportation Improvement Program

Chair Henderson,

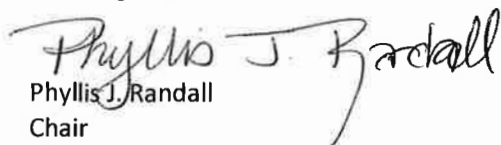
On behalf of the Northern Virginia Transportation Authority (NVTA), I am pleased to express our full support for the Virginia Department of Transportation's (VDOT) I-495 Southside Express Lanes (SEL) Project for inclusion in Visualize 2050 Plan Update and FY2026-29 Transportation Improvement Program (TIP). NVTA fully supports advancing efforts to reduce congestion, improve accessibility, increase resiliency, and provide multimodal transportation choices. This project also supports all three NVTA Core Values of Equity, Safety, and Sustainability.

The project seeks to provide an Express Lanes connection on the eastern end of I-495 that currently does not have Express Lanes, beginning east of the Springfield Interchange and extending into Maryland across the Woodrow Wilson Memorial Bridge. Alternative designs are being considered through ongoing National Environmental Policy Act (NEPA) analysis. VDOT has provided commitments in writing that fully support future rail transit on the bridge. Additionally, VDOT committed to incorporate appropriate terms in any future concessionaire contracts or agreements to this effect. VDOT is committed to continue its established practice of using a part of concessionaire funds to enhance multimodal options in this corridor.

Transit connection across Woodrow Wilson Memorial Bridge are a priority for NVTA as well, as reflected in the fact that High-Capacity Transit connection across the bridge is included in TransAction (ID 35), our multimodal long-range transportation plan for Northern Virginia.

Thank you for your consideration of Virginia Department of Transportation's (VDOT) I-495 Southside Express Lanes (SEL) Project for inclusion in the Visualize 2050 Plan Update and FY2026-29 TIP.

Best Regards,

  
 Phyllis J. Randall  
 Chair

cc: Stephen Birch, P.E., Commissioner of Highways, VDOT  
 Mr. Bill Cuttler, P.E., District Engineer, VDOT-NoVA  
 Monica Backmon, Chief Executive Officer, NVTA







JEFFREY C. MCKAY  
CHAIRMAN

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[chairman@fairfaxcounty.gov](mailto:chairman@fairfaxcounty.gov)

June 17, 2024

National Capital Region Transportation Planning Board  
Walter A. Scheiber Board Room  
777 North Capitol Street, NE, Suite 300  
Washington, DC 20002

**RE: Item 7 - Visualize 2050 - I-495 Southside Express Lanes project action**

Dear Transportation Planning Board Members:

I would like to take the opportunity to follow up on my letter of May 14 regarding the I-495 Southside Express Lanes (SEL) project. I am providing here a number of facts and figures that show how Express Lanes provide unmatched transit benefits for our region's commuters. Once again, I strongly recommend you support keeping the project in Visualize 2050 without modification.

As I wrote last month, Fairfax County's and the Commonwealth of Virginia's creation of an Express Lanes network in the region has provided immense transit benefits to the region's commuters. It is crucial that the decision to include the Southside Express Lanes project in our region's long term plan be made with this context front and center.

Commuter Choice is the competitive grant program that funds public transit and other transportation improvements with revenue generated from toll payers on the I-66 (Inside the Beltway) and I-395/95 Express Lanes. According to the Northern Virginia Transportation Commission's [2023 Commuter Choice Annual Report](#), the program has funded 58 projects since 2017, totaling \$107.9 million of reinvestment of toll revenues into multimodal improvements. An additional \$48.4 million of projects were approved by the NVTC in June 2023 for implementation beginning in FY 2024, or the projects approved by NVTC on June 6<sup>th</sup> for submission to the Commonwealth Transportation Board.

According to the 2023 report, person throughput, a key goal of the program, is the primary statistic used to represent the effectiveness of the transportation improvements. The report documents 5,954 weekday trips across the I-66 Inside the Beltway and I-95/395 corridors on Commuter Choice-funded projects. The report estimates the benefits of Commuter Choice projects to Northern Virginia's economy and quality of life since the first projects began operation in 2017, including:

- 1,155,461 hours of total travel time savings for commuters
- \$31,958,253 in regional economic benefits from reduced travel delay
- 104,740,501 fewer vehicle miles traveled
- \$14,513,982 in fuel expenditures saved
- 131 automobile crashes avoided
- A 69% reduction in greenhouse gas (GHG) emissions relative to drive-alone travel
- 5,105,595 total project trips

The revenue generated by the I-66 Outside the Beltway (OTB) expansion has also been invested heavily in public transit. Projects in Fairfax County include: the I-66 Median Widening at Route 29 to accommodate future Metrorail

to Centreville (\$48 million); Monument Drive Garage construction to support carpooling and transit use on I-66 Express Lanes from both directions (\$40.85 million); and upgrades to the VRE Manassas Line (\$105 million). In addition to the transit-specific projects, the toll revenue also provided over \$50 million in funding for other projects in the I-66 corridor.

The facts and figures provided here, as well as my May letter, make the case for inclusion of the I-495 Southside Express Lanes (SEL) project in the Air Quality Conformity Analysis for Visualize 2050. Please contact my office should you have any questions and please vote to keep this critical project in the plan.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeff McKay". The signature is fluid and cursive, with a long horizontal stroke at the end.

Jeffrey C. McKay

CC: Members, Fairfax County Board of Supervisors

The Honorable W. Sheppard Miller III, Secretary of Transportation

Stephen Brich, Commonwealth Transportation Commissioner

Jennifer DeBruhl, Director, Virginia Department of Rail and Public Transportation

Bryan J. Hill, County Executive

Gregg Steverson, Acting Director, Fairfax County Department of Transportation



JEFFREY C. MCKAY  
CHAIRMAN

COMMONWEALTH OF VIRGINIA  
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[chairman@fairfaxcounty.gov](mailto:chairman@fairfaxcounty.gov)

May 14, 2024

National Capital Region Transportation Planning Board  
Walter A. Scheiber Board Room  
777 North Capitol Street, NE, Suite 300  
Washington, DC 20002

**RE: Item 8 - Visualize 2050 Action on Air Quality Conformity Scope of Work and Project Inputs Table Presentation**

Dear Transportation Planning Board Members:

Thank you for your continued service to the residents of our region. The work of the Transportation Planning Board is immensely impactful to Fairfax County commuters and I appreciate having the opportunity to weigh in on a vote you are taking on May 15 concerning the I-495 Southside Project, the extension of the I-95/495 Express Lanes from the Springfield interchange across the Woodrow Wilson Bridge to MD 210 (Indian Head Highway). I strongly recommend you support advancing this project without modification.

Extending the Express Lanes beyond the Woodrow Wilson Bridge supports our region's equity goals and the One Fairfax equity policy. Currently, the segment of I-495 from the Springfield mixing bowl to the Woodrow Wilson Bridge is the only segment of Interstate in Northern Virginia without an Express Lanes component and, therefore, without a transit benefit. I do not believe it is acceptable to deny the residents of one of the most diverse areas of our region the reliable and efficient bus service that the Express Lanes would make possible. Furthermore, each segment of the current Express Lanes network – I-495, I-95 and I-66 – all provide a dedicated source of funding for transit improvements, which this segment of I-495 also currently lacks. Extending the Express Lanes would serve the communities around this segment of I-495 who are currently treated differently than the rest of Northern Virginia.

The proposed extension furthers our region's goal to provide safe, efficient and reliable transit service in multiple ways. Most notably, it may provide a dedicated source of revenue for transit improvements for the entire corridor. The funding from other currently operating Express Lanes segments has been used to provide more frequent bus service along those corridors, and the 495 NEXT project's proposed transit benefit would provide new bus service over the American Legion Bridge. This type of service on this segment of I-495 would be a gamechanger for residents who live there as well as for businesses around the region. Furthermore, a complete and seamless Express Lanes network would benefit bus riders across the region as it would move the most people along lanes that do not suffer from the same congestion as the traditional lanes. For example, during rush hour Virginia's I-95 Express Lanes move more than twice as many people per hour per lane compared to the I-95 general purpose lanes.

As you all are aware, with a large population of hybrid workers, our region's transit service providers are struggling to attract riders on a consistent basis. Commuters now have the opportunity to be more selective about their commuting options when they are only required to be in the office 3-4 days per week. In order to get these commuters out of single-occupancy vehicles (SOVs) and back into carpools, vanpools or buses, we must provide more convenient, reliable and faster travel options. That is not possible when these options must travel on the same congested roadways as SOVs. We should be looking at completing our region's Express Lanes network as a way to also promote transit and other high occupancy vehicle (HOV) options like carpools and vanpools.

Extending the Express Lanes would incentivize transit ridership and establish a customer base for potential future rail service without precluding the extension of Metrorail. The Virginia Department of Rail and Public Transportation completed a study of this segment of I-495 in 2023 and recommended four new bus routes crossing between Maryland and Virginia with the opening of the Express Lanes totaling over 8,000 daily riders. The Express Lanes would also enhance frequency for existing routes and promote additional routes through Fairfax County, Alexandria, and Arlington.

The economic development case for this extension is very clear as well. People need efficient means to get from their homes to their places of employment and other local destinations and it is clear that this part of our region is hindered by congestion as well as insufficient HOV alternatives. Extending the Express Lanes to MD 210 will improve the lives of commuters. It also will provide more efficient access to job centers for people in this area who do not have reliable access to a vehicle. Providing more equitable transit and HOV options in this area will provide an economic benefit to the residents and businesses around the region who employ them.

Removing the portion of this project east of the Woodrow Wilson Bridge would only create a problem exactly like the one we are dealing with at the American Legion Bridge. If we as a region continue to have as a goal reducing the number of SOVs on our roads, then providing the infrastructure to create multiple options for those drivers on one of our most heavily congested roadways is how we achieve it. This can be accomplished through a complete Express Lanes network that provides lanes without the same congestion and bottlenecks that the traditional lanes experience. I am a strong supporter of the Metrorail extension, which is unfortunately unfunded and likely still decades away. To be clear, VDOT has publicly committed to the preservation of future rail across the Woodrow Wilson Bridge in the legally binding environmental approval process and any future public-private partnership agreement.

In addition, we cannot wait until congestion on the Woodrow Wilson Bridge and its approaches deteriorate back to the conditions that existed before the bridge was replaced. I remember very well the daily congestion that brought travel in this area to a halt before the bridge was replaced more than a decade ago. Without finding ways to encourage carpooling and transit use, we will be back to that condition, squandering in the process the essential federal investment made to replace the bridge.

The region deserves to, at the very least, see a full analysis of what the I-495 Southside project can provide. Removing it, or altering its boundaries, will prevent the full and transparent review of the project. I strongly recommend you oppose any action to alter or remove the I-495 Southside project from the Visualize 2050 long range plan.

Sincerely,

A handwritten signature in black ink that reads "Jeff McKay". The signature is fluid and cursive, with the first name "Jeff" and last name "McKay" clearly legible.

Jeffrey C. McKay

CC: Members, Fairfax County Board of Supervisors  
The Honorable W. Sheppard Miller III, Secretary of Transportation  
Stephen Brich, Commonwealth Transportation Commissioner  
Jennifer DeBruhl, Director, Virginia Department of Rail and Public Transportation  
Bryan J. Hill, County Executive  
Gregg Steverson, Acting Director, Fairfax County Department of Transportation



**ITEM 8 – Action  
June 20, 2024**

Transportation Resilience Improvement Plan (TRIP)

**Action:** Approve the Transportation Resilience Improvement Plan.

**Background:** Staff will brief the board on the Transportation Resilience Improvement Plan (TRIP). The board will be asked to approve the TRIP.

**ATTACHMENTS**

- Item 8 – Transportation Resilience Planning Memo
- Item 8 – Draft Transportation Resilience Improvement Plan
- Item 8 – Transportation Resilience Improvement Plan Presentation





Icon of the Anacostia (Emma Alexandra/Flickr)

# National Capital Region Transportation Resilience Improvement Plan

Month XX, 2024



National Capital Region  
**Transportation Planning Board**



## TRANSPORTATION RESILIENCE IMPROVEMENT PLAN

June 2024

### 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 (DC), 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).

### CREDITS

This report was prepared for the Metropolitan Washington Council of Governments (COG) Transportation Planning Board (TPB) by ICF. This project was led by Katherine Rainone from TPB and this report was prepared by individuals from ICF including Brenda Dix, Kaitlyn Cyr, Amanda Vargo, Eva Burgos, and Katrina Starbird in close collaboration with TPB. Photo Credit: Icon of the Anacostia (Emma Alexandra/[Flickr](#))

### ACKNOWLEDGEMENTS

The preparation of this report was financially aided through grants from the District of Columbia (DC) Department of Transportation; the Maryland Department of Transportation; the Virginia Department of Transportation; the Virginia Department of Rail and Public Transportation; the U.S. Department of Transportation, Federal Highway Administration; and the U.S. Department of Transportation, Federal Transit Administration.

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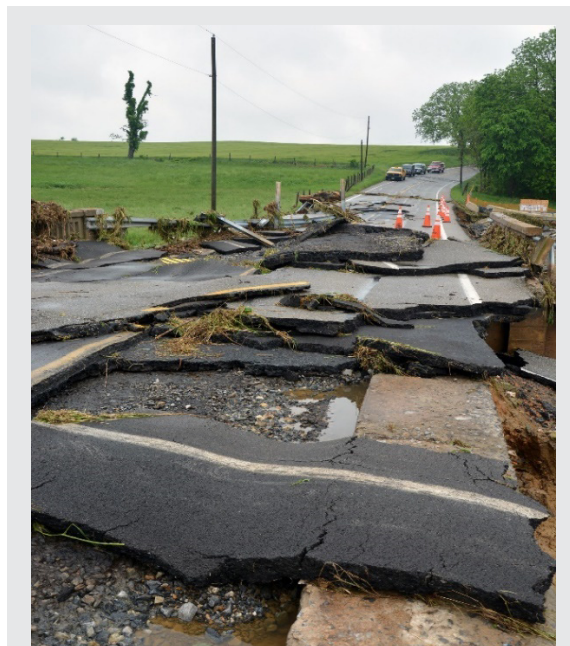
# Acronyms Used in this Report

Terms	
BCA	Benefit Cost Analysis
DC	District of Columbia
DOT	Department of Transportation
EEA	Equity Emphasis Areas
EV	Electric vehicle
GHG	Greenhouse gas
HMP	Hazard Mitigation Plans
L RTP	Long-range transportation plan
MPO	Metropolitan Planning Organization
NC RTP	National Capital Region Transportation Plan
PROTECT	Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation
RIP	Resilience Improvement Plans
TIP	Transportation Improvement Program
TRIP	Transportation Resilience Improvement Plan

Organizations	
COG	Metropolitan Washington Council of Governments
DDOT	DC Department of Transportation
DOEE	DC Department of Energy and Environment
FEMA	Federal Emergency Management Administration
FHWA	Federal Highway Administration
IPCC	Intergovernmental Panel on Climate Change
MATOC	Metropolitan Area Transportation Operations Coordination
MDOT	Maryland Department of Transportation
NVRC	Northern Virginia Regional Commission
RITIS	Regional Integrated Transportation Information System
TPB	National Capital Region Transportation Planning Board
VDOT	Virginia Department of Transportation
VRE	Virginia Railway Express
WMATA	Washington Metropolitan Area Transit Authority

# Executive Summary

Metropolitan Washington is already adversely affected by extreme weather events, from heat waves to blizzards to severe coastal storms and flooding, and the frequency and severity of significant climate hazard events are expected to increase in the future due to climate change. To improve the preparedness and resilience of the region's transportation system to the impacts of climate change, the Metropolitan Washington Council of Governments (COG) National Capital Region Transportation Planning Board (TPB) developed this Transportation Resilience Improvement Plan (TRIP). The purpose of this TRIP is to serve as a regional resource that describes key transportation asset vulnerabilities in the region identified through a risk-based climate vulnerability assessment and identify priority resilience investments in the context of the region's climate and resilience goals.



Road damage from flooding event, 2018  
(Maryland GovPics/[Flickr](#)).

This TRIP was developed in coordination with TPB member agencies and constitutes the first comprehensive regional transportation resilience plan for the metropolitan Washington region. In addition to building on the strong foundation of transportation resilience work in the region, the TRIP meets the Federal Highway Administration's Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) program requirements for a Resilience Improvement Plan (RIP) (see Appendix A. PROTECT Requirements Checklist for the full PROTECT requirements). The PROTECT program provides a unique opportunity to access increased funding for improving surface transportation resilience to natural hazards, and the TRIP will position the metropolitan Washington region to be competitive for these funds.

The TRIP is organized as follows:

- Chapter 1: Introduction provides an overview of the purpose, key goals, and objectives of the TRIP. This chapter also includes a high-level summary of historical climate impacts in the metropolitan Washington region from extreme heat, temporary flooding (coastal and riverine), permanent flooding (sea level rise), extreme winter conditions, and extreme wind. These historical impacts are important context for the focus of the TRIP's assessment of the region's vulnerability to climate hazards.
- Chapter 2: TPB's Regional Approach to Resilience explains how the TRIP is aligned with existing COG plans, such as the National Capital Region Transportation Plan (NCRTP), or

# Executive Summary

Visualize 2045. This chapter also describes how the TRIP is aligned with existing state and local long-range transportation plans and hazard mitigation plans. As the first transportation resilience plan for the region, the TRIP must be aligned with ongoing processes and plans for transportation investments across the region in consideration of the varying jurisdictions and local priorities.

- Chapter 3: Systemic Approach to TRIP Development describes the scope of the TRIP and provides a high-level overview of the approach the TPB used to develop this TRIP, including the stakeholder engagement process used. As a regional plan, the incorporation of regional perspectives and priorities was key, and the TPB developed a working group comprised of regional transportation agencies to provide ongoing input and feedback.
- Chapter 4: Risk-Based Vulnerability Assessment provides an overview of the methodology used to conduct the vulnerability assessment, the key findings from the assessment, and the interactive online mapping tool that displays the vulnerability assessment results. The assessment found that roads and highways, public transit, and active transportation are the transportation asset types with the highest need for adaptation measures to address potential impacts from increasing climate hazards. This chapter also describes critical interdependencies in the metropolitan Washington region to consider with transportation resilience investments, including emergency management, deployment of electric vehicles, and future development of transportation asset infrastructure.
- Chapter 5: Priority Project List outlines the priority transportation resilience projects identified using the results of the vulnerability assessment and input from COG member agencies. Through this process, several localities and regional agencies put forward an ambitious set of multimodal strategies to advance regional transportation resilience. Eight localities and transportation agencies in the metropolitan Washington region submitted a total of 34 projects. All projects fall into PROTECT eligible categories as resilience plans (14 projects) or resilience improvements (20 projects), and one resilience project fits an additional PROTECT eligible category by aiming to improve at-risk coastal infrastructure.
- Chapter 6: Implementing Resilience describes the role of the TPB and key partners in facilitating resilience-related work across the metropolitan Washington region and outlines measurable outcomes and goals of the TRIP. The TPB plays a key role in transportation planning in metropolitan Washington as a convening body for regional cooperation to bring together stakeholders, including the owners and operations of transportation infrastructure, to inform transportation resilience investments and implementation activities.
- Chapter 7: Future Regional Transportation Resilience Enhancements summarizes potential future updates to the TRIP and the vulnerability assessment. This chapter also describes other analyses that the TPB could potentially conduct for future TRIP updates.

# Executive Summary

- Appendix A: PROTECT Requirements Checklist lists FHWA’s requirements for a RIP and indicates which sections of the TRIP meet each requirement.
- Appendix B: Existing Plans provides more details on existing plans from COG’s member agencies.
- Appendix C: Priority Resilience Investment Submission Form includes a blank version of the form used to solicit projects for submission in the TRIP.
- Appendix D: Priority Resilience Investment Submissions includes member agency responses to the submission form and details on each project included in the TRIP.

The TPB is dedicated to increasing the resilience of the transportation system in the metropolitan Washington region and will continue to build upon this TRIP to ensure that the resilience of the region is long-lasting. To support continued resilience work, the TPB identified several potential future enhancements for the TRIP. These include maintaining and updating the vulnerability assessment and identifying additional resilience projects to include in the priority project list. The TPB will also continue to serve its role as a multi-jurisdictional resource to support regional resilience planning across its member agencies.

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## CHAPTER 1

# Introduction



The Metropolitan Washington Council of Governments (COG) National Capital Region Transportation Planning Board (TPB) is the federally designated Metropolitan Planning Organization (MPO) for metropolitan Washington and the lead agency for this Transportation Resilience Improvement Plan (TRIP). The TPB works to address some of the region’s most significant issues such as equity, climate change, the economy, public health, traffic safety, land use, funding, and emerging technologies. The TPB prepares plans and programs that the federal government must approve for federal transportation funds to flow to the metropolitan Washington region. The TPB developed this TRIP in coordination with member agencies to help improve the preparedness and resilience of the region’s transportation system to the impacts of climate change.

**TPB Partners**

The TPB works with local jurisdictions in Maryland and Northern Virginia, the two states, and the District of Columbia (DC), and multiple transportation agencies in transportation program decision-making and plan development.

**A. TRIP CONTEXT AND PURPOSE**

The metropolitan Washington region’s transportation system is essential for residents, businesses, and visitors to work and recreate. The transportation system includes roads and highways, public transit, heavy rail lines, three airports, and active transportation infrastructure (e.g., sidewalks and bus routes) that are critical for travel and the transport of goods. While the region’s transportation system has been developed and maintained to withstand weather, the system and individual transportation assets may not be prepared for the intensified effects of climate change over time (e.g., increasing temperatures and heavy rain events).<sup>1</sup> Climate change is resulting in more frequent significant weather events and related hazards that can impact the region’s transportation system by damaging infrastructure and disrupting services. The U.S. Environmental Protection Agency identifies the following key climate impacts on transportation: impacts on system safety and function; system costs such as increased maintenance, repair, and replacement costs; and reduced access to social and other critical services.<sup>2</sup>



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## B. AT A GLANCE: CLIMATE IMPACTS IN THE COG REGION

The metropolitan Washington region is already experiencing adverse impacts from climate change. As the frequency and severity of significant climate hazard events are expected to increase, the region must make resilience investments to minimize potential future impacts.

- Temperatures in the region have been increasing over time, and heat waves are becoming more common.<sup>3</sup> Extreme heat can limit the number of active transportation users and temperatures above 85 °F may cause rail lines to buckle and become misshapen.<sup>4,5</sup> In 2012, 10 consecutive days of temperatures over 95 °F caused a heat kink that led three railcars to derail in Prince George’s County.<sup>6</sup>
- Annual precipitation in the region has been increasing since 1961 with more extreme storms causing flooding.<sup>7,8</sup> Recent significant flood events include a storm in 2019 which caused sinkholes, road collapse, and suspension of rail line services; heavy precipitation in 2020 closed Route 50 for six hours and led many drivers to abandon their vehicles in Prince George’s County, Montgomery County, and Washington, DC.<sup>9,10,11,12,13</sup> Storms in 2021, 2022, and 2023 overwhelmed stormwater systems in Washington, DC, that flooded buildings and contributed to road closures.<sup>14</sup> Businesses affected by floodwaters have considered relocating.<sup>15</sup>
- Sea level in the Mid-Atlantic is rising faster than any other region along the East Coast, resulting in coastal flooding during high tide, king tide, and coastal storm events in the region.<sup>16</sup> For example, the Potomac River rose up to six feet during a 2021 coastal storm leading to severe coastal flooding, road

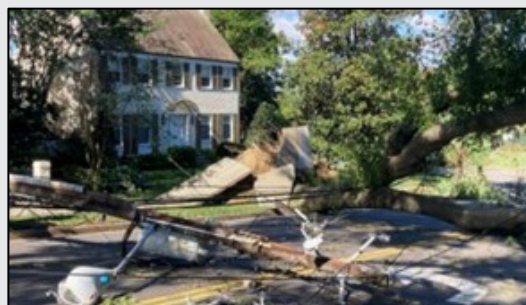
**Figure 1: Vehicle in Washington, DC, stuck in flash flood, 2019 (Alex Brandon/Associated Press).**



**Figure 2: Vehicles and drivers stranded in Arlington, VA, during a snowstorm in 2022 (New York Times).**



**Figure 3: Fallen trees and broken power lines after the severe storm in 2023 (Washington Post).**



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closures, and blackouts.<sup>17,18</sup> Hurricane Isabel (2003) and Hurricane Irene (2011) closed roads, bridges, and flooded rail station tunnels.<sup>19,20</sup>

- Winter storms and strong wind events also regularly impact the transportation system. Severe winter storms delay and suspend public transit services in the region, and a 2022 storm trapped 600 cars for 7 to 21 hours on I-95 in Virginia.<sup>21,22</sup> High winds accompanying storm systems down trees and powerlines, blocking roads and causing blackouts, and forcing rail lines to suspend services.<sup>23,24,25,26</sup>

The TPB, in collaboration with member agencies, is continuing to build on the strong foundation of transportation resilience work in the region to further assess transportation system vulnerabilities and identify priority resilience investments through the development of this TRIP. As defined by the Federal Highway Administration (FHWA), a resilient project has the ability to:

- Resist hazards or withstand impacts from weather events and natural disasters.
- Reduce the magnitude or duration of impacts of a disruptive weather event or natural disaster.
- Have absorptive capacity, adaptive capacity, and recoverability to decrease project vulnerability to weather events or other natural disasters.
- Consider incorporating natural infrastructure.<sup>27</sup>

This TRIP uses the FHWA definition of resilience as “the ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from disruptions.”

The region’s transportation system includes different infrastructure types, scales, ownership and asset management structures, and functionality. The system also requires ongoing regional coordination and engagement to ensure that vulnerabilities are identified and addressed. The purpose of this TRIP is to serve as a regional resource that describes key transportation asset vulnerabilities in the region identified through a risk-based climate vulnerability assessment (see [Chapter 4. Risk-Based Vulnerability Assessment](#)) and identify priority resilience investments (see [Chapter 5. Priority Project List](#)) in the context of the region’s climate and resilience goals. The TRIP is a significant component of the TPB’s ongoing climate change mitigation and resilience work and will help to support future planning and investments in regional transportation resilience ([Chapter 6. Implementing Resilience](#) and [Chapter 7. Future Regional Transportation Resilience Enhancements](#)).

## C. GOALS AND OBJECTIVES

The TRIP supports regional climate resilience efforts by assessing current and future climate risks; streamlining the integration of climate resilience into planning, operations, and communications;

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and increasing the region's ability to maintain essential transportation functions during climate-related events.

The priority objectives of this TRIP are to:

- Provide a systemic understanding of climate risks to the transportation network in the region.
- Identify and prioritize transportation resilience projects, including projects that meet the requirements for FHWA's Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) program.
- Advance equity and environmental justice by increasing consideration of underserved communities and prioritizing equitable access to affordable and reliable transportation.
- Serve as a resource for the TPB to support efforts to facilitate coordination among infrastructure owners and planning agencies across the region to support a systemic approach to resilience.
- Provide a multi-jurisdictional resource to support regional resilience planning.

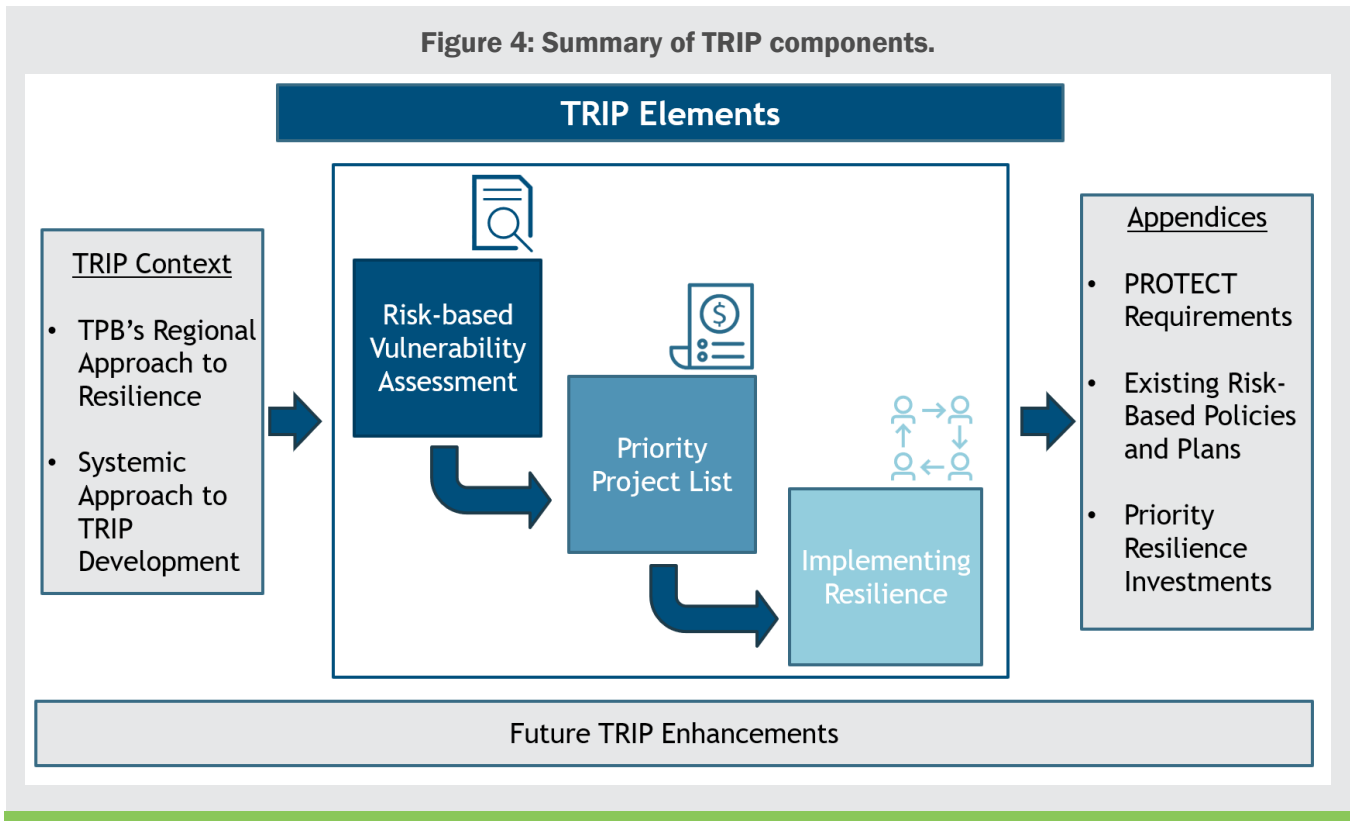
The TRIP supports the TPB's commitment to incorporate an equity lens in its work. In 2020, the TPB established a resolution to Establish Equity as a Fundamental Value and Integral Part of all Transportation Planning Board's Work Activities, which affirms that equity will be woven throughout the TPB's analyses, operations, procurement, programs, and priorities to ensure a more prosperous, accessible, livable, sustainable, and equitable future for all residents.<sup>28</sup>

FHWA states that a central goal of transportation equity is to provide equitable access to affordable and reliable transportation options based on a population's needs, particularly for underserved communities.

The PROTECT program provides a unique opportunity to access increased funding for improving surface transportation resilience to natural hazards. State departments of transportation (DOTs) and MPOs that develop Resilience Improvement Plans (RIPs) that meet program requirements reduce the non-federal cost share for projects by 7%. An additional 3% will be reduced if the RIP is incorporated into the statewide or regional long-range transportation plan (LRTP).<sup>29</sup> Additionally, projects that are included in the RIP do not require a Benefit Cost Analysis (BCA) as part of the competitive grant application.<sup>30</sup> The TRIP will serve as the RIP for this region. The TRIP will position the region to be competitive for these funds and help stretch the funding further due to the match reduction.

The TRIP summarizes the systemic approach that the TPB used to assess the vulnerability of the region's transportation system, provides a list of prioritized resilience projects, and identifies focus areas for future resilience assessments. Figure 4 summarizes the components of the TRIP.

Figure 4: Summary of TRIP components.





CHAPTER 2

# TPB's Regional Approach to Resilience



Regional resilience planning requires interagency coordination to identify priorities, resources, and actions that the TPB and COG jurisdictions and member agencies can take to invest in the resilience of the transportation system. The TRIP builds upon the extensive climate resilience work that COG and its member agencies have completed to date, from establishing climate resilience goals to publishing plans that outline frameworks to advance resilience goals and facilitate the implementation of resilience projects. This chapter provides an overview of how the TRIP is aligned with and builds upon COG's climate resilience goals and planning efforts, past resilience work completed by the TPB, and existing COG and member agency hazard mitigation and transportation plans.

## A. REGIONAL TRANSPORTATION PLANNING

COG and its member agencies recognize the urgent need for regional coordination and action to reduce greenhouse gas (GHG) emissions and increase resilience to future climate impacts, as is evident in COG's ambitious climate resilience goals. According to the Intergovernmental Panel on Climate Change (IPCC), global emissions need to fall by 45% from 2010 levels by 2030 and reach carbon neutral by 2050 to limit global warming to 1.5 degrees Celsius and avoid more severe climate impacts.<sup>31</sup> On October 14, 2020, the COG Board of Directors adopted 2030 GHG emission reduction goals that are aligned with the level of effort called for by the IPCC. [COG Board Resolution R45-2020](#) established interim climate change goals including:

- Reducing GHG emissions 50% below 2005 levels by 2030.
- Becoming a Climate Ready Region and making significant progress to be a Climate Resilient Region by 2030.
- Incorporating equity principles and expanding education on climate change in COG's Climate, Energy, and Environment Policy Committee and its members' actions to reach the climate mitigation and resilience goals.

The TPB's climate resilience goals are aligned with COG's goals. The TPB officially endorsed COG's economy-wide GHG reduction goals, and in June 2022, adopted the same goals specifically for the on-road sector. This made TPB the first MPO to voluntarily adopt GHG reduction goals specifically for the on-road transportation sector. The TPB's goals for on-road transportation are:

- Reducing GHG emissions 50% below 2005 levels by 2030.
- Reducing GHG emissions 80% below 2005 levels by 2050.

Both COG and the TPB are working to advance these climate ready and climate resilience goals through regional planning efforts. For example, COG's [2030 Climate and Energy Action Plan](#) establishes priority collaborative actions for COG and its member agencies to address over the next





10 years to help achieve the 2030 GHG mitigation and resilience goals. The plan includes COG's Regional Climate Resilience Strategy, which outlines collaborative actions to support the region's climate resilience goals. The Strategy includes 10 priority collaboratives, with multiple priority actions highlighting the importance of increasing the resilience of the transportation system, including Action PL-4: Update Local and Regional Plans to Address Climate Risks and Action RI-2: Improve the Resilience of Critical Infrastructure. Climate resilience goals and policies from COG's member agencies are included in [Appendix B. Existing Policies and Plans](#).

The development and update of the TPB's National Capital Region Transportation Plan (NCRTP), Visualize, is another key regional planning collaborative to help the National Capital Region become a climate ready and resilient region. For the purposes of the NCRTP, TPB and its member agencies regularly conduct studies and analyses to identify regional transportation and related issues and support the identification of priority projects and strategies to address the issues. Projects are identified through a variety of mechanisms throughout the region, including state-level long-range transportation planning, state-level project identification by state DOTs, regional plans and studies, local government plans, and corridor and sub-area studies. The TPB's transportation planning process is a key mechanism through which TPB facilitates regional coordination to address the region's biggest issues and align transportation investments. The NCRTP is discussed in more detail in [TRIP Alignment with Existing Plans](#) below. Efforts like this TRIP help to inform specific priorities for transportation planning such as resilience investments in vulnerable areas.

## B. PAST RESILIENCE WORK

In addition to supporting the regional resilience goals established by COG and its member agencies, the TRIP also incorporates and builds upon past resilience work completed by the TPB. Figure 5 provides a timeline of resilience and climate work completed by both COG and the TPB to date. These efforts include the TPB's 2021 Resiliency Study whitepaper, which was completed as part of Visualize 2045.<sup>32</sup> The whitepaper synthesizes research findings on adaptation planning and mitigation activities within the region, documents strategies for resilience, addresses equity in resiliency planning, and outlines COG's role in future resilience planning efforts. The whitepaper helped to inform the regionally relevant transportation assets and climate hazards included in this TRIP's risk-based vulnerability assessment (see [Chapter 4. Risk-Based Vulnerability Assessment](#)).

The TPB also hosted a webinar series in 2022 to engage and build the capacity of member agencies to understand pressing climate challenges in the region and advance resilience efforts at both the agency and regional scales. The webinars built on one another to help participants understand climate impacts to the transportation system, climate vulnerability assessment approaches, how to integrate resilience considerations into planning and programming, and project development and design.



**Figure 5: Timeline of resilience and climate work completed by COG and the TPB.**







**C. TRIP ALIGNMENT WITH EXISTING PLANS**

The policies and plans described in the previous section establish a variety of climate mitigation and resilience goals and demonstrate a region-wide dedication to increasing resilience. The funding and implementation of climate resilience actions to achieve those goals are typically carried out through plans approved by Federal Emergency Management Administration (FEMA), such as hazard mitigation plans (HMPs), LRTPs, and other resilience-focused plans such as the TRIP. FEMA requires that states and DC update their HMPs every five years. To ensure a coordinated approach to transportation system resilience across the metropolitan Washington region, the TRIP is consistent with and complementary to existing COG plans, as well as state and local HMPs within the region.

Table 1 summarizes how the TRIP builds on existing plans such as Visualize 2045 and transportation plans and HMPs for DC, Maryland, and Virginia (see [Appendix B. Existing Policies and Plans](#) for more details on member agency plans). Future updates to these plans may build on the work done to develop the TRIP.

**Table 1: COG and State Plans Related to the TRIP**

Plan	Relation to Climate Change Resilience and the TRIP
<b>COG &amp; State Long-Range Transportation Plans</b>	
Visualize 2045 (2022)	The TRIP is designed to enable the goals of integrating climate resilience in long-range planning as set out in Visualize 2045. The Fiscal Year (FY) 2023–2026 Transportation Improvement Program (TIP) development process, part of the Visualize 2045 update, provides the schedule for the next four years for distributing federal, state, and local funds for state and local transportation projects. Transportation agencies were asked to describe how the new and existing projects submitted for inclusion in Visualize 2045 would support equity and climate considerations. This TRIP identifies priority climate resilience projects, which provides an opportunity for future project alignment with the TIP. The TPB updates the long-range plan on a three-year cycle.
moveDC (2021)	The TRIP is aligned with the goals and policies outlined in DDOT’s multimodal LRTP, moveDC. This includes the goal of strengthening the resilience of the transportation system to climate change, especially in disadvantaged neighborhoods. moveDC is updated every five to six years, so an update to the plan can be expected by 2026 or 2027.



Plan	Relation to Climate Change Resilience and the TRIP
The Playbook (2024)	The TRIP is aligned with the guiding principles of Maryland’s 2050 LRTP, the Playbook, specifically resilience and equity. The guiding principles of the Playbook are intended to guide Maryland DOT’s decision-making process. The TRIP will help further multiple goals and objectives in the plan, which addresses changing climate conditions and increasing resilience. The Maryland DOT updates its LRTP every five years, so an update to the plan can be expected by 2029.
VTrans (2022)	The TRIP is aligned with the overall vision and goals of VTrans, which include increasing the resilience of Virginia’s transportation system. VTrans is Virginia’s statewide transportation plan which considers both mid-term (0–10 years) and long-term (20+ years) planning needs. The TRIP will help further some of the strategic actions identified in the plan, including actions to assess and reduce impacts related to the transportation system. VTrans is expected to be updated by 2026.
TransAction (2022)	The TRIP is aligned with the objective of TransAction: improving regional resilience. TransAction is the long-range multimodal plan for Northern Virginia which addresses regional transportation needs through 2045. One of TransAction’s three goals is improving resilience, including infrastructure resilience to extreme weather events. TransAction also acknowledges the desire within the region to address climate change within planning processes. TransAction is expected to be updated by 2027.
<b>State Hazard Mitigation Plans</b>	
District of Columbia Mitigation Program (includes an All-Hazard Mitigation Plan)	The TRIP is aligned with the objectives and guiding principles of DC’s Mitigation Program. The objective of the program is to create better prepared and more resilient communities by providing a common approach to support protection and prevention activities. The guiding principles include resilience and sustainability, leadership, neighborhood-focused implementation, engaged partnerships and inclusiveness, and risk-consciousness. The program includes an All-Hazard Mitigation Plan, which outlines specific goals and actions to help improve the District’s ability to deter, deflect, absorb, or withstand impacts from a range of hazards.



Plan	Relation to Climate Change Resilience and the TRIP
<p>Maryland Hazard Mitigation Plan (2021)</p>	<p>The TRIP will help advance multiple priority actions and goals outlined in Maryland’s HMP and addresses some of the climate hazards that are of greatest concern for the state of Maryland, including temporary and permanent flooding and extreme winter conditions.</p> <p>One of the priority mitigation actions outlined in Maryland’s HMP is protecting state assets, infrastructure, and critical facilities from hazard events, and the TRIP prioritizes transportation assets for resilience investments. The TRIP is also aligned with Maryland’s goal of prioritizing equity and environmental justice. The TPB’s emphasis on coordination and collaboration throughout the development of the TRIP and the TPB’s role in resilience implementation will also help further Maryland’s goal of enhancing coordination, strengthening existing linkages, and creating new linkages between state and local mitigation and resiliency efforts.</p> <p>HMPs need to be updated every five years, so an update to Maryland’s plan can be expected by 2026.</p>
<p>Commonwealth of Virginia Hazard Mitigation Plan (2023)</p>	<p>The TRIP helps advance multiple goals outlined in Virginia’s HMP and addresses the climate hazards of greatest concern—temporary and permanent flooding and extreme winter conditions.</p> <p>The HMP sets priorities for mitigation activities that protect people and infrastructure from a range of hazards, and the TRIP identifies priority resilience investments for the transportation system. One goal of the HMP is to evaluate potential climate impacts to vulnerable populations, which is aligned with the TRIP’s emphasis on equity and the prioritization of projects that benefit underserved communities. Another goal is to identify and prioritize projects that improve community resilience.</p> <p>HMPs need to be updated every five years, so an update to Virginia’s plan can be expected by 2028.</p>



Plan	Relation to Climate Change Resilience and the TRIP
<p>Northern Virginia Hazard Mitigation Plan (2022)</p>	<p>The TRIP helps advance the hazard mitigation goals outlined in Northern Virginia’s HMP, including reducing the impacts of natural hazards on the community.</p> <p>The main objective of the HMP is to reduce long-term vulnerability to natural hazards for all jurisdictions in the region. The HMP planning process helps reduce vulnerability by assessing hazard-related risks and identifying and prioritizing mitigation actions that participating jurisdictions can implement to reduce their vulnerability. Northern Virginia’s HMP provides priority mitigation actions across four categories: local plans and regulations, structure and infrastructure, natural systems protection, and public education and awareness.</p> <p>HMPs need to be updated every five years, so an update to Northern Virginia’s plan can be expected by 2027.</p>
<p><b>State Resilience Improvement Plans</b></p>	
<p>VDOT Resilience Plan (2022)</p>	<p>The TRIP operates in conjunction with the VDOT Resilience Plan to support transportation resilience in the region.</p> <p>The VDOT Resilience Plan is Virginia’s PROTECT eligible RIP and provides guidance for how Virginia can promote resilience in the face of changing environmental conditions. The RIP stipulates that VDOT will enhance climate data accessibility, develop a plan to engage stakeholders in resilience efforts, establish a risk-based vulnerability assessment methodology, identify resilience measures, and make smart funding decisions to support projects. The RIP also overviews ongoing resilience projects in the Commonwealth.</p>
<p>Transportation Resilience Improvement Plan (2024)</p>	<p>The TRIP operates alongside MDOT’s Transportation Resilience Improvement Plan 2024 to enhance regional resilience.</p> <p>The Transportation Resilience Improvement Plan is MDOT’s PROTECT eligible RIP. The RIP identifies coastal hazards, flood hazards, extreme temperatures, soil movement, severe weather, and climate change as threats to MDOT’s transportation system. The RIP provides a risk-based vulnerability assessment, lays out a process for identifying priority areas for resilience improvements, and describes statewide alignment of transportation planning and programming.</p>



## CHAPTER 3

# Systemic Approach to TRIP Development

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This chapter outlines the TPB's systemic approach to understanding transportation vulnerabilities across the metropolitan Washington region and identifying priority resilience projects. The development of the TRIP was a collaborative effort that included significant stakeholder engagement with agencies in the region.

## A. SCOPE AND APPROACH

The TRIP considers overall risk across modes, geographic regions, and critical interdependent sectors to holistically assess climate risk across the transportation system. Additionally, the TRIP was developed in line with existing transportation planning processes and was informed by existing plans from the region, including HMPs and transportation asset management plans (see [Chapter 2. TPB's Regional Approach to Resilience](#)). The TRIP is consistent with FHWA's RIP requirements, which can be found in [Appendix A. PROTECT Requirements Checklist](#).

### Geographic Scale

The TPB developed the TRIP to guide resilience planning across the metropolitan Washington region (see

Figure 6).<sup>33</sup> COG is comprised of 23 jurisdictions in Northern Virginia, Maryland, and the entirety of Washington, DC, featuring urban, suburban, and rural communities that range in size from about

**Figure 6: Boundaries of the COG region.**





10,000 to more than 1 million residents.\* Transportation connections throughout the region require regional planning, led by the TPB, to ensure a cohesive and connected transportation system.

**Timeframe**

This TRIP is for the immediate and long-range planning activities and investments with respect to resilience of the surface transportation system within the region. The timeframe of this TRIP is aligned with the TPB’s next long-range plan, Visualize 2050. The TRIP considers both historical trends and climate change projections through 2050 so projects built today remain resilient to tomorrow’s climate hazards. Additional information on how the TRIP is aligned with other jurisdictional plans and assessments in the region is detailed in [Appendix B. Existing Policies and Plans](#).

**Transportation Assets and Climate Hazards**

A major focus of the TRIP is identifying vulnerable transportation assets and increasing regional agencies’ capacity to strategically plan resilience investments. The TPB completed a two-phase climate vulnerability assessment as part of the development of this TRIP to identify the greatest climate vulnerabilities of the region’s transportation system (see [Chapter 4. Risk-Based Vulnerability Assessment](#)). Table 2 and Table 3 identify and define the transportation assets and climate hazards considered in the assessment. The TPB selected the focus hazards for the vulnerability assessment with working group members based on review of local vulnerability assessments, studies, and hazard mitigation plans and past impacts to the transportation system from these types of events, as well as in consideration of the project scope and timeline for completing the TRIP. The vulnerability assessment results helped identify potential resilience projects to include in this TRIP (see [Chapter 5. Resilience Investment Plan](#)).








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\* Following the 2020 Census, Fauquier County's urban areas were redefined and are no longer contiguous to those in Prince William County. Fauquier County is now entirely outside of the Washington, DC-VA-MD urban area for which the TPB is the designated MPO. As of February 21, 2024, after the completion of this vulnerability assessment, Fauquier County is no longer a TPB member.





**Table 2: Transportation Assets Included in the Risk-Based Vulnerability Assessment**






Transportation Asset Groups	
	<b>Roads and highways:</b> Paved surfaces and embankments that are part of roads used for vehicle travel (infrastructure) and the ability to utilize road and highways (service).
	<b>Bridges:</b> Paved surfaces, supporting structures, foundations, and joints of bridge structures (infrastructure) and the ability to utilize bridge infrastructure (service).
	<b>Public transit:</b> Bus, rail, other transit fleet vehicles, and their associated public use stations (infrastructure) and the ability to utilize or access public transit and the established schedule for transit service (service).
	<b>Active transportation:</b> Paved surfaces used for pedestrian, bicycle, or other non-motorized transportation (infrastructure) and ability to utilize active transportation (service).
	<b>Airports:</b> Airfields and surrounding areas, runways, airport facilities, and buildings (infrastructure) and ability to utilize air travel (service).
	<b>Maritime:</b> Port structures and equipment (infrastructure) and operations of maritime travel (service).
	<b>Stormwater:</b> Culvert crossings and stormwater systems including tunnels, pipes, gutters, and embankments (infrastructure) and the ability to convey stormwater (service).

**Freight Rail** is another key transportation asset supporting the movement of goods and contributing towards the economic health of the region. While the regional rail system infrastructure supports both passenger and freight rail and impacts to the rail system may have implications for both, freight rail services were not included as a focus of this assessment.





**Table 3: Climate Hazards Included in the Risk-Based Vulnerability Assessment**

	Climate Hazards
	<p><b>Extreme heat:</b> The quantitative analysis considered median land surface temperature in order to identify current hot spots, as these locations are likely to remain hot spots in the future. The qualitative analysis considered a broader set of variables to understand how extreme heat is projected to change, such as number of days where maximum temperature exceeds 95 °F.</p>
	<p><b>Temporary flooding (coastal and riverine):</b> The quantitative analysis includes assets exposed to the FEMA Flood Insurance Rate Map (FIRM) coastal and riverine 100-year and 500-year floods (plus an expanded buffer on the 500-year event). The qualitative analysis highlights that local records indicate a prevalence of urban (i.e., pluvial) flooding issues outside of these floodplains, which the region is working to better understand.</p>
	<p><b>Permanent flooding (sea level rise):</b> The quantitative analysis considered inundation depth under the 2060 intermediate-high sea level rise scenario (i.e., 2 feet of sea level rise compared to 2012). In exposed locations along the tidal portions of the Potomac and Anacostia riverfronts, this flooding represents areas that would be flooded during the average high tide event (i.e., more-or-less permanently, with flooding becoming more and more common over time). The qualitative analysis considered a wider range of potential impacts (e.g., 4 to 8 feet of sea level rise by 2100), and the ancillary impacts of shoreline erosion and coastal storm surge.</p>
	<p><b>Extreme winter conditions:</b> Geospatial data was not available to complete a quantitative GIS analysis. However, there is a large body of literature on historical and projected extreme winter conditions. The qualitative analysis considered how the frequency and intensity of extreme winter conditions are expected to change in the future, with a focus on the impacts of heavy snow and freezing temperatures.</p>
	<p><b>Extreme wind:</b> Geospatial data was not available to complete a quantitative GIS analysis. However, there is a large body of literature on historical and projected extreme wind. The qualitative analysis considered how the frequency and intensity of extreme wind events are expected to change in the future, with a focus on the impacts of extreme storms with high winds, such as hurricanes, tropical storms, and microbursts.</p>



## Equity and Environmental Justice

The TPB is continuously prioritizing equity and environmental justice considerations in its work. Historically, transportation planning often inadequately considered, and adversely impacted, disadvantaged and vulnerable communities, creating inequitable access to transportation options.<sup>34</sup> The TPB discussed the best approach to incorporating an equity lens in the TRIP vulnerability assessment with agency stakeholders, in alignment with the federal Justice40 goals where benefits from climate investments flow to disadvantaged communities that are marginalized by underinvestment and overburdened by pollution. Stakeholder consensus was to utilize the region's recent work to identify disadvantaged communities through an Equity Emphasis Areas (EEA) designation, which provides a more regionally relevant identification relative to the Justice40 tracts.

EEAs are census tracts determined to have high concentrations of low-income individuals and/or communities of color.<sup>35</sup> Though the 364 EEA census tracts make up only 10% of the land area in the metropolitan Washington region, they house 30% of the region's population.<sup>36</sup> EEAs have a higher share of renters, individuals with disabilities, and workers who cannot telecommute.<sup>37</sup> The TPB 2030 Climate and Energy Action Plan found that EEAs in the region are overburdened with climate hazard risks, such as temporary inland and coastal flooding and permanent inundation from sea level rise, potentially impacting access to transportation systems.<sup>38</sup> This TRIP integrates an environmental justice focus that reflects the TPB's commitment to applying an equity lens to transportation planning.

### Key Considerations for EEAs

**Greater exposure:** Extreme heat impacts are stronger in highly urbanized areas with abundant pavement and little green space, known as the urban heat island effect. The urban heat island effect tends to be highest in neighborhoods with a lot of rental properties and households making lower incomes.

**Higher sensitivity:** Vulnerable populations can include elderly persons or those with medical conditions that may make them more susceptible to harm during a climate event. For example, these populations are more likely to suffer from heatstroke during a heat wave or experience respiratory issues from smoke during a wildfire.

**Less adaptive capacity:** Underserved communities may lack resources needed to adapt to climate shocks and stressors, such as air conditioning, air filters, or the ability to easily evacuate and relocate if necessary.



## B. STAKEHOLDER ENGAGEMENT

A resilient transportation network requires interagency and cross-jurisdictional collaboration. As such, stakeholder engagement was a core component of the TRIP development process. Figure 7 provides an overview of stakeholder engagement throughout the TRIP development process. A working group was established to engage with agencies in the region and get feedback on process and priorities for the TRIP. The working group consisted of transportation and planning agencies across DC, Maryland, and Virginia, including:

- Charles County, Maryland
- City of Alexandria, Virginia
- DC Department of Energy and Environment (DOEE)
- DC Department of Transportation (DDOT)
- DC Homeland Security and Emergency Management Agency (HSEMA)
- Fairfax County, Virginia
- Maryland Department of Transportation (MDOT)
- Northern Virginia Regional Commission (NVRC)
- Prince George's County, Maryland
- Prince William County, Virginia
- Virginia Department of Transportation (VDOT)
- Virginia Railway Express (VRE)
- Washington Metropolitan Area Transit Authority (WMATA)

The TPB also designed and held a Regional Resiliency Forum in October 2023 to engage with a broader set of regional stakeholders and get input on planning priorities and additional considerations. The TPB provided an overview of the TRIP development process and sought input on the approach to the vulnerability assessment and development of the priority project list. Over 60 people attended from agencies and organizations across the metropolitan Washington region and beyond. The forum and the working group meetings facilitated interagency coordination and resource sharing and ensured consideration of regional perspectives.



**Figure 7: Overview of stakeholder engagement during the development of the TRIP.**

**May 2023**

Working Group Meeting to introduce and review TRIP outline and process, review the asset-level vulnerability assessment approach, and discuss the role of the working group

**September 2023**

Working Group Meeting to review the system-level vulnerability assessment methodology and get feedback on the proposed resilience criteria used to evaluate projects for inclusion in the TRIP

**October 2023**

Regional Resiliency Forum to introduce the TRIP project process, present the initial vulnerability assessment results and mapping tool, and describe project submission process

**January 2024**

Working Group Meeting to review the vulnerability assessment results in detail, discuss project solicitation updates, and have a resilience project brainstorm discussion to facilitate idea-sharing

**April 2024**

Working Group Meeting to review the draft TRIP and Resilience Investment Plan and receive feedback from working group agencies on next steps and priorities for future vulnerability assessments and studies



## CHAPTER 4

# Risk-Based Vulnerability Assessment



This chapter provides an overview of the methodology and findings of the vulnerability assessment undertaken for this TRIP. It also includes a discussion of critical interdependences in the region. For additional details on the TPB climate vulnerability assessment, see the [National Capital Region Transportation System Climate Vulnerability Assessment](#).

**A. TRIP VULNERABILITY ASSESSMENT OVERVIEW**

The TRIP vulnerability assessment builds on the TPB’s [2021 Resiliency Study](#) to systematically identify high vulnerability transportation assets throughout the region. The 2021 Resiliency Study included a summary of local vulnerability analyses in the region. The most common hazards across these analyses included extreme heat, extreme winter conditions, flooding (flash flooding, stream and river flooding, coastal flooding), and lightning and severe storms. Table 4 (sourced from the 2021 study) summarizes the types of assets jurisdictions analyzed in their local vulnerability assessments. The study recommended that the TPB overlay climate hazards with transportation assets in the region to create a system-level understanding of climate vulnerability.

**Table 4: Infrastructure Identified in Local Vulnerability Assessments<sup>39</sup>**

Vulnerable Infrastructure	Jurisdictions
Roads and highways	DC, MD, VA NVRC, WMATA Charles County, Fairfax County, Frederick County, Montgomery County, Prince George’s County, Prince William County
Bridges	DC, MD, VA NVRC, National Capital Planning Commission Charles County, Fairfax County, Frederick County, Montgomery County, Prince George’s County, Prince William County
Public transit and active transportation infrastructure (e.g., rail, buses, bikes, etc.)	MD NVRC, National Capital Planning Commission, WMATA Charles County, Fairfax County, Frederick County, Montgomery County, Prince George’s County
Airports and maritime infrastructure	MD, VA NVRC Montgomery County
Stormwater infrastructure (e.g., drainage, culverts, etc.)	DC, MD, VA Charles County



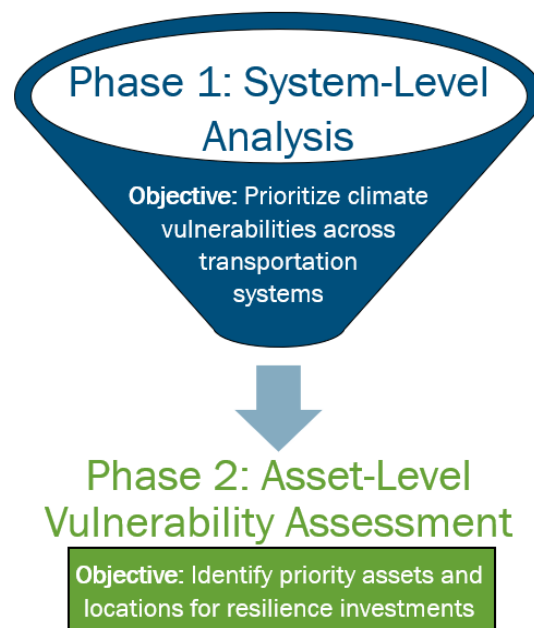
The TRIP vulnerability assessment takes a more systemic approach than the 2021 Resiliency Study and responds to the COG 2030 Climate Risk Vulnerability Analysis finding that EEAs in the region are overburdened with climate hazard risks. The TRIP vulnerability assessment includes an equity factor to elevate vulnerable population considerations in the identification of highly vulnerable assets. The results of the vulnerability assessment identify highly vulnerable transportation assets that may need future resilience investments. The vulnerability assessment was conducted in two phases to identify how transportation infrastructure in the region is vulnerable to climate hazards (see Figure 8).

- Phase 1 applied a system-level sensitivity analysis to identify priority climate hazard/transportation asset pairs for further analysis in Phase 2.
- Phase 2 applied an asset-level vulnerability assessment (exposure and criticality) to identify specific areas and assets that are particularly vulnerable to climate hazards. This was paired with a literature review to provide information on historical and future trends for each climate hazard.

Phase 1 rated the sensitivity of transportation asset types to climate hazards included in the 2021 Resiliency Study and selected in consultation with the TPB and the working group (see Transportation Assets and Climate Hazards section for complete list). Phase 1 of the assessment generated two sensitivity scores for each asset/hazard pair on a low-to-high scale: one score measured infrastructure sensitivity and the other measured service sensitivity. This dual score is because failures in the physical infrastructure and barriers to usability can both impede transportation systems and services. Asset/hazard pairs that received a high sensitivity rating moved forward to Phase 2.

Phase 2 further evaluated the highly sensitive pairs from Phase 1 through a literature review, a region-wide temperature map, and an asset-level geospatial analysis. The asset-level analysis focused on pairs with adequate geospatial data to complete a geospatial analysis. This analysis

**Figure 8: Overview of Vulnerability Assessment Phase 1 and Phase 2.**



#### **Key Term: Sensitivity**

Sensitivity is the degree to which an asset is affected by exposure to a climate hazard. If an asset has high sensitivity to a climate hazard, it will experience more significant impacts from the hazard than assets with low sensitivity.





evaluated the vulnerability of roads and highways, public transit (bus routes, rail stops, and rail lines), and bridges to extreme heat, temporary flooding (coastal and riverine), and permanent flooding (sea level rise) on a low-to-high scale to identify specific assets or areas within the region that are highly vulnerable. The final vulnerability rating encompasses exposure and criticality (see textbox for definitions):

Key Terms	EEA Inclusion in Criticality Score
<p>Exposure refers to whether an asset is located in an area that is affected by climate hazards.</p> <p>Criticality refers to the importance of an asset to the transportation system. Criteria to evaluate an asset’s criticality may include functional classification and whether or not the asset is located in an Equity Emphasis Area (EEA).</p> <p>Vulnerability is the degree to which an asset is unable to cope with adverse climate impacts. Vulnerability can be used to understand how susceptible or at-risk an asset is to a climate hazard. In this assessment, exposure and criticality are used to determine an asset’s vulnerability, with high exposure and criticality indicating high vulnerability or high risk to the asset.</p>	<p>EEAs are census tracts that COG has identified as containing high concentrations of low-income individuals and/or traditionally disadvantaged racial and ethnic population groups. Including EEA considerations as part of the criticality evaluation criteria emphasizes the TPB’s commitment to prioritizing projects that benefit the most vulnerable.</p> <p>For roads and bridges, the criticality score incorporated both EEA status and a measure of how central the asset is to transportation connectivity. For public transit assets, the criticality score was solely based on whether the asset is in an EEA. EEA status makes up a larger share of the public transit vulnerability score because non-car households that rely on public transit have limited alternatives when public transit is not available.<sup>40</sup></p>

For more information on the vulnerability assessment methodology, see the [National Capital Region Transportation System Climate Vulnerability Assessment](#).

**B. TRIP VULNERABILITY ASSESSMENT RESULTS**

Climate hazards can cause severe infrastructure damage and service disruptions to the transportation system. The vulnerability assessment explores how and to what degree transportation assets are vulnerable to a range of climate hazards across the region. The assessment found that roads and highways, public transit, and active transportation are the transportation asset types with






the highest need for adaptation measures to address potential impacts from increasing climate hazards. Public transit was vulnerable to all climate hazards considered in this analysis. The high level of vulnerability for public transit assets is significant given the importance of transit to disadvantaged populations with more limited transportation options. All public transit assets and the single bridge asset that received a high vulnerability score are in an EEA and approximately half of all roads that received a high vulnerability score are in an EEA.



The assessment also found that stormwater infrastructure is highly vulnerable because overwhelmed stormwater infrastructure worsens temporary flooding risk (both coastal and riverine) for all transportation assets. Stormwater adaptation efforts could help mitigate flooding impacts to other assets. Local planners can use these findings to identify and prioritize projects that enhance the resilience of vulnerable assets and provide benefits to EEA communities.

Table 5 summarizes the historical trends and future conditions of key climate hazards and the potential impacts on transportation assets uncovered during the vulnerability assessment. These impacts may increase in severity as climate hazards become more intense or frequent due to climate change. For additional information on the potential impacts described in Table 5 and the detailed results of the Phase 1 and Phase 2 vulnerability assessment, see the [National Capital Region Transportation System Climate Vulnerability Assessment](#).



**Table 5: Climate Trends, Projections, and Impacts to Transportation Assets**

Hazard	Historical Trends	Future Conditions	Potential Impacts to Transportation Assets
 <p><b>Extreme Heat</b></p>	<p>Temperatures in the metropolitan Washington region have been increasing over time. Heat waves have also become more common.</p>	<p>Projections indicate that by 2050 there will be an average of 38.9 days per year with temperatures above 95°F, up from the historical average of 4.4 days per year.</p>	<ul style="list-style-type: none"> <li>• Create “sun kinks” and warp rail tracks.</li> <li>• Cause cracks and damage to roads and highways.</li> <li>• Stress air conditioning systems for public transit users, causing equipment failure and exposing riders waiting at stations to higher risk of heat stress.</li> <li>• Pose safety and health risks to public transit employees and passengers.</li> </ul>



Hazard	Historical Trends	Future Conditions	Potential Impacts to Transportation Assets
 <p><b>Temporary Flooding (Coastal and Riverine)</b></p>	<p>The metropolitan Washington region typically receives about 42 inches of rain each year, but annual precipitation has been increasing in the region since 1961.</p>	<p>Precipitation is expected to become more variable each year. Heavy rainfall events are expected to become more frequent and intense, leading to flooding.</p>	<ul style="list-style-type: none"> <li>• Overwhelm stormwater infrastructure causing combined sewer overflow events or creating standing or flowing water on driving surfaces, bike lanes, and sidewalks.</li> <li>• Wash out pavements or cause sinkholes.</li> <li>• Scour and erode bridge foundations or bridge support structures.</li> <li>• Partially flood underground rail stations.</li> </ul> <p><i>Other effects listed under permanent flooding (sea level rise).</i></p>
 <p><b>Permanent Flooding (Sea Level Rise)</b></p>	<p>Sea level has risen over 1 foot in the metropolitan Washington region since 1920 and numerous coastal storms have caused extensive flooding along the Anacostia and Potomac Rivers.</p>	<p>Sea level is projected to rise by approximately 1.3–1.5 feet by 2050 and 2.5–5.2 feet by 2100. While the number of storms is expected to remain the same, storm intensity is projected to increase.</p>	<ul style="list-style-type: none"> <li>• Accumulate debris and sediment at culvert crossings, limiting drainage capacity.</li> <li>• Overtop bridges and coastal roads.</li> <li>• Wash out coastal rail tracks and erode coastal pavements or support structures.</li> <li>• Damage pier structures.</li> </ul> <p><i>Other effects listed under temporary flooding (coastal and riverine).</i></p>



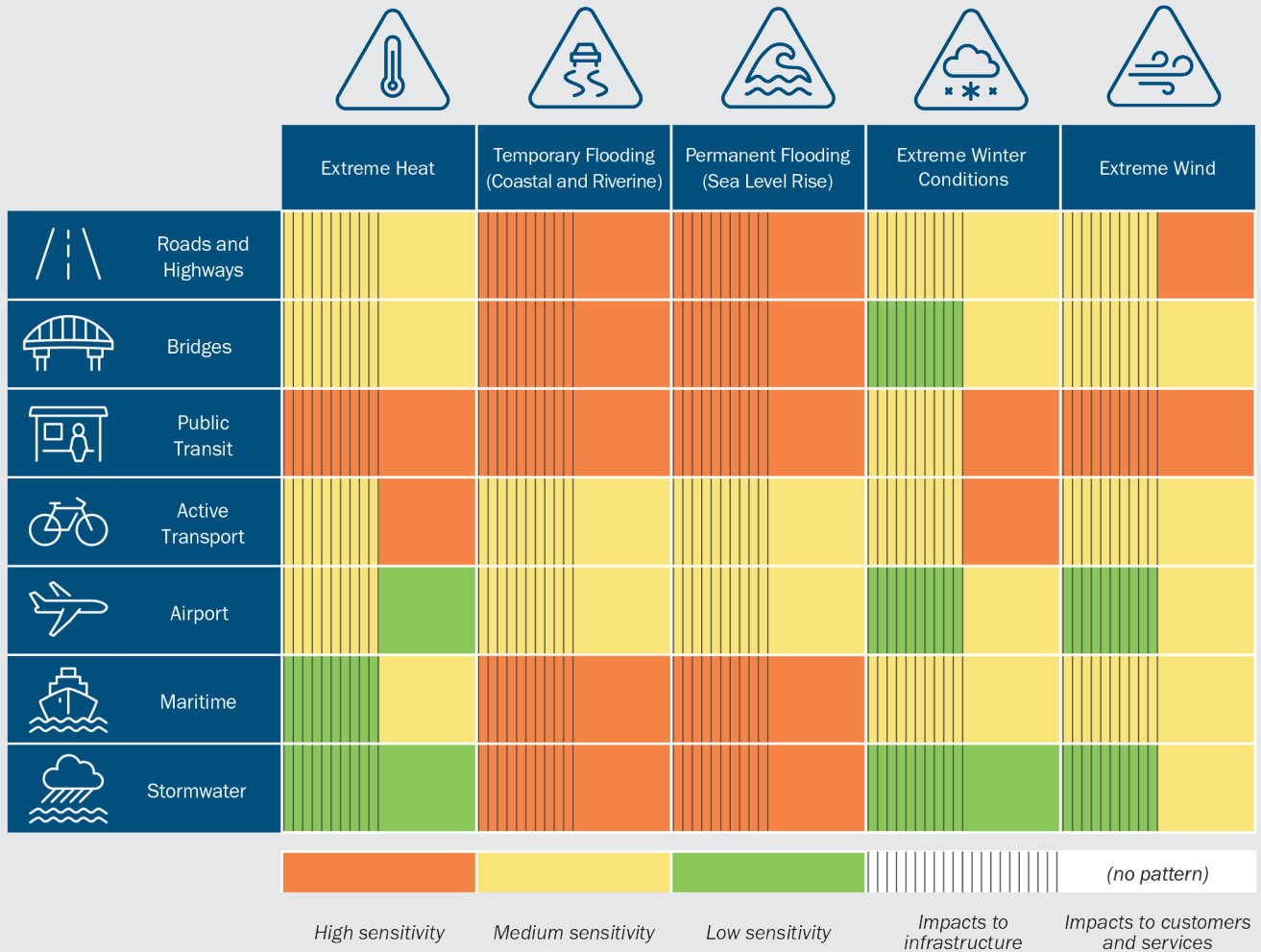
Hazard	Historical Trends	Future Conditions	Potential Impacts to Transportation Assets
 <p><b>Extreme Winter Conditions</b></p>	<p>Annual average snowfall has decreased in the Mid-Atlantic.</p>	<p>Though climate projections are uncertain, the frequency of winter conditions (e.g., snow, ice) across the Mid-Atlantic could decrease. However, winter storms that do occur may be more severe.</p>	<ul style="list-style-type: none"> <li>• Close roads and highways, creating detours and delays.</li> <li>• Disrupt public transit service due to track conditions and equipment limitations.</li> <li>• Pose safety and health risks to passengers waiting at public transit stops.</li> <li>• Ice over aboveground rail tracks and make rail yards impassable.</li> <li>• Limit active transportation mobility.</li> </ul>
 <p><b>Extreme Wind</b></p>	<p>Thunderstorms, extratropical cyclones, and tropical systems have brought heavy winds to the region.</p>	<p>Though average and extreme wind speeds are difficult to project, wind intensity during storms could increase. Average wind speeds are not expected to increase.</p>	<ul style="list-style-type: none"> <li>• Down trees and power lines that block roads, damage vehicles, and damage physical infrastructure.</li> <li>• Cause power outages for roads signals and public transit stations.</li> <li>• Reduce safe transportation speeds for high profile vehicles.</li> <li>• Create unsafe conditions for active transportation.</li> </ul>

**Phase 1 Results**

Phase 1 evaluated the sensitivity of transportation asset types to each climate hazard, reflecting on the types of impacts to physical infrastructure and services described above in Table 5. Figure 9 summarizes the findings of the Phase 1 sensitivity ratings for each asset/hazard pair, including separate ratings for impacts to infrastructure and impacts to customers and services.



Figure 9: Summary of Phase 1 vulnerability assessment results.





### Phase 2 Results

The TPB conducted further analysis of all highly sensitive asset/hazard pairs from Phase 1 (highlighted in orange in Figure 9) in Phase 2, including completing a literature review on historical climate trends, future projections, and potential impacts to transportation assets (summarized earlier in Table 5). Due to data limitations, the Phase 2 indicator-based, asset-level assessment could only be completed for the following pairs:

- **Temporary flooding (coastal and riverine):** roads and highways, bridges, public transit
- **Permanent flooding (sea level rise):** roads and highways, bridges, public transit
- **Extreme heat:** public transit



The following sections summarize the Phase 2 asset-level vulnerability assessment findings, including the number and percentage of assets that scored high, medium, and low vulnerability for each climate hazard.

#### Roads and Highways



The assessment identified 1,097 miles (5%) of roads and highways with high vulnerability to temporary flooding and 50 miles (0.2%) with high vulnerability to permanent flooding (Table 6).

**Table 6: Vulnerability of Roads and Highways to Temporary Flooding (Coastal and Riverine) and Permanent Flooding (Sea Level Rise)**

Vulnerability Level	 <b>Temporary Flooding (Coastal and Riverine)</b>				 <b>Permanent Flooding (Sea Level Rise)</b>			
	High	Medium	Low	Not Exposed	High	Medium	Low	Not Exposed
<b>Roads /Highways (miles)</b>	1,097 (5%)	1,318 (6%)	733 (3%)	19,754 (86%)	50 (0.2%)	17 (0.1%)	14 (0.1%)	22,820 (99.6%)

### Road Vulnerability Scores


Highly vulnerable road segments have high exposure to the hazard and are critical to the transportation system. Roads that carry more traffic or that are within an EEA have higher criticality.



### Bridges

The assessment identified one bridge with high vulnerability to flooding located in Washington, DC (Table 7). Bridge vulnerability to flooding is based on bridge condition and potential susceptibility to failure rather than level of exposure to a specific temporary or permanent flooding event, as with the other asset types included in this analysis. This vulnerability rating therefore represents vulnerability to all types of flooding.

**Table 7: Vulnerability of Bridges to Flooding**

	 <b>Flooding</b>			
Vulnerability Level	High	Medium	Low	Not Exposed
Bridges	1 (0%)	39 (3%)	1,281 (97%)	0 (0%)

### Bridge Vulnerability Scores

Bridge vulnerability considerations included bridge condition data, recognizing that bridges in poor condition may be more likely to be damaged or fail during a flood event, and criticality to the transportation system. Bridges are critical if they serve as a major road or serve an EEA.



### Public Transit

Bus stops, rail lines, and rail stops across the region are vulnerable to extreme heat, temporary flooding, and permanent flooding (Table 8). Bus stops have the greatest percentage of assets with high vulnerability to extreme heat (3%) and rail lines have the greatest percentage of mileage with high vulnerability to temporary flooding (11%) and permanent flooding (2%). Rail lines tend to be highly vulnerable where they are exposed to some degree of temporary or permanent flooding. One-third of all rail lines exposed to temporary or permanent flooding received high vulnerability ratings. Only one rail stop, the Brunswick Maryland Area Regional Commuter stop in Frederick, Maryland, has high vulnerability to temporary flooding while the Smithsonian, Federal Triangle, Federal Center SW, and McLean WMATA Metrorail stops and the Frederick MARC stop have medium vulnerability to temporary flooding.

Due to data limitations, the flood exposure methodology was applied to all rail stations and rail lines, regardless of whether those assets are located above or below ground. Underground stations and lines may not be as directly exposed to flooding and typically have pump systems in place. The degree of vulnerability to underground infrastructure is at the discretion of the rail owner.



**Table 8: Vulnerability of Public Transit to Extreme Heat, Temporary Flooding (Coastal and Riverine), and Permanent Flooding (Sea Level Rise)**

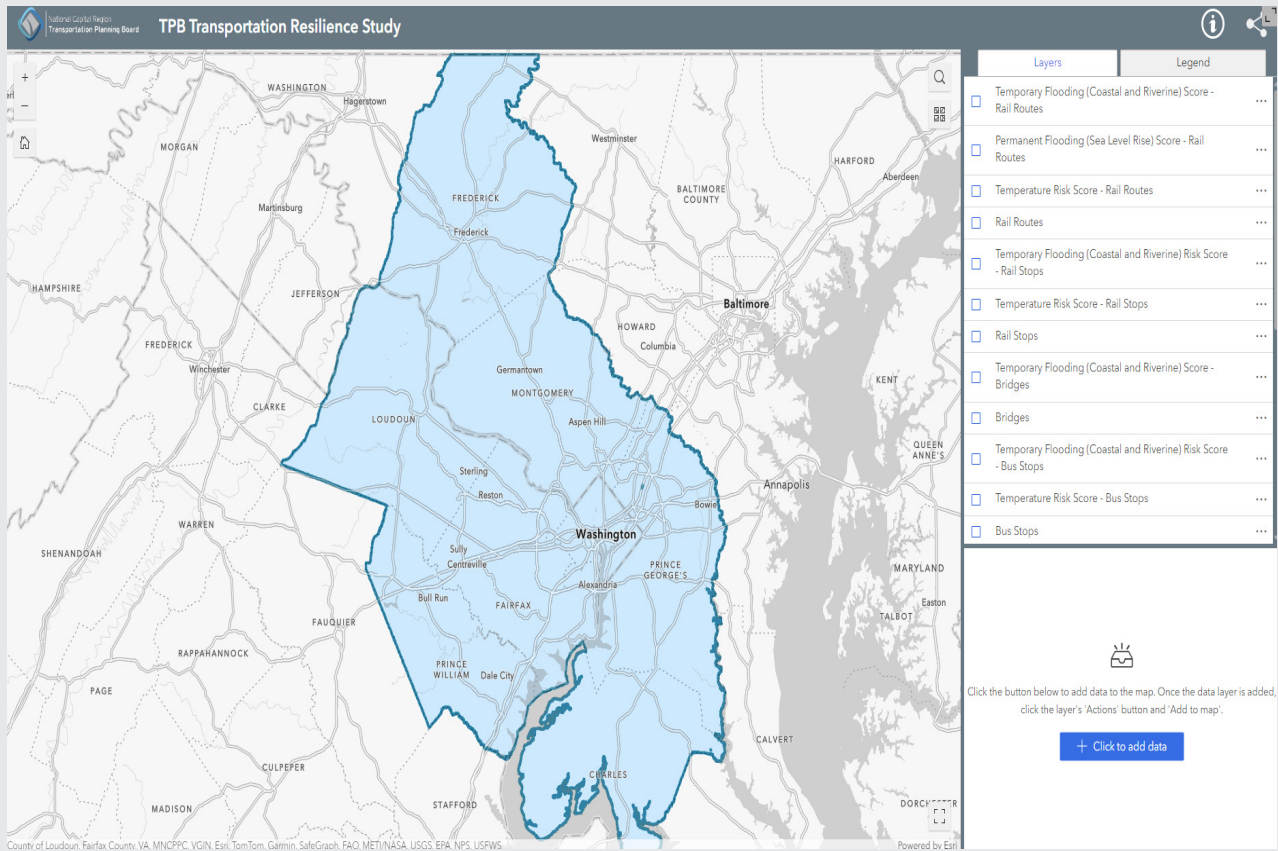
Vulnerability Level	Extreme Heat				Temporary Flooding (Coastal and Riverine)				Permanent Flooding (Sea Level Rise)			
	High	Medium	Low	Not Exposed	High	Medium	Low	Not Exposed	High	Medium	Low	Not Exposed
<b>Bus Stops</b>	196 (3%)	6,467 (89%)	583 (8%)	0 (0%)	173 (2%)	336 (5%)	377 (5%)	6,360 (88%)	0 (0%)	0 (0%)	0 (0%)	7,246 (100%)
<b>Rail Line (miles)</b>	18 (2%)	352 (35%)	646 (64%)	0 (0%)	115 (11%)	154 (15%)	128 (13%)	619 (61%)	19 (2%)	42 (4%)	2 (0.2%)	954 (94%)
<b>Rail Stops</b>	0 (0%)	53 (33%)	107 (67%)	0 (0%)	1 (1%)	6 (4%)	4 (3%)	149 (93%)	0 (0%)	0 (0%)	0 (0%)	160 (100%)

### C. INTERACTIVE ONLINE MAPPING TOOL

Results of the geospatial analysis conducted for Phase 2 of the TRIP were integrated into an interactive online mapping tool that was shared with agencies in the region (Figure 10). The mapping tool enabled agencies to use the vulnerability assessment results to assess which transportation assets in their jurisdiction are the most vulnerable to particular climate hazards and to help them identify projects that could address these vulnerabilities. Agencies are also able to add their own data as a layer in the mapping tool to consider alongside the TRIP vulnerability results to further support their assessment of transportation assets in their jurisdiction.



Figure 10: Snapshot of the interactive online mapping tool.

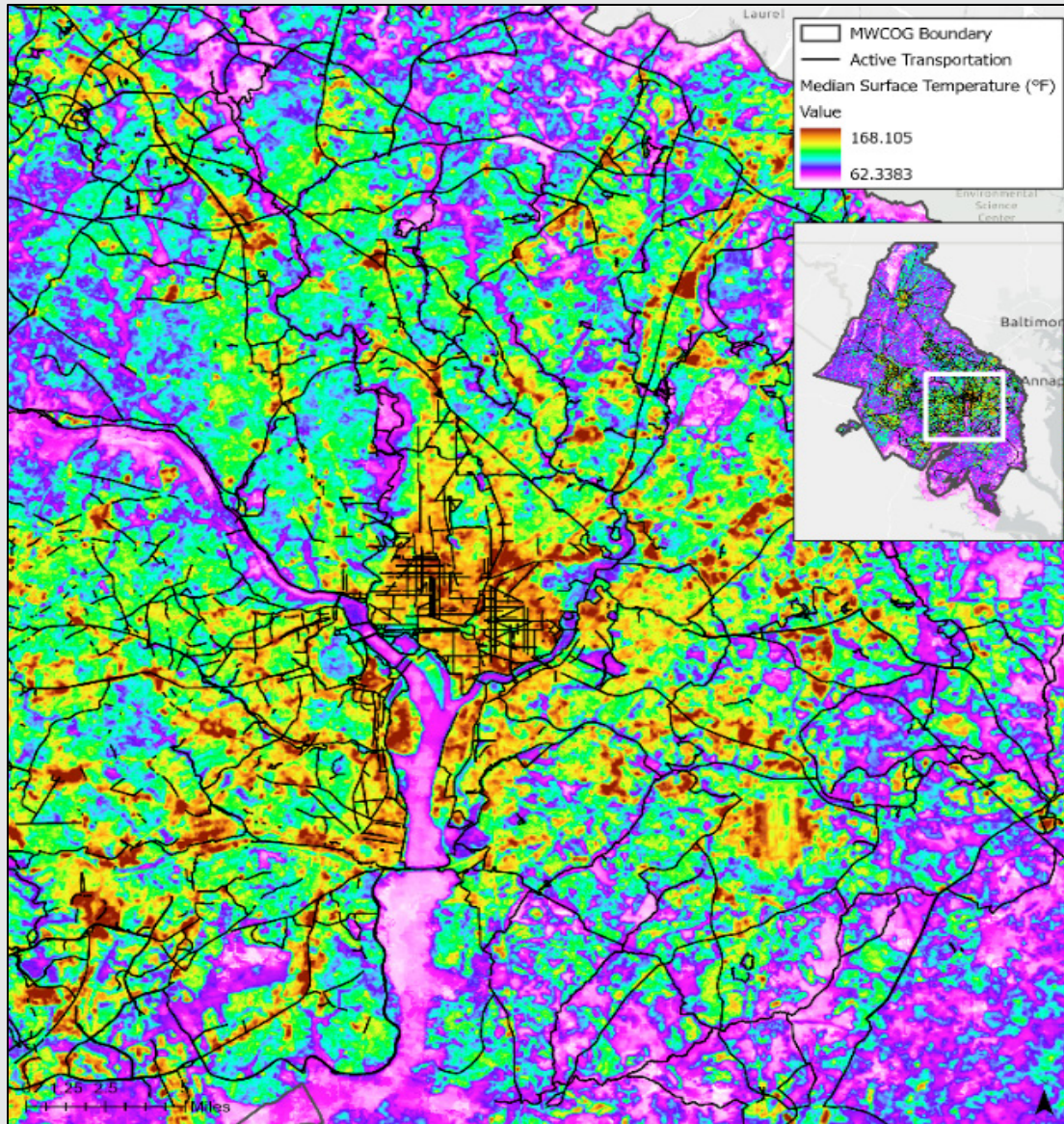


While active transportation and extreme heat were identified as a highly sensitive pair, available data for active transportation routes were not sufficient for the geospatial analysis approach. The online mapping tool enables users to visualize impacts to active transportation through the median surface temperature layer, as seen in Figure 11, which shows bike routes overlaid with a map of median surface temperature for the metropolitan Washington region. The highest median surface temperatures coincide with densest urban development, indicating that active transportation users are most vulnerable to extreme heat in city centers. This is likely due to the urban heat island effect, where densely built structures such as buildings, roads, and other infrastructure absorb and re-emit the sun's heat.<sup>41</sup>





Figure 11: COG region bike and heat map.



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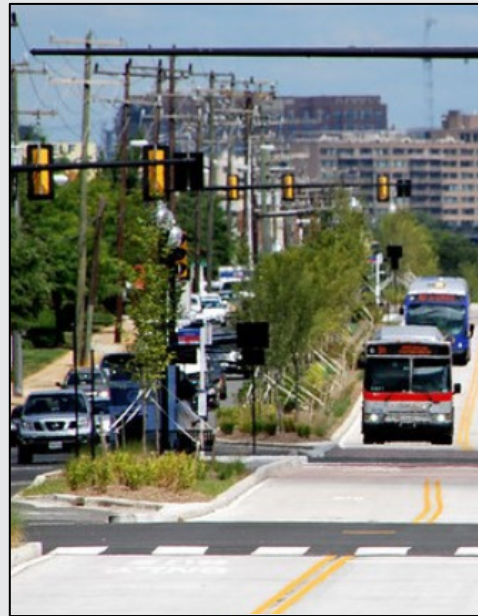
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## D. CRITICAL INTERDEPENDENCIES

The transportation system is just one component of the much larger and interconnected system that makes up a region. Given that the transportation system relies, in part, on other sectors to provide reliable and safe transportation, the TPB recognizes that consideration of critical interdependencies and potential cascading impacts from outages in other sectors is essential to achieve a truly climate resilient region. Visualize 2045 notes the importance of implementing strategies across sectors to see significant progress toward both mitigation and resilience goals. While the vulnerability assessment focuses on the individual impacts of one hazard on one type of asset, the TPB acknowledges that the cumulative and ongoing impacts of climate hazards must be considered for system-level planning. This will require additional study and analysis of climate impacts and the existing interdependencies between transportation infrastructure and other sectors. These critical interdependencies include workforce and human capital, electric power and grid systems, urban forestry, and other sectors providing resources to support the transportation system.

In addition to being critical for everyday functions, the transportation system is a key aspect of planning for emergency situations by providing evacuation routes and systems to transport emergency goods and services. The need for coordination among transportation agencies during emergency events having multi-jurisdictional or regional impacts led to the creation of the Metropolitan Area Transportation Operations Coordination (MATOC) Program.<sup>42</sup> MATOC coordinates interjurisdictional incident notification practices, interagency procedures and protocols, and regional public traveler information. Resilient infrastructure is better at providing connectivity during climate hazard events and enables communities to recover more quickly after a hazardous event. According to the Virginia HMP, climate hazards can severely impact regional economies by closing transportation routes.<sup>43</sup> Maryland's HMP identifies protecting infrastructure and transportation routes as a priority to support emergency response.<sup>44</sup> Regional agencies may also benefit from analyses focusing on the interdependency of vehicle traffic and how potential impacts to roadways may have resultant impacts on public transportation, whether during an emergency situation or during a significant event impacting travel, where diverted vehicle travelers may rely on rail systems. A better understanding of car traffic interdependencies could help regional transit agencies with capacity planning to accommodate these potential impacts.

**Figure 12: Potomac Yard Metroway, Virginia (BeyondDC/Flickr).**





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COG and the TPB support regional planning and response efforts for emergency situations, including specific coordination efforts to support and maintain access via transportation systems to community assets (e.g., hospitals) during these situations. COG and TPB have multiple committees and programs dedicated to emergency preparedness and public safety. For example, COG's NCR RESF-1 Transportation Committee is responsible for the transportation sector's role in emergency response, coordination, and recovery planning and activities. This includes facilitating open communication between key transportation stakeholders and supporting evacuation planning. The TPB, WMATA, and the DC, MD, and VA DOTs also created the MATOC Program to improve coordination and collaboration across transportation agencies during emergency events. MATOC facilitates multi-agency coordination and advises agencies as they respond to incidents or emergencies by improving data sharing across agencies, coordinating notification procedures, and making transportation information more easily available to the public.

The electric power and transportation sectors are also interconnected. For example, WMATA's rail system is electric, so if there is a power outage, MetroRail cannot run. The electric power and transportation sectors will become increasingly connected in the future with widescale deployment of electric vehicles (EVs). This will require strategic planning for impacts to the grid such as outages and the resulting impacts on EV charging and use. The Metropolitan Washington 2030 Climate and Energy Action Plan identified EV deployment as a regional priority.<sup>45</sup> The board recognizes the need for increased collaboration to support EV plans, programs, and policies as necessary to meet regional climate goals. COG developed an EV Deployment Clearinghouse to support COG member agencies on EV deployment within their government operations and community-wide, which is one resource that could be leveraged to integrate resilience planning for electrified vehicles, particularly for transit EVs.<sup>46</sup> As a higher proportion of vehicles electrify, the need for emergency backup power at charging stations will become more critical to ensure transportation system access during climate hazards, such as all those assessed in the TRIP, that can impact the grid and cause power outages.

Critical interdependencies and considerations may also include new and expanding infrastructure in the future. While there are currently no ports in the COG area, any potential new maritime transit and other maritime infrastructure will have to consider the impacts of both temporary coastal flooding and permanent flooding due to sea level rise. These hazards can significantly affect maritime

**Figure 13: EV charging station (MDOT).**





infrastructure and services including shipping and tourism, which may have regional economic impacts. The TPB will continue to coordinate with stakeholders in other sectors to identify changing considerations and address these critical interdependencies. For example, the TPB is actively engaged with COG’s Department of Environmental Planning on strategies to reduce the urban heat island effect, such as by stabilizing and improving the region’s tree canopy and land cover. Although the focus of the TRIP is the vulnerable assets of the transportation system, the TPB will leverage the TRIP to further this coordination and ensure a systemic regional approach to climate resilience.



CHAPTER 5

# Priority Project List



While the region’s transportation system was built to withstand a broad range of weather conditions, specific resilience projects are needed to increase system resilience to the increasing frequency and severity of climate hazards. A key intended outcome of the TRIP was the identification of priority regional resilience projects. The TPB collaboratively engaged member agencies in this effort and conducted a project solicitation process for project submissions to include in the TRIP. As required by PROTECT, regional agencies prioritized projects to submit using the vulnerability assessment results, online mapping tool, and other local resources to determine the most impactful projects. Regional agencies then submitted a project information form with their project details including location, specific transportation assets, and which resources were used to identify the project as a priority resilience investment (e.g., the vulnerability assessment mapping tool or other studies) (see [Appendix C. Priority Resilience Investments Submission Form](#)). Any priority projects that receive funding from a federal grant will go through the process of being added to the TPB’s TIP.

This chapter provides an overview of the approach TPB used to solicit priority projects, the priority project list, and examples of potential resilience projects as a resource to regional agencies who will be given the opportunity annually to submit additional resilience projects to this TRIP.

**A. APPROACH**

The TPB solicited resilience projects from its member agencies from November 2023 to February 2024. Along with the project submission form, the TPB also developed an accompanying guidance document to provide additional context and to support member agencies and other regional organizations in developing strong project submissions that meet the PROTECT program guidelines and clearly address a transportation system vulnerability (see [Appendix C. Priority Resilience Investments Submission Form](#)). The guidance document provided a definition of resilience, as defined in this TRIP, and described the minimum resilience criteria requirements for a project to be included in the priority project list (see Table 9). In addition, the TPB also encouraged agencies to consider other best practices while developing project proposals, such as whether the proposed project incorporates innovative solutions; ensures that relevant stakeholders, including frontline communities, are included throughout the project planning process; and provides co-benefits that can further increase community resilience.



**Table 9: Resilience Criteria**

Criteria	Description
Eligible transportation asset	<p>The submitted project must concern one of the following transportation assets: roads and highways, bridges, public transit infrastructure, active transportation infrastructure, airports, maritime infrastructure, and stormwater infrastructure.</p> <p>Note, PROTECT discretionary grants can only be awarded to eligible highway projects, transportation facilities or services, intercity passenger rail facilities or services, and port facilities.</p>
Qualifying project type for PROTECT	<p>The submitted project must be one of the four types of projects that can be submitted for PROTECT grants:</p> <ol style="list-style-type: none"> <li>1. <b>Resilience Planning</b> – Resilience planning activities, capacity building, and evacuation planning and preparation.</li> <li>2. <b>Resilience Improvements</b> – Projects that make existing surface transportation infrastructure more resilient such as improving drainage, upgrading to meet or exceed design standards, relocating roadways, or elevating bridges.</li> <li>3. <b>Community Resilience and Evacuation Routes</b> – Improvements to make evacuation routes more resilient or add capacity and redundant evacuation routes.</li> <li>4. <b>At-Risk Coastal Infrastructure</b> – Projects that protect, strengthen, or relocate coastal highway and non-rail infrastructure.</li> </ol>
Targets high-priority risks	<p>The proposed project should protect the most vulnerable and critical assets/services identified via the TPB Climate Vulnerability Assessment or identified through local studies and assessments, or areas with historic evidence of natural hazard damage.</p> <p>To view and explore the results of the TPB Climate Vulnerability Assessment, see the Interactive Mapping Tool on the <a href="#">TPB ArcGIS website</a>. The Mapping Tool is a product of a vulnerability assessment conducted as part of the TPB TRIP development that layered transportation asset, climate, and equity spatial data to identify highly vulnerable assets. Assets that score a 2.5 or above for any hazard are considered priority risks.</p> <p>While projects that protect the identified highly vulnerable critical assets/services may be prioritized, any resilience project for a transportation system(s) can be submitted.</p>



Criteria	Description
Reduces climate risks	<p>The proposed project must reduce the risks associated with one or more climate hazards: extreme heat, temporary flooding (coastal and riverine), permanent flooding (sea level rise), extreme winter conditions, and extreme wind. In addressing climate risks, the proposed project ensures the continuity and/or reliability of the transportation service/system.</p> <p><i>Examples of projects that reduce climate risks include:</i></p> <ul style="list-style-type: none"> <li>• <i>Elevating roadways and other critical infrastructure out of floodplains</i></li> <li>• <i>Upgrading stormwater infrastructure to increase water storage capacity and reduce flooding during extreme storm events</i></li> <li>• <i>Increasing shading around outdoor transit stops to reduce extreme heat impacts on passengers</i></li> </ul>

## B. PRIORITY PROJECT LIST

### Consideration of Natural Infrastructure

Using natural infrastructure, otherwise known as green infrastructure or nature-based solutions, is an emerging resilience strategy that is highly recommended for consideration under current federal policies. These types of solutions not only help reduce flooding, wave damage, and erosion, as well as mitigate the impacts of extreme heat, but also provide numerous co-benefits such as improved water and air quality, improved habitat for native species, and community beautification. Types of natural infrastructure solutions include watershed and streambed restoration, shoreline/bank protection and stabilization, bioretention ponds, bioswales, green roofs, and rain gardens, among others.

Eight of the TRIP projects include development of some form of natural infrastructure, and four plans requested funding to help future implementation of natural infrastructure.

TPB provided an opportunity for its member agencies to prioritize resilience projects they may plan to pursue in their jurisdictions. Through this process, several localities and regional agencies put forward an ambitious set of multimodal strategies to advance regional transportation resilience with a focus on increasing the resilience of public transit infrastructure, roads and highways, stormwater infrastructure, and bridges. Eight localities and transportation agencies in the metropolitan Washington region submitted a total of 34 projects. All projects fall into PROTECT eligible categories as resilience plans (14 projects) or resilience improvements (20 projects), and one resilience project fits an additional PROTECT eligible category by aiming to improve at-risk coastal infrastructure. Eight

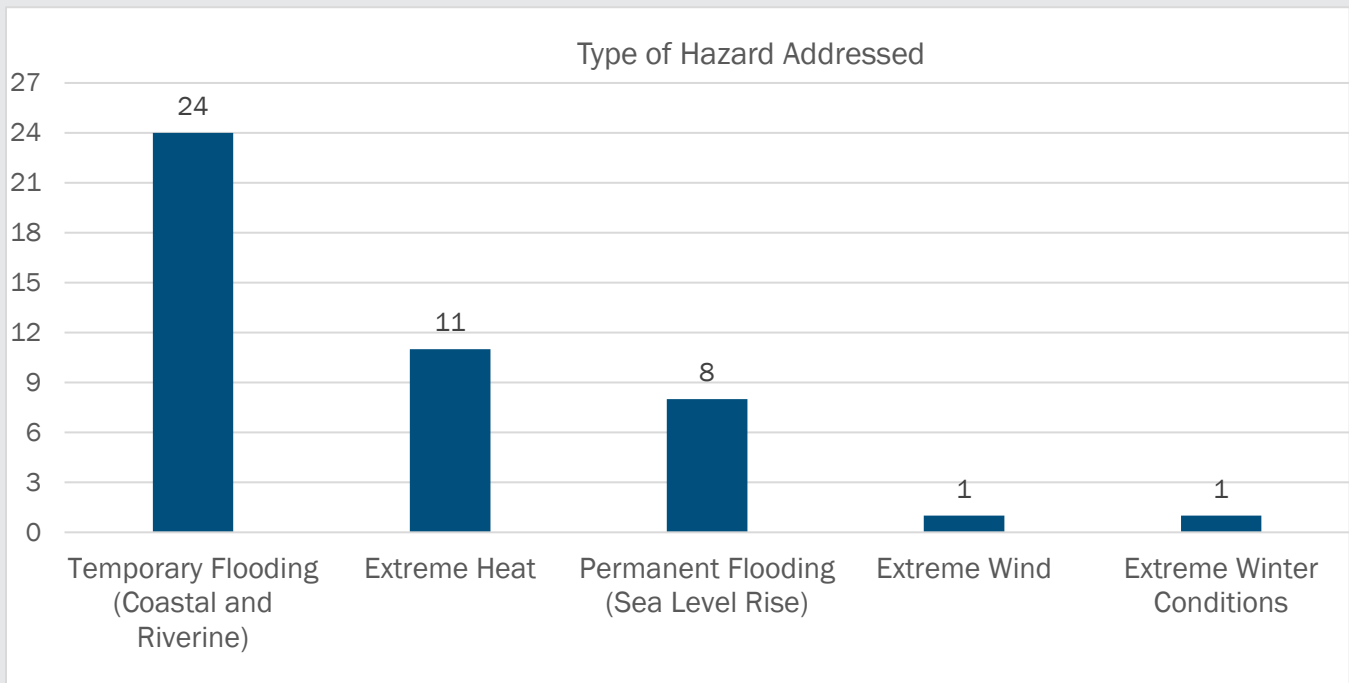




of the resilience planning projects concern flood hazards, five concern heat hazards, and one concerns multiple hazards. The list of 34 projects (see [Appendix D. Priority Resilience Investment Submissions](#)) represents an impressive starting point for action that the region plans to continue to build on over time.

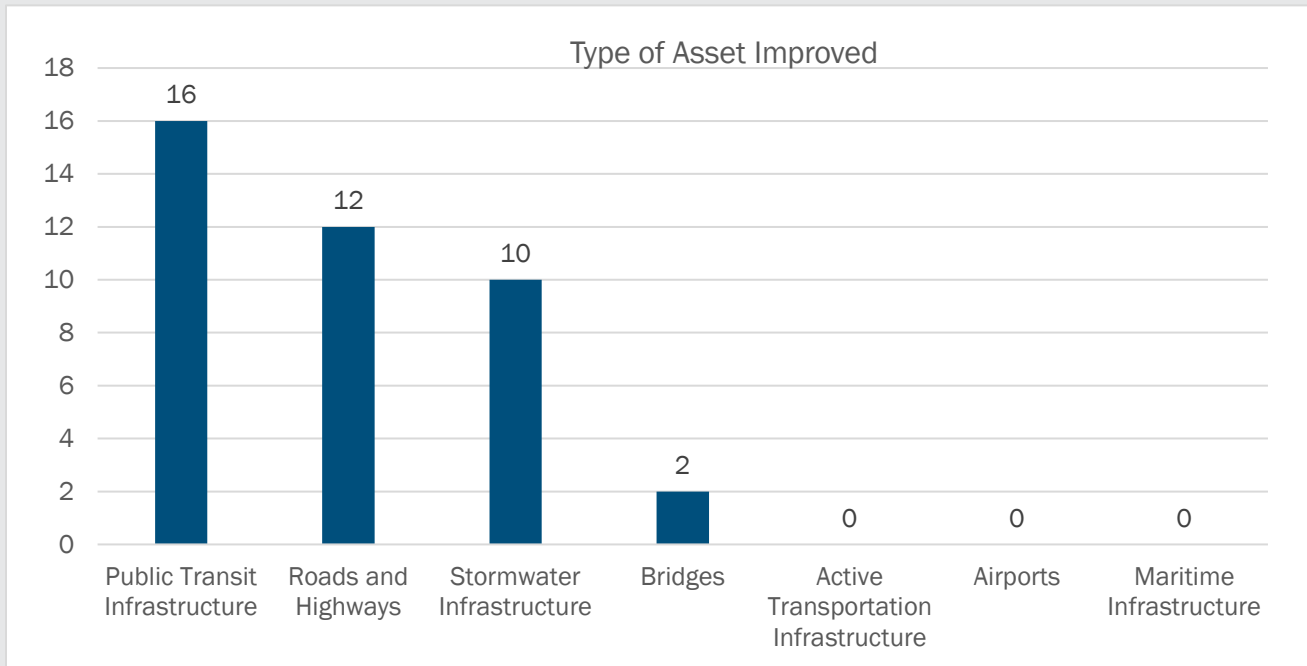
Figure 14 shows the distribution for the type of asset to be improved and Figure 15 shows the project distribution for type of hazards addressed. Some projects address multiple types of hazards and assets. Resilience improvements made to an asset may have multiple benefits for both the infrastructure and services; for example, many roads are Complete Streets which are designed to be used by vehicle and active transportation users and therefore a resilience improvement to a roadway would provide benefits to multiple transportation modes.

**Figure 14: Number of projects that address each type of climate hazard.**





**Figure 15: Number of projects that mention resilience improvements for each type of asset.**





For each submission, localities and agencies were asked to indicate whether the project addresses a high-priority risk identified through the vulnerability assessment mapping tool, local studies and assessments, or historical evidence of natural hazard damage. Projects were not excluded if they did not address a high-priority risk identified through the vulnerability assessment or other data source as the mapping tool may have some limitations for location-specific evaluation. A portion of an asset location may fall within varying levels of hazard exposure and therefore limit the tool’s ability to indicate exposure for the entirety of an asset. Therefore, the RIP includes all projects submitted that were within the metropolitan Washington region boundary and provided a description satisfying the resilience project definition.

The following tables, grouped by asset type, summarize the projects identified by member agencies as highest priority projects to implement in the short term given known and projected asset vulnerabilities. This investment plan is not financially constrained. While some of the projects have identified funding, many of them will be seeking grant funds (e.g., PROTECT) to advance to implementation. This list of priority resilience projects will be updated on an annual basis as agencies are able to further refine and advance their resilience priorities. The project submission form will be sent to all relevant stakeholders each calendar year prior to the following PROTECT grant application due date. In addition, TPB will continually produce updated resilience plans and studies to better understand regional vulnerabilities and to support resilience efforts.



Bridges


**Table 10: Bridge Resilience Investment Projects**

Lead Agency	Project Title	Location	Description	Hazards
Charles County Government (supported by the Resilience Authority of Charles County)	Cobb Island (MD-254) - Bridge Approach	MD-254 (Cobb Island Road) between MD-257 and the Cobb Island Bridge.	While the Cobb Island Bridge was recently replaced in 2020, the bridge approach and surrounding roadways still experience tidal flooding and inundation from sea level rise. There is ongoing planning for this project, and possible options include a range of nature-based and innovative interventions to address flood vulnerability from multiple hazards.	 



Public Transit Infrastructure



**Table 11: Public Transit Resilient Investment Projects**

Lead Agency	Project Title	Location	Description	Hazards
Virginia Passenger Rail Authority	RF&P Track Infrastructure Heat Impacts and Mitigation Study	The Richmond, Fredericksburg and Potomac railroad line from Quantico, Prince William County, VA to Control Point VA in Washington, DC; Intercity (Amtrak) and Commuter (VRE) rail routes on the corridor.	When the region has high temperatures, host railroads (CSX and Norfolk Southern) issue slow orders as a safety precaution to limit/prevent derailments. As temperatures continue to rise and temperatures remain elevated for longer periods of time, railroads will issue more heat orders, slowing rail traffic in the region. The heat impacts study would identify existing conditions, assess adverse conditions based on historical data, recommend specific mitigation strategies, and translate these strategies into capital or operational improvements to limit slow orders during heat events and increase the reliability of the transportation system.	









Lead Agency	Project Title	Location	Description	Hazards
Virginia Railway Express	VRE Stations Heat Vulnerability and Mitigation Strategies Analysis	Station assets located on VRE’s Manassas and Fredericksburg Lines, as well as on the joint line between Alexandria and Union Station.	Increasing temperatures have the potential to cause significant passenger discomfort to VRE riders. This project will identify the appropriate mitigation strategies to address the adverse effects of heat in five VRE station facilities. The project will detail potential effects on passengers and facilities, and will propose, at a planning level, conceptual projects that could mitigate or eliminate the adverse condition(s) through the horizon planning year.	
Virginia Railway Express	VRE Manassas Line Track Heat Vulnerability and Mitigation Strategies Analysis	Track infrastructure on VRE’s Manassas Line between the Broad Run station and “AF Interlocking”.	Temperatures that continue to rise and temperatures that remain elevated for longer periods of time threaten the structural integrity of rail tracks. This project will identify the appropriate mitigation strategies to address the adverse effects of heat on track and ancillary facilities identified as high risk in the TPB vulnerability assessment. This study would detail potential effects of heat events on the track infrastructure and will propose, at a planning level, conceptual projects that could mitigate or eliminate the adverse condition(s) through the horizon planning year.	
Virginia Railway Express	VRE Maintenance and Storage Facilities Heat Vulnerability and Mitigation Strategies Analysis	VRE-controlled property at the Broad Run and Crossroads Maintenance and Storage Facilities.	The TPB vulnerability assessment has identified these locations as highly vulnerable to extreme heat. The study aims to detail how exposure to extreme heat can affect VRE maintenance and storage facilities. The project will propose conceptual mitigation projects and review projected impacts on VRE service and yard personnel.	



Lead Agency	Project Title	Location	Description	Hazards
Virginia Railway Express	VRE Assets Flooding Vulnerability and Mitigation Strategies Analysis	L’Enfant and Quantico stations; Broad Run Maintenance and Storage Facility (excluding the passenger station platform, including the parking facilities).	The TPB vulnerability assessment has identified this area as having high vulnerability to inland flood. The study will analyze the proposed effects to this infrastructure from adverse future inland flooding events, and will propose, at a planning level, conceptual projects that could mitigate or eliminate the adverse condition(s) through the horizon planning year.	
WMATA	Systemwide Flood Resiliency Infrastructure Upgrades Implementation	Cleveland Park, Federal Triangle, Smithsonian, Archives/Navy Memorial, Rhode Island Ave/Brentwood, Capitol South, and Waterfront Stations (DC); Greenbelt Rail Yard (Greenbelt, MD).	All stations included in this project are either within the FEMA 100 year flood zone or are regularly impacted by interior flooding. The proposed upgrades address flood vulnerability in the MetroRail system and include measures such as new grading at station entrances, temporary flood barriers, raising vent shaft openings, and improving drainage capacity around stations. Improvements will lower the risk of adverse impacts to passenger service and system operations.	



Lead Agency	Project Title	Location	Description	Hazards
WMATA	Drainage Pump Stations Rehabilitation Program	L'Enfant, Wheaton, Federal Triangle, Metro Center, and Glenmont Stations (DC); Noyes Road (Silver Springs, MD), Medical Center (Bethesda, MD).	Pumping stations remove water from WMATA's tunnels when aboveground rainfall or flood fills the tunnels. This equipment has exceeded its life cycle and needs replacement. The project would replace and improve the 59 drainage pumping stations located at low points in MetroRail tunnels to facilitate the removal of excess water from MetroRail tunnels and stations. The project would also replace and improve pumping equipment and tunnel piping systems that have exceeded their lifecycle throughout the MetroRail system. This program prioritizes the highest risk locations based on flooding and equipment need.	 
WMATA	Comprehensive Stormwater System Program (Planning)	Systemwide.	WMATA systems experience flooding due to storms and other rainfall events. Current stormwater planning is piecemeal and based on the facility. A comprehensive stormwater system program would allow WMATA to evaluate existing assets and risks and would provide a basis for Metro's future decisions about how to design, construct, and rehabilitate stormwater infrastructure.	 
WMATA	Stormwater System Rehabilitation	Carmen Turner Center; Branch Ave, Glenmont, and Greenbelt, New Carrollton and Shady Grove Rail Yards; Landover, Montgomery, and Southern Ave Bus Division (all in Maryland).	WMATA has identified many of these facilities as highly vulnerable to inland, sea-level, and riverine flooding. Flooding here and to nearby operational facilities can create significant time delays. The project will use green infrastructure to install or retrofit stormwater management systems.	 



Lead Agency	Project Title	Location	Description	Hazards
WMATA	Rehabilitation of Station Vault Pre-Cast Supports	Dupont Circle, Woodley Park, Cleveland Park, Van Ness, Tenleytown, Friendship Heights Stations in DC. Bethesda and Medical Center Stations in MD.	In severe storms and flood events, rainwater can percolate through the ground, leak into MetroRail stations, and, on the Red Line, flow into the vaulted ceilings. The connecting supports for the vaulted ceilings at several stations have begun to deteriorate. The project will conduct a detailed inspection and condition report to determine the extent and location of where repairs will be needed, and rehabilitation of the identified issues.	
WMATA	Tunnel Chilled Water Piping Assessment	Systemwide.	Increasing temperatures have the potential to cause significant passenger discomfort to MetroRail riders. Chilled water is used to cool stations and all designs are outdated due to increasing population, increased density, and more high heat days. The study would conduct a systemwide assessment of chilled water piping in tunnels to identify the need to improve this piping.	
WMATA	MetroBus Shelter Replacement	Systemwide.	As high heat and intense rain events occur, passengers will increasingly require shade and shelter at bus stops. The project would replace aging shelters, provide shade, and decrease unnecessary wait times at outdoor bus shelters by improving communication with customers.	



Lead Agency	Project Title	Location	Description	Hazards
WMATA	Traction Power/Rectifier Replacement	33 traction power substations though DC, VA, and MD.	High heat has the potential to impact traction power substations and result in slow or interrupted MetroRail services. The project would answer this concern and decrease heat buildup in traction substations critical to the MetroRail train system and enhance power stability. Improvements would replace rectifiers in multiple traction substations across the service area to improve electrical efficiency. This not only increases resilience but also stabilizes the rail system and reduces electricity consumption.	
WMATA	Shaft Damper and Attenuator Replacement Program	221 shafts throughout the MetroRail system in DC, MD, and VA.	High heat weather will require better circulation of MetroRail tunnels and stations for comfort and operability. The project would address heat strain on fans, dampers, and attenuators that circulate air through shafts in the Metro system. These improvements would maintain customer comfort and equipment functionality as temperatures rise.	
WMATA	Non-Revenue Facility HVAC Replacement	L'Enfant, Wheaton, Federal Triangle, Metro Center, and Glenmont Stations (DC); Noyes Road (Silver Springs, MD), Medical Center (Bethesda, MD).	Multiple Metro non-revenue facilities were not built for projected future weather conditions and do not account for increased average temperatures or for the increase in heat-producing electric controls. These facilities often heats to an uncomfortable level. The project would replace aging and inefficient heating at these facilities and implement a Building Energy Management Control System that would allow for greater operational and maintenance efficiency. Facilities included in this project are crucial for the operation of the Metro system.	





Public Transit & Stormwater Infrastructure



**Table 12: Public Transit and Stormwater Infrastructure Resilience Investment Projects**

Lead Agency	Project Title	Location	Description	Hazards
Virginia Passenger Rail Authority	Flooding Mitigation Study for Quantico and Pohick Creek Rail Bridges	RF&P Rail Corridor, owned by CSX/Virginia Passenger Rail Authority. Quantico Creek Rail Bridge and Pohick Creek Rail Bridge (38.526743, -77.288966 to 38.712765, -77.217392).	The two rail bridges associated with the project lie within the 100-year floodplain. Should flooding be significant or damage occur to these bridges, passenger and freight rail traffic within the entire region could be halted to make emergency repairs. The flood mitigation study would identify existing conditions, assess expected adverse conditions, recommend specific mitigation strategies, and translate these strategies into capital improvements for future rounds of funding to ensure the rail infrastructure will withstand future flooding or storm inundation.	



Roads and Highways

**Table 13: Road and Highway Resilience Investment Projects**



Lead Agency	Project Title	Location	Description	Hazards
DDOT in partnership with District DOEE	Nannie Helen Burroughs Avenue DC-295 Underpass †	Nannie Helen Burroughs Avenue NE underpass beneath DC-295 in DC.	The Nannie Helen Burroughs Avenue experiences frequent flash flooding due to the impermeable surfaces in the nearby Watts Branch watershed. Flooding happens quickly, leaving disadvantaged neighborhoods with vulnerable populations between DC-295 and the Anacostia River isolated with very little warning. The proposed Engineering Feasibility Study would identify methods to improve the flood resilience of transportation infrastructure while creating additional greenspaces between the Anacostia River and Kenilworth Park and the Nannie Helen Burroughs Avenue Commercial Corridor.	
DDOT in partnership with District DOEE	Watts Branch Flood Resilience Strategy Implementation	Nannie Helen Burroughs Ave, between the I-295 underpass, and Division Ave.	Nannie Helen Burroughs Ave lies within the FEMA 100-year floodplain within the Watts Branch watershed and already experiences regular flooding during storm events. Flooding risk will increase with climate change. Options to address flooding risk will be established in the Watts Branch Flood Resilience Strategy (expected publication date April 2025). This project would implement the results of that study and create blue, green, and gray infrastructure along the corridor to reduce flooding and improve mobility for residents during storms.	

† This project received PROTECT funding in 2024.



Lead Agency	Project Title	Location	Description	Hazards
Prince William County Department of Transportation	Fuller Road Flooding Mitigation	Fuller Road (VA Route 619) from the I-95 exit ramp to Mason Drive.	Fuller Road, which provides the only direct access to the main operating area of Quantico Marine Corps Base, is vulnerable to inland flooding and flooding at the gate. Flooding here has significant implications on operational readiness. The project will mitigate flooding of Fuller Road by increasing the capacity of the storm water facility near the National Museum of the Marine Corps and by restoring the Little Creek watershed.	
Prince William County Department of Transportation (supported by VDOT)	PWC Evacuation Operationalization Plan	Countywide.	Parts of Prince William County and its independent jurisdictions lack a countywide evacuation plan. The County seeks to fill these gaps and develop this plan. The completed plan would quantify the impact of catastrophic emergencies; describe how different hazards may call for different localized, neighborhood-level, town-level, or large-scale evacuations; and provide real-time data visualization tools to assist responding agencies in emergency scenarios. This plan will minimize disruptions and impacts on transportation infrastructure during emergencies.	    
Prince William County Department of Transportation	Implement Shoreline Protection and Nature-Based Solutions	Countywide.	Numerous major transportation corridors located along coastal areas of the County are vulnerable to shoreline erosion caused by rising sea levels. The project will develop guidance for Prince William County to develop nature-based solutions for shoreline protection. The project will mitigate shoreline erosion to improve the resiliency of the transportation network to flooding.	



Lead Agency	Project Title	Location	Description	Hazards
Prince William County Department of Transportation	Restore Streams to Reduce Flooding	High risk roadways in Prince William County as identified by existing vulnerability assessments from the TPB and the County.	County and TPB Vulnerability Assessments have identified several roadways as having a high risk of flooding. This project to develop and implement stream restoration would reduce flooding impacts on roadways within the County. Restoring natural flood resilience would protect the county's transportation infrastructure.	
Prince William County Department of Transportation	Incorporating Green Infrastructure into a Multimodal Transportation Corridor	Richmond Highway / US-1 from West Russel Road (Southbound near the limit with Stafford County) to Annapolis Way (Northbound near Occoquan River Bridge and the limit with Fairfax County).Includes bridge Asset Number 6228 Northbound / 6229 Southbound.	Route 1 (Richmond Highway / US-1) is a busy thoroughfare that crosses Prince William County from southwest to northeast and lies in a flood prone area in proximity to important water bodies and environmental protected areas. The area has historically experienced flooding, road closures, and swift water reports. This project would identify and design green infrastructure to detain stormwater flows, improve transportation resiliency, and improve the natural ecosystem by reducing stormwater runoff that could carry harmful pollutants left on roadways into protected natural areas. The project would provide an evaluation of possible projects, report on the prioritized list of projects, and create a Multimodal Corridor Green Infrastructure preliminary design with the respective Evaluation Memorandum.	



Roads and Highways & Bridges



**Table 14: Road, Highway, and Bridge Resilience Investment Projects**

Lead Agency	Project Title	Location	Description	Hazards
Prince William County Department of Transportation	Residency Road Flooding Mitigation	Residency Road (VA Route 782) from the current dead end of Residency Road across the rail tracks to Broad Run Station parking lot.	Residency Road has a history of flooding but stands to be a primary access point to the soon-to-be expanding Broad Run VRE Station and a subsidiary access point to the Manassas Regional Airport. The airport is also planned for expansion and all three current access points to the airport have moderate inland flooding risk. This project will design and construct a flood-resilient bridge to provide continuous access between Residency Road and the Station and airport.	





Roads and Highways & Stormwater Infrastructure



**Table 15: Road, Highway, and Stormwater Infrastructure Resilience Investment Projects**

Lead Agency	Project Title	Location	Description	Hazards
Charles County Government (supported by the Resilience Authority of Charles County)	MD 6 Port Tobacco Road Resilience Improvements	Seven miles of Liverpool Point Rd from its intersection with Port Tobacco Rd to its intersection with Riverside Rd. This includes Bridge 8015 over Nanjemoy Creek.	Increasingly, severe precipitation events cause flooding at this location. The flood events have created the need for pavement reconstruction/ resurfacing, and reinforcement of roadway shoulders, and drainage improvements to handle both average and significant storm event flows. The project to mitigate these flood issues is in its planning phase and funding will support the implementation of the chosen project. This rural area of Charles County is highly dependent on this roadway and has an average income that is below 65% of the county average.	 



Lead Agency	Project Title	Location	Description	Hazards
Charles County Government (supported by the Resilience Authority of Charles County)	Zekiah Watershed Roadway Improvements	<p>Project 1: less than one mile of roadway improvements along Old Washington Rd upstream of Pembroke Sq.</p> <p>Project 2: less than one mile of roadway near the intersection of Post Office Rd and Industrial Park Dr.</p> <p>Project 3: culvert at the low point in Poplar Hill road.</p>	<p>Several locations within the Zekiah Swamp Watershed experience nuisance and urban flooding and require swale updates and stormwater redirection. The proposed project incorporates green infrastructure solutions such as vegetative infiltration interventions to decrease roadway flooding and to minimize the environmental impact of stormwater runoff. Project locations 1 and 2 are identified as EEAs while Project 3 is adjacent to an EEA and resilience improvements here can improve resilience for neighboring disadvantaged communities.</p>	
District Department of Transportation	Soapstone Culvert Reconstruction	Soapstone stream from 250 ft upstream of where the stream passes under Broad branch Rd to 100 ft downstream of this point.	<p>The single barrel stone masonry semicircular arch culvert is undersized to accommodate the current and modeled future rates of flows. Culvert overtopping can cause road closures during storms and has started compromising the integrity of the head walls and streambed downstream. This project aims to replace the soap stone culvert and stabilize the stream upstream and downstream stream banks to make the structure and the roadway more resilient to flooding and subsequent damage.</p>	





Stormwater Infrastructure

**Table 16: Stormwater Infrastructure Resilience Investment Projects**


Lead Agency	Project Title	Location	Description	Hazards
City of Manassas	City of Manassas Flood Hazard Assessment	Citywide street network.	City of Manassas records show that various parts of the hydraulic conveyance system in the City regularly experience localized flooding. This study will identify areas of local flooding, evaluate potential remediation measures, and provide a list of recommendations to address this flooding. A Final Project Summary Report will include potential flood mitigation projects and their approximate construction cost estimates. This information provides the foundation for the City to carry out flood resilience projects.	
Prince William County Department of Transportation	Manage Stormwater Flooding Outside of the Floodplain	All roadways in Prince William County adopted in the State maintained roadway system that are not in delineated FEMA floodplains.	Prince William County's existing vulnerability assessment has identified lack of knowledge about flooding outside the FEMA floodplains as a limitation to the County's understanding of roadway vulnerability. This study seeks to use modeling and/or historic flood records to enhance the County's understanding of flooding. Based on this data analysis, the study will identify appropriate resilience measures for implementation and make the most use of funding the County has set aside for adaptation projects.	



Lead Agency	Project Title	Location	Description	Hazards
Prince William County Government Department of Transportation (supported by VDOT)	Flooded Roadway Mitigation Study	Valley View Drive (VA Route 611 sequences 50/60), structure no. 8: 000000000014300. Old Church Road (VA Route 649), structure no. 8: 000000000024232. Fleetwood Drive (VA Route 611 sequence 20), structure no. 8: 000000000014301.	These locations are prone to flooding and flash flooding that cause vehicular damage. The study will identify resilient improvements to the impacted streams and surface transportation assets to reduce the magnitude and duration of impacts of current and future weather events and natural disasters. The resilience measures can be deployed to reduce the risk to life and of vehicular damage.	
District Department of Transportation	Cleveland Park Stormwater and Drainage Improvement	Porter-Ordway Sewershed in DC's Northwest quadrant Ward 3.	The area around Cleveland metro station (e.g., Connecticut Ave. NW) has flooded multiple times due to insufficient drainage infrastructure that creates ponding on the street surface. This project would carry out infiltration, detention, and capacity improvements to drainage conveyance structures, flood mitigation detention reservoirs, roads, and sidewalks. These improvements will aim to manage a 15-Year return period storm without impacting the rate and erodibility at the outfall into Rock Creek.	





Lead Agency	Project Title	Location	Description	Hazards
DDOT (supported by the DOEE)	SW & Buzzard Point Blue-Green Infrastructure (BGI) Network	2nd St SW (Anacostia River to P St SW). 1st St SW (Anacostia to T St SW). Canal St (P St SW to N St SW). Delaware Avenue (Canal St to G St SW). M St SW (Maine Avenue to South Capitol Street). I Street SW (5th St SW to Delaware Ave). G St SW (5th St SW to Delaware Ave).	Inland flooding threatens Southwest and Buzzard Point. Right-of-way segments in this project will convey and detain excess stormwater in parks and on right-of-way so that it does not impact the adjacent roadways and local residential areas. This project will complete the Blue-Green Infrastructure Network to safeguard Southwest and Buzzard Point.	



### C. POTENTIAL RESILIENCE STRATEGIES

As noted above, agencies will have the opportunity to submit additional priority resilience projects to the project list on an annual basis. To support agencies in developing strong resilience projects, Table 17 provides an illustrative set of examples of resilience improvement strategies that are eligible under PROTECT. There is a wide range of potential projects that the TPB and its key partners can leverage to increase systemwide transportation resilience in the region. These include planning and policy-based measures that can be implemented in advance of extreme events, such as updating infrastructure design standards to be climate-resilient and designating evacuation routes, in addition to implementing infrastructure upgrades and improvements. TPB and its key partners can also use asset-level measures to build back better following extreme events. These can include upgrading stormwater management infrastructure or elevating roads or bridges to reduce impacts during flooding events.

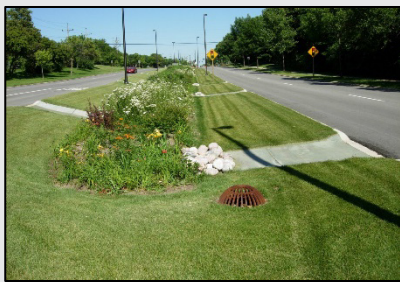
**Table 17: Select Examples of Resilience Improvement Strategies**

<b>Upgrades to or installation of stormwater management infrastructure</b>	
	 <p style="text-align: center;">(NTM Engineering)</p> <p>Upgrading or installing stormwater management infrastructure (e.g., culverts, pipes, drains, etc.) can reduce flooding risk by increasing the capacity of stormwater infrastructure to capture and store surface runoff during flooding events. This can help prevent culverts and drains from overflowing, preventing standing water on roads and reducing inundation of critical infrastructure.</p>
<b>Relocating or elevating roadways out of the floodplain</b>	
	 <p style="text-align: center;">(Risk Factor)</p> <p>Relocating or elevating roadways out of the floodplain can significantly reduce flooding risk by preventing inundation of the roadway. Elevating the roadway can be completed incrementally by adding pavement thickness to raise the road surface. For roadways with high risk of inundation, relocating the roadway out of the floodplain entirely may be a more effective option.</p>

**Implementing nature-based solutions to reduce flooding risk**



(Fairfax County, VA)



(LDP Watersheds)

Incorporating natural infrastructure in resilience projects can help reduce flooding risk in addition to providing environmental co-benefits. There are many nature-based solutions that can be implemented to reduce flooding risk to transportation infrastructure. For infrastructure located along streams and rivers, nature-based solutions can help reduce erosion and undercutting along the bank while also helping reduce water flow and riverine flooding. Examples include:

- Using vegetated riprap
- Placing large woody debris (fallen trees, logs, and branches) in streams

Other nature-based solutions can be implemented in the built environment to help decrease stormwater runoff and consequently reduce the severity and duration of flooding events. Examples include:

- Installing retention/detention ponds and bioswales
- Planting vegetation buffers along roads

**Installing shade structures along sidewalks and at outdoor transit stops**



(Springer)

Installing temporary or permanent shade structures, such as canopies, shade sails, or trees, can reduce extreme heat impacts for people using sidewalks or waiting at outdoor transit stops or platforms.

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**Removing trees that are unhealthy, dead, or dangerous**



(The Environmental Blog)

Trimming or cutting down unhealthy, dead, or dangerous trees can reduce the risk of trees bending or falling during extreme wind events. Preventing downed trees due to wind is especially important near critical roads, bridges, rail lines, and utility poles and wires.



## CHAPTER 6

# Implementing Resilience



Creating a resilient regional transportation system requires significant collaboration and coordination across agencies and jurisdictions. This is especially true for the metropolitan Washington region given that there are many different transportation infrastructure owners in the region, and member agencies have varying responsibilities, from overseeing road construction to operating transit services. This chapter provides an overview of how the TPB and its key partners currently coordinate and identifies opportunities for continued collaboration to ultimately create a more resilient regional transportation system.

## A. ROLE OF THE TPB

Although the TPB does not own or manage any transportation infrastructure, it plays a key role in transportation planning in metropolitan Washington as a convening body for regional cooperation to bring together stakeholders to discuss issues of regional significance. The TPB is also a leading resource for information sharing and develops relevant resources for the region. As described in [Chapter 2. TPB's Regional Approach to Resilience](#), the TPB has a history of helping the region understand and tackle climate risks, and this TRIP continues the TPB's resilience work by providing actionable data that stakeholders can use to inform decision-making. The TPB can continue helping member agencies by conducting further studies and developing resources, providing training and professional development opportunities, and facilitating collaboration.

### Additional Studies and Resources

The TPB can build upon the data and information compiled through the development of the TRIP to continue to refine the region's understanding of risks. Further study and resource development efforts may include:

- Implementing many of the suggestions in [Chapter 7. Future Regional Transportation Resilience Enhancements](#) to provide more detailed analyses, including a deeper understanding of urban flood risks and the economic impacts of inaction.
- Developing guides and publications to help streamline the implementation of resilience projects. Potential focus topics could include funding opportunities for resilience projects, regional resilience best practices, case studies of successful resilience projects, and specific resilience strategies or features that can be incorporated into projects.
- Providing recommendations for incorporating equity and environmental justice considerations into resilience projects.
- Developing additional guidance on climate change risks, the cost of inaction, and co-benefits of resilience projects for stakeholders that may not typically view resilience as their responsibility.



- Gathering input from stakeholders to inform the development of additional resources to help member agencies increase their resilience.
- Developing regionally consistent data metrics to inform future studies and measure progress.

### Trainings and Professional Development

In addition to sharing information and resources, the TPB can host trainings, webinars, and peer exchanges to help member agencies build capacity to implement resilience projects and share best practices and lessons learned. The TPB already has experience doing this. For example, the TPB's 2022 webinar series engaged member agencies and helped them build capacity to understand climate challenges in the region. A key intended outcome of future trainings is to support agencies in understanding what a resilience project is, how to define resilience measures, and how to design existing processes to better incorporate resilience.

Potential future trainings and webinars could highlight co-benefits of resilient infrastructure and help break down silos across agencies, especially for those agencies that do not typically consider their work as being focused on resilience. Trainings and webinars could be especially helpful for providing more information on funding opportunities, including guidance for developing strong grant applications. The TPB can also use these capacity-building opportunities to ensure that resilience and transportation practitioners and planners across the region can easily understand and identify if a proposed project can be considered a resilience project. Additionally, peer exchanges could provide an opportunity for more in-depth conversations on existing practices related to resilience, challenges and successful approaches, and lessons learned for future resilience projects. Some infrastructure owners may also benefit from training on how to conduct a more detailed vulnerability assessment for their assets.

### Collaboration

The TPB plays an essential role in convening stakeholders and facilitating collaboration across the region. The TRIP is one example of how the TPB has successfully convened stakeholders to help increase resilience (see [Chapter 3. Systemic Approach to TRIP Development](#)). As DDOT, MDOT, and VDOT develop and update their own vulnerability assessments and resilience improvement plans that include areas in the metropolitan Washington region, the TPB will continue to regularly engage with these agencies to ensure each TRIP works together towards improved regional resilience (e.g., sharing and improving data across jurisdictional boundaries; coordinating on identifying, funding, and implementing resilience projects). TPB plans to convene a formal Regional Transportation Resilience Subcommittee, through which much of this collaboration will occur.

The TPB can continue to facilitate collaboration across its member agencies by determining where multiple agencies can pool resources and efforts to implement resilience projects, especially when individual agencies do not have sufficient capacity to lead resilience efforts. The TPB can also





convene the formal Regional Transportation Resilience Subcommittee to continue coordination between transportation resilience professionals in the region. Additionally, the TPB can conduct cross-jurisdictional studies to understand where resilience projects could be implemented to prevent cascading failures. The TPB can also develop an online tracker of resilience projects similar to the [Hampton Roads Resilience Projects dashboard to identify regional resilience success](#). This tracker would provide data on the types of projects underway, percent of projects using natural infrastructure, approximate locations of projects, and project status. The TPB may also consider looking beyond the metropolitan Washington region and exploring additional opportunities for collaboration through efforts such as the [Transportation and Climate Initiative](#).

### Short-Term Financial Planning

The TPB can continue to incorporate an emphasis on resilience in short-term financial planning through the TIP. Previously, the TPB has included a question about resilience projects in the TIP Call for Projects to encourage more resilience-focused submissions or support agencies in incorporating a resilience lens in project evaluation. The TIP is a four-year federally obligated document that describes the TPB board-approved transportation projects scheduled to receive federal transportation funding and all regionally significant air quality projects. The TIP includes highway projects; rail, bus, and streetcar projects; and bicycle and pedestrian improvements, as well as roadway and transit maintenance projects, operational programs, and many other transportation-related activities. Integrating resilience thinking into the project planning process may increasingly result in the adoption of resilience strategies.

### Long-Range Planning

The TPB can also further integrate resilience in its long-range planning. This can include strengthening the resilience lens in the TPB's 20-year horizon vision document, the NCRTP (Visualize 2045), in future long-range plans. The next NCRTP (Visualize 2050) for the National Capital Region is currently under development, providing an opportunity to incorporate the resilience priority projects identified in the TRIP with the next NCRTP and ultimately programmed with funding in the TIP. The TRIP identifies a desired project list to address resilience issues in the region, and projects that are priorities with reasonably anticipated funding will be submitted for inclusion in a future NCRTP. Projects submitted for inclusion in Visualize 2045 described how they included equity and climate considerations, and a similar measure is expected in future NCRTPs. Projects included in this TRIP have already identified climate and equity considerations, and agencies can use the mapping tool to identify similar information for new projects.

The TPB aims to expand education around climate resilience in transportation. The vulnerability mapping tool can be used as an educational tool to tell transportation agencies where their assets may soon face challenges from climate change. The vulnerability assessment literature review provides a foundation for understanding climate hazards to the transportation system in the region.





The methodology of the asset-level vulnerability assessment can break down what makes each type of asset resilient or not to specific climate hazards. This TRIP will help to inform future long-range planning and support progress toward becoming a Climate Ready Region, which COG defines as a region that has the “ability to adapt and absorb against disturbances caused by current and future, acute and chronic climate impacts and successfully maintain essential functions.”<sup>47</sup>

As agencies submit projects to future NCRTP updates, the hope is that more resilience projects will be developed and more investments will be proposed to strengthen the region’s vulnerable infrastructure and make the transportation network more reliable and less impacted by severe weather.

**B. ROLE OF KEY PARTNERS**

Although the TPB plays an essential role in transportation planning and convening in the metropolitan Washington region, it relies upon its member agencies to implement most resilience projects and to adopt supporting policies, codes, and standards. The state and District DOTs have jurisdiction over required and prioritized project implementation, such as regular and deferred maintenance and general transportation system improvements, and are therefore key implementers for any transportation resilience investments.

Regional agencies have begun to incorporate resilience priorities in their regular operations; for example, Maryland DOT and Virginia DOT have both updated elements of their design manuals to incorporate future changes in climate. Individual jurisdictions are beginning to explore this as well; for example, Prince William County is currently undergoing a Transportation Land-Use Connections project aimed at providing green infrastructure implementation guidance to help update policy documents like local design and construction standards to help the county promote strategic green infrastructure implementation in planned transportation-related capital improvement projects. In the long term, resilience investments may reduce operational and maintenance costs and reduce the likelihood of significant system or asset

**Resilience Policies**  
Transportation agencies in DC, Maryland, and Virginia each have policies that guide climate adaptation within their jurisdictions. For example, Maryland has created the CoastSmart Council and authorized local Resilience Authorities to oversee and support construction of resilient infrastructure.<sup>48,49</sup> Maryland’s government emphasized resilience through climate adaptation as a core objective in the 2024 State Plan.<sup>50</sup> In Virginia, the Commonwealth Transportation Board considers resilience when adopting the Statewide Transportation Plan and the Virginia Department of Conservation and Recreation plans for flooding impact to critical transportation and emergency services infrastructure.<sup>51,52</sup>



damage from climate hazards. Member agencies such as DOTs can utilize planning processes like the development of asset management plans and capital improvement plans to increase resilience considerations and priorities.

The TPB's partners will continue to play a key role in the implementation of resilience projects across the region, including by providing a voice from practitioners on the ground as to the climate impacts they are experiencing firsthand, the types of solutions they are or are not able to implement, the plans they are working on, and the data they have access to. Key partners can also help push the TPB to think outside the box with new ideas to increase the region's resilience to natural hazards.

### C. MONITORING PROCESS AND IMPACT

The implementation of climate change resilience measures is a relatively new area, and as such, limited resources are available on best practices and lessons learned. To ensure progress toward key goals, the TPB can monitor and measure resilience work across the region. Potential measurable outcomes that the TPB can track include but are not limited to:

- Number of resilience projects that receive resilience grant funding annually
- Number of regional meetings held and meeting attendance
- Number of resilience projects/studies within EEAs
- Number of resilience projects that address high or medium vulnerabilities identified in the Climate Vulnerability Assessment
- Establishment of a baseline definition for a resilience project and improved identification of resilience projects
- Number of trainings and capacity-building opportunities to educate member and regional agencies on identifying and/or developing resilience projects
- Number of new staff positions at regional and member agencies dedicated to transportation resilience
- Percentage of projects included in the TIP that increase resilience
- Percentage of projects that incorporate natural infrastructure as part of the resilience solution
- Qualitative discussions with member agencies on the success or lessons learned from implemented projects
- Percentage of resilience planning studies that then advance to implementation phases



The TPB will continue to evaluate opportunities to integrate resilience metrics into ongoing planning processes, such as the development of future NCRTPs and updates to the TRIP or related studies. The TPB will also continue to engage with regional stakeholders to learn about how they are monitoring and measuring the impact of resilience investments made in the region. Increased engagement and education on how to define a resilience project and why resilience investments are needed is a key component of advancing resilience work and sharing the impact of such projects. As a lead agency supporting capacity building and information sharing, the TPB aims to increase these engagement and education opportunities and their impact and reach.



## CHAPTER 7

# Future Regional Transportation Resilience Enhancements



This TRIP is the first comprehensive regional transportation resilience plan created for the metropolitan Washington region. The TPB is committed to continuous efforts to identify vulnerabilities to inform transportation resilience planning and investments in the region and plans to refine the TRIP annually. Resources developed for this TRIP, such as the mapping tool, will be maintained and updated as improvements are made, including the integration of additional datasets or analyses described below. Future transportation resilience efforts may increasingly address transportation electrification and nature-based solutions (e.g., tree canopy) through land-use planning processes. The TPB will also strive to be inclusive of other considerations, such as climate mitigation opportunities and socioeconomic factors such as access to job centers and resources, in the identification or design of resilience investments.

Future resilience studies and plans, and potential improvements to the TRIP, may be based on best practices learned from other agencies' TRIPs or the TPB's and regional agencies' expertise and areas identified for improvement. Future resilience plans and studies may also change the approach used in articulating climate resilience needs and building adaptation strategies. The TPB has identified several potential enhancements to assessing system vulnerabilities for future additional analysis of the transportation system. The TPB looks forward to continued coordination with member agencies and to including more priority transportation resilience projects in future TRIPs.

## **A. ADDITIONAL FLOODING IMPACT ANALYSIS**

Although the FEMA floodplain maps used in the vulnerability assessment were useful to understand temporary flood likelihood at a specific location, these maps are based on historical data and do not consider future climate change. Moreover, current FEMA maps only represent temporary fluvial (riverine) and coastal flooding. The TPB has identified several potential improvements for the temporary flooding analysis to address the limitations of the floodplain maps. One improvement could be the consideration of other types of temporary flooding such as urban or pluvial flooding (i.e., when heavy rainfall overwhelms drainage systems and natural water pathways), which is a growing concern for certain areas in the metropolitan Washington region. Another improvement could be the integration of forward-looking changes in precipitation due to climate change and the impacts of those changes on riverine floodplains. This would build on the historical FEMA data to help evaluate future impacts. It would also be beneficial to ground-truth the flooding results based on existing knowledge within the region. Regional agencies with historical and other data for their jurisdiction could utilize the 'add data' feature in the online mapping tool to include these in their own review of projects within their jurisdiction.

The current vulnerability assessment considers the effects of temporary flooding and permanent flooding from sea level rise separately, but these two types of flooding can have compounding effects. For example, sea level rise that raises the height of the Anacostia and the Potomac Rivers



may submerge municipal stormwater drainage outflows, preventing effective drainage. In this event, extreme precipitation would more easily overwhelm stormwater systems and bring increased flooding to affected regions. This effect can be particularly pronounced when tropical and extratropical storms pass through the region, causing a storm surge that raises sea levels even higher than the average level combined with simultaneous extreme precipitation. Integrated modeling of the combined impacts of sea level rise and changes in precipitation would be necessary to evaluate the extent of impacts from these events.

Other improvements could include incorporating asset-specific information on elevation to improve the representation of each asset’s potential exposure to flooding. Assets that sit in an area that is exposed to flood risk may not be vulnerable if they are elevated above the expected inundation level. On the other hand, bridge approaches may have higher flood risk as they are lower than the current point-based representation of the bridge. As noted in [Chapter 4. Risk-Based Vulnerability Assessment](#), due to data limitations, the flood exposure methodology was applied to all rail stations and rail lines, regardless of whether those assets are located above or below ground. The TPB could refine the understanding of flood risk by compiling or creating asset elevation data, including centerline data for roads, and incorporating this into the vulnerability assessment.

**B. INCREASED CONSIDERATION OF EQUITY AND POTENTIAL IMPACTS TO CRITICAL SERVICES**

Equity is a central consideration for resilience planning, and there are opportunities to further consider equity impacts in a future vulnerability assessment update. Conducting an analysis that considers not just where an asset is located relative to disadvantaged populations, but who the actual users of the asset are would provide much more accurate insights on the equity implications of potential damage. Future analyses can also consider how assets are critical to the transportation system if they connect people to critical community facilities such as hospitals, police/fire stations, and schools. Individuals may experience greater need for these services and access to these community facilities during climate hazard events. One way to incorporate this need in future assessments could be by weighting criticality scores to give higher scores to transportation routes that provide connectivity to critical community facilities. Another method could be based on the Hampton Roads Transportation Planning Organization’s model of how flooding impacts disadvantaged communities’ access to essential services.<sup>53</sup>

**C. ECONOMIC IMPACTS AND SYSTEM-LEVEL ANALYSIS**

Future TRIPs may change the framework used to identify vulnerability. The current TRIP identifies priorities by looking at each asset type in isolation. A future TRIP could consider the ways that riders use multiple modes of transportation or can use multiple types of transportation to reach their



destinations. This set-up recognizes that areas that only have access to one mode of transportation may be more vulnerable than those that have access to multiple modes. A future TRIP could also take a different approach and conduct deep dive vulnerability analyses for specific sites to provide more information on what constitutes vulnerability and what cost-effective adaptation solutions may be. Future analyses could also create a monetized understanding of the risks posed by climate change. An analysis of this nature would allow for better comparison with other, non-climate risks and could allow agencies to weigh climate adaptation needs against competing priorities. Ideally, this monetary analysis would account for costs to both the agency (e.g., costs to repair damage) and to users (e.g., lost time due to detours).

#### **D. MAPPING REGIONAL CLOSURES DUE TO NATURAL HAZARDS**

Future analyses could incorporate data from the Regional Integrated Transportation Information System (RITIS) which provides real-time transportation data from each of the region's transportation agencies. The TPB could analyze RITIS data for all TPB localities to identify where transportation closures have occurred due to natural hazards over the past 20 years. This could help further ground-truth the results of the vulnerability assessment and confirm that specific routes or locations that are frequently closed due to natural hazards have been captured in the assessment. Analyzing RITIS data could also help the TPB understand whether closures related to natural hazards have been increasing over time. Similarly, as more resilience projects are implemented in the future, the TPB could use this data to measure how effectively resilience projects may reduce closures related to natural hazards.

#### **E. EXTREME HEAT TRANSIT RIDER ANALYSIS**

The TPB or its transit partners could conduct further studies to understand how extreme heat impacts public transit riders. Such studies could focus on populations that rely heavily on public transportation and could consider the intersections of equity and public health, especially for communities located in urban heat islands. The TPB's transit partners could use the findings from these studies to inform the development of resilience improvement projects to reduce extreme heat impacts, such as the installation of additional shade structures or misting stations at public transit stops. The TPB's transit partners may also consider ways to adapt transit schedules to reduce rider vulnerability, especially during heatwaves.<sup>54</sup>



## CHAPTER 8

# Conclusion

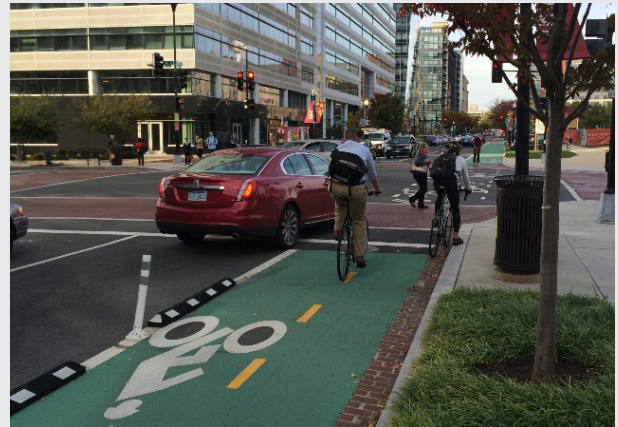




The TPB developed this TRIP in coordination with member agencies to build on the strong foundation of transportation resilience work in the region, advance the region’s climate resilience goals, and support the TPB’s commitment to incorporate an equity lens in its work. The TRIP is another milestone in the region’s resilience efforts and will serve as a resource to further these efforts. The vulnerability assessment has equipped the TPB and its member agencies with a stronger understanding of climate vulnerabilities across the region’s transportation system.

This TRIP positions the key stakeholders managing metropolitan Washington’s transportation system to make climate-informed decisions about future investments and support a climate ready and resilient region. The TPB will continue to focus on facilitating coordination among infrastructure owners and planning agencies and serve as a multi-jurisdictional resource to support regional resilience planning.

**Figure 16: Bike lanes in the NoMa neighborhood in DC (COG).**



**Figure 17: FLASH bus in Montgomery County (MCDOT).**



**Figure 18: Bike paths along the GW Parkway in Arlington, VA (COG).**





APPENDIX A

# PROTECT Requirements Checklist

# Appendix A. PROTECT Requirements Checklist

This appendix lists the required and optional elements of a Resilience Improvement Plan (RIP) per the PROTECT program guidelines and where each element is addressed in this document.

**Table 18: PROTECT Requirements of a State or MPO RIP**

The RIP...	Corresponding TRIP Section
<b>Shall...</b>	
Be for the <b>immediate and long-range planning activities</b> and investments of the State or metropolitan planning organization with respect to resilience of the surface transportation system within the boundaries of the State or metropolitan planning organization, as applicable	Chapter 3. Systemic Approach to TRIP Development
Demonstrate a <b>systemic approach</b> to surface transportation system resilience, and	Chapter 3. Systemic Approach to TRIP Development
Be <b>consistent with and complementary of the State and local mitigation plans</b> required under section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5165).	Chapter 2. TPB’s Regional Approach to Resilience: TRIP Alignment with Existing Plans  Appendix B. Existing Policies and Plans
<b>Include a risk-based assessment of vulnerabilities</b> of transportation assets and systems to current and future weather events and natural disasters, such as severe storms, flooding, drought, levee and dam failures, wildfire, rockslides, mudslides, sea level rise, extreme weather, including extreme temperatures, and earthquakes (23 U.S.C. 176(e)(2)(A-C)).	Chapter 4. Risk-Based Vulnerability Assessment
<b>Shall, as appropriate...</b>	
Include a description of <b>how the agency is prepared to respond</b> to the impacts of weather events, natural disasters and is prepared for changing conditions;	Chapter 3. Systemic Approach to TRIP Development

# Appendix A. PROTECT Requirements Checklist

The RIP...	Corresponding TRIP Section
Describe the <b>codes, standards, and regulatory framework</b> , adopted and enforced by the agencies, to ensure that resilience improvements within the impacted area of proposed projects that are included in the plan;	Chapter 2. TPB’s Regional Approach to Resilience: TRIP Alignment with Existing Plans  Chapter 6. Implementing Resilience  Appendix B. Existing Policies and Plans
Consider the benefits of combining hard surface transportation assets, and <b>natural infrastructure</b> , through coordinated efforts by the Federal Government and the States;	Chapter 5. Priority Project List
Assess the resilience of <b>other community assets</b> , including buildings and housing, emergency management assets, and energy, water, and communication infrastructure;	Chapter 4. Risk-Based Vulnerability Assessment: Critical Interdependencies
Include such <b>other information</b> as the State or metropolitan planning organization considers appropriate.	Chapter 3. Systemic Approach to TRIP Development: Scope and Approach  Chapter 7. Future Regional Transportation Resilience Enhancements
<i>May also...</i>	
<b>Designate evacuation routes</b> and strategies, including multimodal facilities, designated with consideration for individuals without access to personal vehicles;	Not applicable
Plan for <b>response to anticipated emergencies</b> , including plans for the mobility of emergency response personnel and equipment and access to emergency services, including for vulnerable or disadvantaged populations;	Not applicable

# Appendix A. PROTECT Requirements Checklist

The RIP...	Corresponding TRIP Section
<p><b>Describe the resilience improvement policies</b>, including strategies, land use and zoning changes, investments in natural infrastructure, or performance measures that will inform the transportation investment decisions of the State or metropolitan planning organization with the goal of increasing resilience;</p>	<p>Chapter 5. Priority Project List</p> <p>Chapter 6. Implementing Resilience</p>
<p>Include an <b>investment plan</b> that includes a list of priority projects and describes how funds apportioned to the State under section 104(b)(8), or provided by a grant under the PROTECT program would be invested and matched, which shall not be subject to fiscal constraint requirements;</p>	<p>Chapter 5. Priority Project List</p> <p>Appendix C. Priority Resilience Investments</p>
<p><b>Use science and data</b> and indicate the source of data and methodologies.</p>	<p>Chapter 4. Risk-Based Vulnerability Assessment</p>



APPENDIX B

# Existing Policies and Plans



## Appendix B. Existing Policies and Plans

This appendix provides more details on member agency policies and plans related to climate resilience. Details on COG and the TPB’s resilience goals and plans, as well as member agency transportation and hazard mitigation plans (HMPs), are included in [Chapter 2. TPB’s Regional Approach to Resilience](#). Table 19 summarizes the key climate change policies and plans related to transportation resilience for the TPB, DC, Maryland, and Virginia.

**Table 19: Climate Change Policies and Transportation Resilience Plans for the TPB, DC, MD, and VA**

Policies and Plans	Descriptions
<i>TPB</i>	
<a href="#">Visualize 2045 (2022)</a>	Visualize 2045 serves as the TPB’s long-range plan. The FY 2023–2026 TIP development process, part of the Visualize 2045 update, provides the schedule for the next four years for distributing federal, state, and local funds for state and local transportation projects. Transportation agencies were asked to describe how the new and existing projects submitted for inclusion in Visualize 2045 would support equity and climate considerations. The TPB is in the process of developing Visualize 2050, the update to Visualize 2045, by June 2025.
<i>DC</i>	
<a href="#">Sustainable DC Act of 2012</a>	This act created the Property Assessed Clean Energy financing program to increase sustainability efforts across DC. The program incentivizes large building energy efficiency retrofits in addition to providing various measures to advance sustainability goals. These include specific measures to clean the Anacostia River, protect children’s health, and improve energy efficiency in low-income households.
<a href="#">Commission on Climate Change and Resiliency Establishment Act of 2016</a>	In 2016, this act established a commission responsible for assessing climate change impacts and the District’s ability to mitigate and adapt to said impacts. Adaptation includes being able to prepare for, plan for, absorb, and recover from climate impacts, and modify operations moving forward. In 2019, the commission published its first report, which describes the progress the commission had made.
<a href="#">Clean Energy DC Omnibus Amendment Act of 2018</a>	This act, established in 2018, mandated that 100% of the District’s energy supply come from Tier 1 renewable energy sources by 2032.
<a href="#">Climate Commitment Act of 2022</a>	The Climate Commitment Act of 2022 codified the District’s commitment to the Paris Agreement by mandating that the city neutralize GHG emissions by 2045, reach carbon neutrality in government operations by

## Appendix B. Existing Policies and Plans

Policies and Plans	Descriptions
	2040, and end new purchases of fossil fuel-based heating equipment and vehicles by 2025 and 2026.
DC Mitigation Program (includes an All-Hazard Mitigation Plan)	The objective of DC’s Mitigation Program is to create better prepared and more resilient communities by providing a common approach to support protection and prevention activities. The guiding principles include resilience and sustainability, leadership, neighborhood-focused implementation, engaged partnerships and inclusiveness, and risk-consciousness. The program includes an All-Hazard Mitigation Plan, which outlines specific goals and actions to help improve the District’s ability to deter, deflect, absorb, or withstand impacts from a range of hazards.
moveDC (2021)	moveDC is DDOT’s multimodal LRTP. The goals in this plan include strengthening the resilience of the transportation system to climate change, especially in disadvantaged neighborhoods. moveDC is updated every five to six years, so an update to the plan can be expected by 2026 or 2027.
<b>MD</b>	
MDOT Transportation Resilience Improvement Plan (2024)	In 2024, the Maryland Department of Transportation developed a Transportation Resilience Improvement Plan to guide strategic infrastructure investments and proactively identify actions that can be taken to enhance both resilience and mitigation. The plan includes a risk-based vulnerability assessment, recommended priority areas for investments, and a general implementation plan.
Maryland Environment 2-1305	This statute from 2022 requires state agencies to report to the Governor and the Maryland Commission on Climate Change on the status of programs and activities to reduce GHG emissions.
Maryland Commission on Climate Change Act (2015)	This act codified the Maryland Commission on Climate Change into law. The commission is responsible for advising the Governor and General Assembly on methods for mitigating and adapting to the impacts of climate change.
Maryland Climate Solutions Now Act (2022) (SB528)	The Maryland Climate Solutions Now Act called for Maryland to reduce GHGs by 60% (compared to a 2006 baseline) by 2031 and for the Maryland economy to reach net-zero emissions by 2045.
Maryland Climate Pollution Reduction Plan	The statewide Climate Pollution Reduction Plan provides strategies that Maryland will use to achieve the GHG reduction goals set out in the Maryland Climate Solutions Now Act.



## Appendix B. Existing Policies and Plans

Policies and Plans	Descriptions
MDOT Climate Pollution Reduction Plan	The MDOT Climate Pollution Reduction Plan presents transportation sector-specific strategies to achieve the GHG reduction goals established in the Maryland Climate Solutions Now Act.
Maryland Climate Adaptation and Resilience Framework Recommendations	This set of recommendations, set out in 2020, provides a framework for the next 10 years of climate adaptation goals, strategies, and activities across the state. Recommendations include protecting critical infrastructure, building environmental justice and local adaptation capacity, and protecting human health, among others.
MDOT's Climate Change Status Reports	Each year, MDOT submits an annual report to describe progress toward state GHG reduction goals as outlined in the Maryland Greenhouse Gas Reduction Act and progress made toward enhancing resilience of Maryland's transportation system.
Maryland State Agency Annual Climate Change Reports	Eleven state agencies submit an annual report on the status of their GHG reduction efforts. The reports describe programs that are in place, program successes and challenges, funding, and estimated GHG reductions. The MDOT Climate Change Status Report is one of these plans.
Maryland Senate Bill 457: Resilience Authorities	This bill outlines the requirements for local governments to establish and fund a Resilience Authority. The Resilience Authority allows municipalities the flexibility to organize the funding and management of large-scale infrastructure projects intended to address climate change impacts. Powers of the Resilience Authority are specified in this bill.
Maryland Hazard Mitigation Plan (2021)	One of the priority mitigation actions outlined in Maryland's HMP is protecting state assets, infrastructure, and critical facilities from hazard events. The HMP also includes the goals of prioritizing equity and environmental justice, enhancing coordination, strengthening existing linkages, and creating new linkages between state and local mitigation and resiliency efforts. HMPs need to be updated every five years, so an update to Maryland's plan can be expected by 2026.
The Playbook (2024)	The Playbook is Maryland's 2050 LRTP. The guiding principles of the Playbook are intended to guide MDOT's decision-making process, and the principles include resilience and equity. The Playbook includes multiple goals and objectives in the plan that relate to addressing changing climate conditions and increasing resilience. MDOT updates its LRTP every five years, so an update to the plan can be expected by 2029.

## Appendix B. Existing Policies and Plans

Policies and Plans	Descriptions
VA	
VDOT Resilience Plan (2022)	The Virginia Department of Transportation created a resilience plan in 2022 to formalize a framework for building a more resilient transportation system. Through collaboration with stakeholders and the use of up-to-date climate data, the plan identifies at-risk infrastructure, prioritizes needs, identifies resilience measures, assesses feasibility and cost-effectiveness, and incorporates resilience into current funding policies.
Virginia Clean Economy Act (2020)	This act established a renewable energy portfolio standard, which mandates that the two utilities in the state, Dominion Energy Virginia and Appalachian Electric Power, produce 100% renewable energy by 2045 and 2050, respectively. Additionally, the act established energy efficiency standards.
Environmental Justice Act (2020)	In 2020, the Environmental Justice Act permanently established the state Council on Environmental Justice. The purpose of this council is to aid the governor in protecting vulnerable communities from the disproportionate burdens of climate change (such as pollution). The council will provide the governor with recommendations on how best to protect these communities.
Clean Energy and Community Flood Preparedness Act (2020)	This act established the Virginia Community Flood Preparedness Fund to provide support for regions and municipalities across Virginia to reduce the impacts of flooding.
Commonwealth of Virginia Hazard Mitigation Plan (2023)	The HMP sets priorities for mitigation activities that protect people and infrastructure from a range of hazards. One goal of the HMP is to evaluate potential climate impacts to vulnerable populations. Another goal is to identify and prioritize projects that improve community resilience. HMPs need to be updated every five years, so an update to Virginia’s plan can be expected by 2028.
VTrans (2022)	VTrans is Virginia’s statewide transportation plan which considers both mid-term (0-10 years) and long-term (20+ years) planning needs. The overall vision and goals of VTrans include increasing the resilience of Virginia’s transportation system. VTrans is expected to be updated by 2026.

## Appendix B. Existing Policies and Plans

Policies and Plans	Descriptions
TransAction (2022)	TransAction is the long-range multimodal plan for Northern Virginia which addresses regional transportation needs through 2045. One of TransAction’s three goals is improving resilience, including infrastructure resilience to extreme weather events. TransAction also acknowledges the desire within the region to address climate change within planning processes. TransAction is expected to be updated by 2027.
Northern Virginia Hazard Mitigation Plan (2022)	The main objective of the HMP is to reduce long-term vulnerability to natural hazards for all jurisdictions in the region. Northern Virginia’s HMP provides priority mitigation actions across four categories: local plans and regulations, structure and infrastructure, natural systems protection, and public education and awareness. HMPs need to be updated every five years, so an update to Northern Virginia’s plan can be expected by 2027.
Northern Virginia Military Installation Resilience Review (2023)	The Northern Virginia Regional Commission completed a Military Installation Resilience Review to assess the impacts of current and future climate hazards on four counties and three military installations in Northern Virginia. The Resilience Review allowed the region to assess the vulnerability of assets and essential services in the region to climate hazards and ultimately develop a list of potential mitigation measures and adaptation strategies at the regional, installation, and county levels. Given that the installations, counties, and utility providers in Northern Virginia are highly interdependent, this project provided a unique opportunity to enhance regional resilience.
Resilient Critical Infrastructure: A Roadmap for Northern Virginia (2018)	COG and the Northern Virginia Regional Commission established a framework for use in planning documents that prepare Northern Virginia and DC for projected changes in heat, precipitation, and sea level over an 80-year planning horizon. The roadmap identifies the following as strategic objectives to prepare for climate impacts: understanding climate conditions and timelines, assessing critical infrastructure vulnerability, creating resilience goals and metrics, creating regional partnerships centered on resilience, incorporating resilience into existing policies, developing a database of resilience projects, and communicating with stakeholders.

In addition to the key transportation plans and HMPs in the metropolitan Washington region, there are many other local studies that have been completed that provide additional insights on climate change and extreme weather vulnerabilities and needs within the region. Many of these studies were reviewed and included in the TPB’s November 2021 [Resiliency Study Whitepaper](#). Some of the studies take a deeper dive into specific hazards, or use data sets that are more robust on past events or future projections that simply are not available at a region-wide scale. When developing the

# Appendix B. Existing Policies and Plans

TRIP, some of these other existing studies and plans were cited as the foundation for project ideas and referenced in the project submissions for the priority project list [Chapter 5. Priority Project List](#)). Table 20 summarizes the plans referenced in the TRIP project submissions.

**Table 20: TPB and Member Agency Plans Referenced in the TRIP Project Submissions**

Plans
<b>DC</b>
<ul style="list-style-type: none"> <li>• Broad Branch Road Environmental Assessment</li> <li>• Climate Ready DC Plan</li> <li>• DC Comprehensive Plan</li> <li>• Resilient DC</li> <li>• Southwest &amp; Buzzard Point Flood Resilience Strategy</li> <li>• Southwest Neighborhood Plan</li> <li>• Watts Branch Flood Resilience Strategy (expected 2024)</li> </ul>
<b>MD</b>
<ul style="list-style-type: none"> <li>• Charles County's 2020 Nuisance &amp; Urban Flood Plan</li> <li>• Charles County's Transportation Priorities Letter to MDOT For FY 2024</li> </ul>
<b>VA</b>
<ul style="list-style-type: none"> <li>• Manassas 2040 Comprehensive Plan MOB 644; ESH 83; ESH 84</li> <li>• Northern Virginia Hazard Mitigation Plan</li> <li>• Northern Virginia Regional Commission Military Installation Resilience Review Study</li> <li>• Prince William County Community Energy and Sustainability Master Plan</li> <li>• VRE Broad Run Station Expansion Project Planning Study</li> <li>• Prince William County DOT Transportation-Land Use Connections Planning Study</li> </ul>



APPENDIX C

# Priority Resilience Investments Submission Form

# Appendix C. Priority Resilience Investments Submission Form

The National Capital Region Transportation Planning Board (TPB) is soliciting transportation resilience projects to include in the TPB Transportation Resilience Improvement Plan (TRIP). Per the Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Program Guidance from the Federal Highway Administration, priority resilience projects included in the TRIP will receive extra evaluation points and will be eligible for a 7% reduction in the non-federal share of project costs for the PROTECT Discretionary Grant Program. If projects are incorporated into the TPB NCRTP, they will be eligible for an additional 3% reduction and may receive the maximum 10% reduction in non-Federal share of project costs.

Submitted projects will be evaluated for inclusion in the TRIP according to the resilience criteria established in the TRIP Project Request Guidance. Project evaluation will consider whether the project:

- Is for an eligible transportation asset (Roads and Highways, Bridges, Public Transit Infrastructure, Active Transportation Infrastructure, Airports, Maritime Infrastructure, Stormwater Infrastructure).
- Is a qualifying project type for PROTECT (Resilience Planning, Resilience Improvements, Community Resilience and Evacuation Routes, At-Risk Coastal Infrastructure).
- Targets a high-priority risk identified in the TPB Climate Vulnerability Assessment or risk(s) identified through another assessment/data source.
- Reduces climate risks.

Please submit one form per project. Project submissions will be accepted through January 31, 2024. To see the full TRIP Project Request Guidance, see [https://www.mwcog.org/assets/1/6/TRIP\\_Project\\_Request\\_Form1.pdf](https://www.mwcog.org/assets/1/6/TRIP_Project_Request_Form1.pdf).

The TPB will contact you with any additional questions about your submission and updates about the evaluation of the project to include in the TRIP by the end of February 2024. If you have any questions about the TRIP and project request process, please contact the TPB.

*Estimate 9 minutes to complete this form.*

Question	Answer Option
1. Provide your full name.	[Text answer]
2. Provide your email address	[Text answer]
3. Provide lead agency name.	[Text answer]

# Appendix C. Priority Resilience Investments Submission Form

Question	Answer Option
<p><b>4.</b> Provide lead agency entity type.</p>	<p>[Select one]</p> <ul style="list-style-type: none"> <li>• State (including DC)</li> <li>• Metropolitan Planning Organization</li> <li>• Unit of local government</li> <li>• Special purpose district or public authority with a transportation function</li> <li>• Multi-state or multi-jurisdictional group of entities</li> </ul>
<p><b>5.</b> Provide secondary agency name if applicable.</p>	<p>[Text answer]</p>
<p><b>6.</b> Provide secondary agency entity type if applicable.</p>	<p>[Select one]</p> <ul style="list-style-type: none"> <li>• State (including DC)</li> <li>• Metropolitan Planning Organization</li> <li>• Unit of local government</li> <li>• Special purpose district or public authority with a transportation function</li> <li>• Multi-state or multi-jurisdictional group of entities</li> </ul>
<p><b>7.</b> Project Type</p>	<p>[Select one]</p> <ul style="list-style-type: none"> <li>• Roadway system (Functional Class 1-3, 5)</li> <li>• Local street system (Functional Class 4, 7)</li> <li>• Facility or service for public transportation</li> <li>• Facility or service for intercity passenger rail</li> <li>• Active transportation (not eligible for PROTECT funding)</li> <li>• Maritime infrastructure (not eligible for PROTECT funding unless connected to a port facility)</li> <li>• Airports (not eligible for PROTECT funding)</li> <li>• Study or plan</li> <li>• Service or operations</li> </ul>
<p><b>8.</b> Project Title</p>	<p>[Text answer]</p>

# Appendix C. Priority Resilience Investments Submission Form

Question	Answer Option
<p><b>9.</b> Identify the project location and asset(s) and describe the project activities and intended outcomes.</p>	<p>[Text answer]</p>
<p><b>10.</b> Identify the system or route where the project is located, including the beginning project limit or location of a spot improvement and the distance in miles of the complete project. For bridges, provide the federal or state bridge asset identification number.</p>	<p>[Text answer]</p>
<p><b>11.</b> Describe the climate hazard(s) impacting the asset(s) and what resilience measure(s) will be completed through the project.</p>	<p>[Text answer]</p>
<p><b>12.</b> Describe the proposed project timeline and indicate the estimated year for project completion.</p>	<p>[Text answer]</p>
<p><b>13.</b> Provide an order of magnitude estimated cost.</p>	<p>[Select one]</p> <ul style="list-style-type: none"> <li>• Under \$50,000</li> <li>• \$50,000 - \$250,000</li> <li>• \$250,000 - \$500,000</li> <li>• \$500,000 - \$1,000,000</li> <li>• \$1,000,000 - \$5,000,000</li> </ul>
<p><b>14.</b> Describe any current funding commitments for the project.</p>	<p>[Text answer]</p>
<p><b>15.</b> Indicate whether this project has been included in one of the following:</p>	<p>[Select all that apply]</p> <ul style="list-style-type: none"> <li>• Visualize 2045</li> <li>• TIP</li> <li>• None of the above</li> </ul>
<p><b>16.</b> If the project has been included in Visualize 2045 or TIP, state the Project ID.</p>	<p>[Text answer]</p>
<p><b>17.</b> Indicate whether this project has been included in an application to the PROTECT program.</p>	<p>[Select one]</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>



# Appendix C. Priority Resilience Investments Submission Form

Question	Answer Option
<p><b>18.</b> Indicate if the project has been identified through another planning process or is included in an existing agency policy or planning document.</p>	<p>[Select one]</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
<p><b>19.</b> If yes, state which planning process, policy, or document.</p>	<p>[Text answer]</p>
<p><b>20.</b> Indicate whether the project addresses a high-priority risk identified through the TPB Climate Vulnerability Assessment, local studies and assessments, or historic evidence of natural hazard damage.</p>	<p>[Select one]</p> <ul style="list-style-type: none"> <li>• Yes, identified through the Vulnerability Assessment</li> <li>• Yes, identified through other studies, data, or assessments</li> <li>• No</li> </ul>
<p><b>21.</b> <i>If Yes, identified through other studies, data, or assessments:</i></p> <p>If your organization has additional data or record of historical incidents indicating at-risk transportation assets that are not represented on the Interactive Mapping Tool, please describe the data sources and how this data was used to inform the project.</p>	<p>[Text answer]</p>
<p><b>22.</b> Describe how the project will reduce the risks associated with one or more climate hazards and ensures the continuity and/or reliability of the transportation service/system.</p>	<p>[Text answer]</p>
<p><b>23.</b> Describe any additional strengths of the project (e.g., incorporates innovative solutions like nature-based solutions).</p>	<p>[Text answer]</p>
<p><b>24.</b> Indicate whether this project is physically in an EEA or provides direct benefits to an EEA.</p>	<p>[Select one]</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>

# Appendix C. Priority Resilience Investments Submission Form

Question	Answer Option
<p><b>25.</b> Provide any additional relevant information that describes how this project further supports or advances equity as described by the TPB in the July 2020 <i>Resolution to Establish Equity as a Fundamental Value and Integral Part of all Transportation Planning Board's Work Activities.</i></p>	[Text answer]



APPENDIX D

# Priority Resilience Investment Submissions

# Appendix D. Priority Resilience Investment Submissions

Table 21 provides the project form submissions for inclusion in the TRIP. The question numbers correspond to the questions listed in [Appendix C. Priority Resilience Investments Submission Form](#). The TPB has removed the high-level planning cost estimates and personal identifying information. This appendix serves as the priority project list for the TRIP and will be updated each year through an annual call for projects using the same Submission Form.

**Table 21: Priority Resilience Investment Submissions**

Submitting Agency	Question	Answers
<b>Charles County Government (Unit of local government)</b>  <i>Supported by Resilience Authority of Charles County (Nonprofit Government Instrumentality)</i>	<b>Project</b>	<b>MD 6 Port Tobacco Road Resilience Improvements</b>
	8.	Roadway system (Functional Class 1-3, 5)
	9.	This project pertains to the section of MD 6 Port Tobacco Rd that runs between Liverpool Point and Riverside Roads in Nanjemoy. Road improvements are needed to include pavement reconstruction/resurfacing, reinforcement and improvement of the roadway shoulders, and drainage improvements to handle both average and significant storm event flows. This rural area of Charles County is highly dependent on this roadway and is greatly affected by its deteriorating conditions.
	10.	This road improvement project would begin at the intersection of Port Tobacco Rd and Liverpool Point Rd, and continue along the 7-mile stretch of Port Tobacco Rd between Liverpool Point Rd and the intersection with Riverside Rd. This stretch of road includes Bridge 8015 over Nanjemoy Creek.
	11.	This road is currently threatened by both average and significant storm events. Increasingly severe precipitation events cause flooding along portions of this seven-mile stretch. This area will require further evaluation to determine which specific measures will be necessary to improve drainage.
	12.	To be determined
	14.	N/A
	15.	None of the above

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	17.	No
	18.	Yes
	19.	This project was included in Charles County’s 2020 Nuisance & Urban Flood Plan, the purpose of which is to identify sources of nuisance and urban flooding, analyze flood hazards, and recommend actions to reduce flooding and increase community resiliency. It is also included in the County’s transportation priorities letter to MDOT for FY2024.
	20.	Yes, identified through the Vulnerability Assessment
	22.	This project will reduce the risks associated with extreme weather, precipitation, and tidal flooding by reducing and redirecting runoff that currently invades this roadway. By improving infiltration and redirecting runoff along this roadway, Charles County can protect the resilience of its transportation corridors to extreme weather events.
	23.	This project is still in the planning phase and has the potential to include a range of possible nature-based and innovative interventions to address stormwater runoff, each with their own co-benefits. Ensuring that the solution considers climate change will make our transportation system more resilient.
	24.	Yes
	25.	The Census tract in which this project is located is considered to be an EEA and has a median household income of \$75,813 compared to the County median household income of \$116,882. The median income for Black residents in this Census Tract is even lower, at \$59,091. Improving this section of MD 6 would support equity by ensuring that people living in low-income and/or historically disenfranchised communities are meaningfully included in investments. Rural and low-income communities are too often overlooked for improvement projects; focusing on MD 6 would work toward TPB’s goal of providing “reasonable access at a reasonable cost to everyone in the region.”

# Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
<p><b>Charles County Government (Unit of local government)</b></p> <p><i>Supported by Resilience Authority (Nonprofit Government Instrumentality)</i></p>	<b>Project</b>	<b>Zekiah Watershed Roadway Improvements</b>
	8.	Local street system (Functional Class 4, 7)
	9.	Culvert and swale updates and stormwater redirection are needed to alleviate flooding at multiple locations within the Zekiah Swamp Watershed. These locations include: 1) The intersection of Old Washington Rd and Pembroke Square, 2) the intersection of Post Office Rd and Industrial Park Dr, 3) Poplar Hill Rd between St. Peters Church Rd and Mattawoman Beantown Rd.
	10.	<p>For "Project 1: Old Washington Rd and Pembroke Square," less than one mile of roadway improvements along Old Washington Rd upstream of Pembroke Sq will be necessary in order to prevent downstream swale overflow at the Pembroke Sq location.</p> <p>For "Project 2: Post Office Rd and Industrial Park Dr," less than one mile of roadway improvements will be needed to prevent culvert overflow at the intersection of Post Office Rd and Industrial Park Dr.</p> <p>For "Project 3: Poplar Hill Rd between St. Peters Church Rd and Mattawoman Beantown Rd," a ¾ mile stretch of Poplar Hill Road floods as a result of culvert overflow at the low point in the road. Culvert expansion will be necessary at this location, and pipes flowing through this culvert may need to be enlarged.</p>
	11.	Climate hazards impacting these assets include increased incidence of extreme weather events and associated precipitation, runoff, and inland flooding. Resilience measures may include culvert and swale expansion, stormwater reuse for power plant gray water, vegetative drainage aids, or other runoff reduction techniques.
	12.	To be determined
	14.	N/A

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	15.	None of the above
	17.	No
	18.	Yes
	19.	<p>This project is included in Charles County’s Nuisance &amp; Urban Flood Plan, the purpose of which is to identify sources of nuisance and urban flooding, analyze flood hazards, and recommend actions to reduce flooding and increase community resiliency.</p> <p><a href="https://www.charlescountymd.gov/home/showpublisheddocument/6485/637376819241070000">https://www.charlescountymd.gov/home/showpublisheddocument/6485/637376819241070000</a></p>
	20.	Yes, identified through other studies, data, or assessments
	21.	<p>In 2020, the Charles County Department of Emergency Services published its Nuisance &amp; Urban Flood Plan in accordance with the 2018 Charles County Hazard Mitigation Plan and state law. As an initial step in the data gathering process, flood event data was obtained from the National Center for Environmental Information. This data was reviewed to aid in the determination of nuisance and urban flood locations. Additional information gathered by the Department of Emergency Services of known flood areas resulted in a listing of roadways and intersections. This listing was used to develop a flood location map. Staff from Department of Emergency Services and Department of Planning and Growth Management along with consultants working on the planning project conducted a tour of identified nuisance and urban flood areas on January 23, 2020.</p>
	22.	<p>This project will reduce the risks associated with extreme weather and precipitation by reducing and redirecting runoff that currently invades roadways. By improving infiltration, redirecting runoff, and collecting stormwater for use as gray water, Charles County can protect the resilience of its transportation corridors in the face of extreme weather events.</p>

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	23.	This project is still in the planning phase and has the potential to include a range of possible nature-based and innovative interventions to address stormwater runoff. Ensuring that the solution considers climate change will make our transportation system more resilient.
	24.	Yes
	25.	Project 1 at Old Washington Rd is located within an EEA as identified by the TPB. It is also within an area with hazardous median surface temperatures as identified by the TPB. Vegetative infiltration interventions installed in this area could combat both roadway flooding risks and risks associated with urban heat island effects, which disproportionately affect EEA and environmental justice (EJ) communities. Project 2 at Post Office Rd is located within an EEA and federally identified EJ community. This tract is 62% Black and in the 90th percentile for share of households making less than 80% of the area median family income and spending more than 30% of income on housing. Improvements to drainage and reduction of runoff in this area would help improve the resilience of a transportation corridor for residents of this disadvantaged community and reduce cost burdens associated with flooded roadways. Project 3 at Poplar Hill is perpendicular to an EEA and federally identified EJ community and improvements to the drainage of Poplar Hill would improve transportation flow into and out of that adjacent EEA.
<b>Charles County Government (Unit of local government)</b>  <i>Supported by Resilience Authority of Charles County (Nonprofit/Government Instrumentality)</i>	<b>Project</b>	<b>Cobb Island (MD-254) - Bridge Approach</b>
	8.	Local street system (Functional Class 4, 7)
	9.	The project location would encompass MD-254 (Cobb Island Road) between MD-257 and the bridge leading to Cobb Island. The Cobb Island Bridge was recently replaced in 2020. Necessary improvements to address tidal flooding and sea level rise issues will need to be determined.
	10.	The route along MD-254 (Cobb Island Road) begins at MD-257 and ends at the Cobb Island Bridge.



# Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	11.	Tidal flooding, storm surge, sea level rise, and extreme weather/precipitation.
	12.	To be determined.
	14.	None.
	15.	None of the above
	16.	N/A
	17.	No
	18.	Yes
	19.	This project was included in Charles County’s 2020 Nuisance & Urban Flood Plan identified as project #21.
	20.	Yes, identified through the Vulnerability Assessment
	21.	N/A
	22.	While the solution or solutions have not been determined yet, the intent of this project will reduce the risks associated with extreme weather, precipitation, sea level rise, and tidal flooding.
	23.	This project is still in the very initial planning phase and has the potential to include a range of possible nature-based and innovative interventions to address tidal flooding and sea level rise, each with their own co-benefits. Ensuring that the solution considers climate change will make our transportation system more resilient.
	24.	Yes

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	25.	The Census tract in which this project is located is considered to be an EEA. Improving this section of MD-254 would support equity by ensuring that people living in low-income and/or historically disenfranchised communities are meaningfully included in investments. Rural and low-income communities are too often overlooked for improvement projects.
<b>City of Manassas (Unit of local government)</b>	<b>Project</b>	<b>City of Manassas Flood Hazard Assessment</b>
	8.	Study or plan
	9.	<p>The purpose of the study is to assess flood hazards within the City of Manassas. The assessment will include evaluation of a portion of the hydraulic conveyance systems (culverts, pipes, channels, streams and stormwater detention facilities) that are experiencing localized flooding. Areas of flooding will be identified, potential remedial measures will be evaluated, and a list of recommendations will be prepared. A Final Project Summary Report will be prepared which will include potential flood mitigation projects along with approximate (order of magnitude) construction cost estimates to help guide the City in prioritizing future projects.</p> <p>Subtasks within the assessment may include the following:</p> <ol style="list-style-type: none"> <li>Review historical data such as the City's drainage complaint log, CCTV, drainage, GIS data, and site plans.</li> <li>Prepare a topographic base map of the flooding areas using the City's GIS topographic data. Surveying portions of the storm drain network and overland relief areas may be necessary.</li> <li>Computation of peak discharges using NRCS Hydroximic Methods</li> <li>Assessment of pipe conditions in areas of flooding.</li> <li>Assessment of flooding issues and development of potential flood mitigation projects (develop possible remediation measures to alleviate flooding)</li> <li>Preparation of report.</li> </ol>
	10.	Citywide street network

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	11.	Inland flooding impacting the street network and/or evacuation routes.
	12.	Project timeline: Spring 2024 – Spring 2025. The City has started with a small portion of this work as a pilot study within one watershed already - Cockrell Branch Watershed, which started in December 2023. The Cockrell Branch Watershed is 7.5% of the City, so there will be 92.5% remaining to complete. To complete the remaining portion of the City, we expect it to take about one year to complete.
	14.	Stormwater Utility Funds were used for the pilot Cockrell Branch Watershed portion. No other funds are currently committed.
	15.	None of the above
	16.	n/a
	17.	No
	18.	Yes
	19.	Manassas 2040 Comprehensive Plan MOB 6.4.4; ESH 8.3; ESH8.4
	20.	Yes, identified through the Vulnerability Assessment
	21.	n/a
	22.	The study aims to identify streets and bridges that are likely to flood to undersized capacity of the storm sewer system. By identifying the areas, the City will be able to remediate these problems which in turn will reduce flooding on City streets to ensure continuity and reduce infrastructure damage. This project will also help identify evacuation routes in the City by selecting streets that are less likely to flood.

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	23.	One major strength of this project is that it is taking a holistic look at the City to first identify flooding hazards and then to understand the root cause of the hazards. This will in turn help the City prioritize and fund future repair projects to alleviate the identified flooding hazards.
	24.	Yes
	25.	This study will provide a citywide assessment, address issues citywide, as well as identify evacuation routes which will serve all communities for the better. In addition, equity criteria will be discussed during the ranking process.
<b>DDOT (Unit of local government)</b> <i>Supported by DOEE (Unit of local government)</i>	<b>Project</b>	<b>Nannie Helen Burroughs (NHB) Avenue DC-295 Underpass</b>
	8.	Study or plan
	9.	The DDOT requests \$1 million in Fiscal Year (FY) 2022 or 2023 PROTECT discretionary program planning grant dollars to fund an Engineering Feasibility Study to identify concepts that improve the flood resilience of transportation infrastructure in and around the NHB Avenue NE underpass beneath DC-295 in the District of Columbia (the District). The roadway provides a critical access route to historically disadvantaged neighborhoods with vulnerable populations between DC-295 and the Anacostia River that can become isolated with little warning during flood events. In addition to flood mitigation concepts, the study will investigate options to create a green gateway that connects the green spaces of Kenilworth Park and the Anacostia waterfront with the nearby NHB Avenue Commercial Corridor; thereby supporting economic development while addressing flood resilience.
	10.	NHB Avenue NE underpass beneath DC-295 in the District of Columbia

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	11.	The NHB Avenue DC-295 Underpass lies in the FEMA 100-year (1 percent) Floodplain but is also vulnerable to more frequent flooding. Due to the urbanized nature of the nearby Watts Branch watershed as well as its geography, flash flooding often occurs, providing residents with very little warning time. When the area in and around the NHB Avenue NE underpass beneath DC-295 floods in this manner, the neighborhoods of Eastland Gardens, Paradise-Parkside, and Mayfair that lie between DC-295 and the Anacostia River are cut off, with residents unable to evacuate easily and emergency first responders unable to enter. The situation will only become worse as climate change increases the frequency and intensity of flood events.
	12.	If awarded, this grant investment will fund an Engineering Feasibility Study and engagement effort that will take approximately 18 months.
	14.	DC has received \$581,250 of FEMA Flood Mitigation Assistance funding for the Watts Branch Flood Resilience Strategy, which will be focused on reducing flood risk along Watts Branch and surrounding corridor area including NHB Ave. COG has also received \$1.43 million of funding from FEMA's Regional Catastrophic Preparedness Grant, where over \$1M is allocated toward blue-green infrastructure (BGI) planning in areas including Watts Branch, which will likely include NHB Ave. Finally, DDOT submitted a \$1 million PROTECT grant proposal for an engineering feasibility study specifically focused on flood resilience strategies at the intersection of the NHB Ave underpass at I-295. The District is still waiting to hear back on the status of this proposal.
	15.	None of the above
	17.	Yes
	18.	No
	19.	would need to check with DDOT

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	20.	Yes, identified through the Vulnerability Assessment
	22.	The anticipated engineering concepts will make the roadway underpass and surrounding Project area more resilient to flooding while creating additional green spaces between the Anacostia River and Kenilworth Park and the NHB Avenue Commercial Corridor.
	23.	This project is meant to connect with nature-based solutions being developed in the project vicinity
	24.	Yes
<b>DDOT (State (including DC))</b>	<b>Project</b>	<b>Nannie Helen Burrows underpass Flood Mitigation</b>
	8.	Local street system (Functional Class 4, 7)
	9.	Nannie Helen Burrows Ave is one of the major arterials connecting the neighborhoods East and West sides of the DC-295 Highway that created a communication barrier between these neighborhoods. Besides serving as one of the major connecting roads, it is also access to and from DC 295 to the same community. The underpass carries CSX railroad tracks over Nannie Helen Burrows Ave. NE West of intersection with Minnesota Ave NE. As this is a low point in the area, the underpass is frequently subjected to flooding from larger storms to a degree of street closures and use of boats for rescue operations. The project is intended to conduct a study of the cause of flooding, design a mitigation measure, and implement.
	10.	The Nannie Helen Burrows Ave. underpass carries CSX railroad tracks over Nannie Helen Burrows Ave. NE West of intersection with Minnesota Ave NE.

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	11.	<p>Location of Nannie Helen Burrows Ave. underpass is close by Watts Branch which frequently floods upstream communities from the underpass. Due to continued urbanization of Watts Branch catchment area and relative reach of the stream in the vicinity of the underpass (close to its confluence with the Anacostia River and flatter slopes), the stream is susceptible to be flowing bank full in less than peak flow conditions. The drainage system from local roadways including parts of Nannie Helen Burrows and Minnesota Avenues empties into this downstream reach of the stream. When localized storms coincide with high flows in the stream (which has now become a more frequent event than not), the drainage will have nowhere to go but floods low-lying areas such as the underpass until the stream level drops to create a positive flow condition at the drainage outfall.</p> <p>Different resilience measures can be thought of once the studies get traction and data are analyzed. However, solutions such as attenuating the peak flows of the localized drainage through implementation of Green Infrastructures and underground reservoirs (City has limited space for open/surface detention) may be considered as an integrated approach to make the underpass flooding conditions more resilient.</p>
	12.	<p>Depending on the availability of funds, the project feasibility study and design is estimated to be completed in an 18-month time frame to be followed by construction period of 12-18 months without taking into consideration time for procurement of services</p>
	14.	<p>Project has no current funding commitment.</p>
	15.	<p>None of the above</p>
	17.	<p>Yes</p>
	18.	<p>No</p>
	20.	<p>Yes, identified through other studies, data, or assessments</p>

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	21.	This project is identified based on reported incidences and monitoring records during and after storm events. The district flood task force has also identified this flooding concern and has listed it as one of the priority flood resiliency projects to address.
	22.	The project will be designed to eliminate flooding hazard resulting from the 50-year return period storms (current DDOT Design Standard for sag-underpass) and will substantially reduce extent of flooding in less probable events.
	23.	In addition to managing flooding conditions through detention systems, the project will implement stormwater management measures to help reduce peak flows, provide water quality improvement, and beautify the landscape. Moreover, the project will have considerable meaning in terms of maintaining continuous connection of underserved communities between neighborhoods and access to and from natural and historical resources of the Anacostia River.
	24.	Yes
	25.	Project will have considerable meaning in terms of maintaining continuous connectivity of underserved communities connecting neighborhoods and enable access to and from natural and historical resources of the Anacostia River. Nannie Helen Burrows Ave. is one of the very few roadways that connect neighborhoods separated by DC-295 (Kenilworth Ave).



## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
DDOT (State (including DC))	<b>Project</b>	<b>Cleveland Park Stormwater and Drainage Improvement.</b>
	8.	Roadway system (Functional Class 1-3, 5)
	9.	The Cleveland Park Stormwater and drainage improvement project is located in Ward 3 of the District of Columbia Northwest quadrant (in the vicinity of Cleveland Park Metro Station). The project includes drainage conveyance structures, flood mitigation detention reservoirs, roads, and sidewalks. Flood resilience measure include infiltration, detention, and capacity improvements of existing drainage structures to manage a 15-Year return period storm (City drainage system capacity) without affecting the rate and erodibility at the outfall into Rock Creek
	10.	The Project is located in the Northwest quadrant Ward 3 of the District of Columbia. It is defined by the Porter – Ordway Sewershed. It comprises the area bound by Wisconsin Avenue NW to the west; Woodley Road NW to the south; Rock Creek Park to the east; and Tilden Street NW and Quebec Street NW to the north.
	11.	The Cleveland Park metro station community has experienced recurring flooding events in recent years, many of which have inundated the escalators of the Metro Station and formed ankle-deep ponding at street crossings and sidewalks. These conditions pose a safety hazard to pedestrians, cyclists, and motorists who frequent and/or pass through the area. Once completed, the project will mitigate the flooding issues through combinations of existing drainage structures improvements, installation of large underground detention pipes, and green infrastructure practices. The extended detention systems will capture significant stormwater volumes and slowly release the detained volumes at minimal flow rates.
	12.	<ul style="list-style-type: none"> <li>• Currently the project is under design.</li> <li>• Expected design completion date July 2024</li> <li>• Expected construction start date February 2025</li> <li>• Expected construction completion date January 2027</li> </ul>

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	14.	The District of Columbia has allocated 20 million dollars toward construction
	15.	TIP
	16.	T6193
	17.	No
	18.	No
	20.	Yes, identified through other studies, data, or assessments
	21.	There have been multiple incidents where the Cleveland metro station was flooded, the recent occurrence in June 2016. The hydrologic and hydraulic (H&H) analysis during the study phase of the project shows that the 15-Year peak discharge for the Porter-Ordway sewershed is 950 cfs. However, the existing drainage structure only has the capacity of 350 cfs. The excess flow that was not carried by the existing drainage structures creates ponding on the streets and ultimately flooding the metro entrance. The existing drainage conveyance structures are undersized and require an overhaul.
	22.	There are several records of flooding on Connecticut Ave including June 2016 Metro station flooding. H&H modeling done for the area in two consecutive projects (Cleveland Phase I and II) also demonstrate occurrence of substantial flooding at this location.

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	23.	<p>Once completed the project will safely manage and convey the current 15-Year storm volume and create resilience toward the flooding issues through combinations of existing drainage structures improvements, installation of large underground detention pipes, and green infrastructure practices, etc. The improved system will capture significant stormwater volumes and slowly release the detained volumes at minimal flow rates, at a timing that occurs after the overall peak of the main flow. Mitigating the flooding at the Cleveland metro station and adjacent streets directly translates to the improved safety of pedestrians and motorists and increase on the life span of the roadway and rail system. The existing drainage conveyance capacity for the Porter-Ordway is only 350 cfs. However, the H&amp;H analysis study finding shows the peak discharge for the 15-year storm is 950 cfs. The project proposes to address the flooding issue without increasing the peak flow and velocity at Rock Creek outfall thus eliminating any disruption to the existing peak flow on the stream. To achieve the flood mitigation without increasing the peak flow at Rock Creek outfall, the project utilizes green infrastructure and underground detention system to capture significant stormwater volumes and slowly release the detained volumes at minimal flow rates, at a timing that occurs after the overall peak of the main flow.</p>
	24.	No
<b>DDOT (Unit of local government)</b>	<b>Project</b>	<b>Soapstone Culvert Reconstruction</b>
	8.	Roadway system (Functional Class 1-3, 5)
	9.	<p>Soapstone Creek is the last tributary of Broad Branch northwest of the District of Columbia before Broad Branch joins Rock Creek. Soapstone Creek, before joining Broad Branch, passes under Broad Branch Rd. in a single barrel stone masonry semicircular arch culvert. Intent of this project is to stabilize the stream upstream and downstream stream banks and replace the Soapstone culvert in consistence with the Environmental Assessment prepared for the Broad Branch Rd. improvement.</p>

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	10.	Soapstone Creek is the last tributary of Broad Branch northwest of the District of Columbia before Broad Branch joins Rock Creek. Soapstone Creek, before joining Broad Branch, passes under Broad Branch Rd. in a single barrel stone masonry semicircular arch culvert. Project limits extend about 250 ft upstream of culvert and to about 100 ft downstream including the culvert.
	11.	Overtopping of the culvert structure has become more frequent with increased storm intensity as affected by the climate change the world is experiencing. Since the culvert structure was built a very long time ago, it is very much undersized to accommodate the current rate of flows, causing road closures during storms, and has started compromising the integrity of the head walls and streambed downstream. A new culvert with appropriate hydraulic sizing will have to replace the current one to make the structure and the roadway more resilient to flooding and subsequent damage.
	12.	Depending on the availability of budget, the project design work can be completed in a 12-month timeframe to be followed by construction period of 6-10 months without taking into consideration time for procurement of services.
	14.	There are no current funding commitments made.
	15.	None of the above
	17.	No
	18.	No
	20.	Yes, identified through other studies, data, or assessments
	21.	The culvert is included in DDOT's culvert inventory and has inventory reports as recent as 2020. It is also included in the Broad Branch Road Environmental Assessment that has looked at all environmental impacts and necessary coordination.

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	22.	Overtopping of the culvert structure has become more frequent with increased storm intensity as affected by the climate change the world is experiencing. Since the culvert structure was built a very long time ago, it is very much undersized to accommodate the current rate of flows, causing road closures during storms, and has started compromising the integrity of the head walls and streambed downstream. A new culvert with appropriate hydraulic sizing will have to replace the current one to make the structure and the roadway more resilient to flooding and subsequent damage.
	23.	The project will take into consideration localized stream restoration measures including accommodating possible fish passage for continuity along the stream.
	24.	No
<b>DDOT (Unit of local government)</b> <i>Supported by DOEE (Unit of local government)</i>	<b>Project</b>	<b>SW &amp; Buzzard Point Blue-Green Infrastructure (BGI) Network</b>
	8.	Local street system (Functional Class 4, 7)
	9.	The right of way segments listed below complete the BGI Network planned in the Southwest & Buzzard Point Flood Resilience Strategy that is planned to protect Southwest and Buzzard Point from interior flooding. Each right-of-way (ROW) segment is planned to convey away flood waters to detention parks. The detention parks projects are currently funded through a mix of local and FEMA BRIC (Building Resilient Infrastructure and Communities) funding. The District is seeking now funding for the BGI retrofits to the area's ROWs with BGI to complete the first community-wide interior flood resilience system.

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	10.	<ul style="list-style-type: none"> <li>- 2nd St SW from the Anacostia River to P St SW</li> <li>- 1st St SW from the Anacostia to T St SW</li> <li>- Canal St. from P St SW to N St SW</li> <li>- Delaware Avenue from Canal to G St SW</li> <li>- M St SW from Maine Avenue to South Capitol Street</li> <li>- I Street SW from 5th St SW to Delaware</li> <li>- G Street SW from 5th St SW to Delaware</li> </ul>
	11.	The main climate hazard that this project will mitigate is flooding from extreme rain events. The ROW projects listed will finalize the local BGI Network which will create a network of communicating green infrastructure projects that can convey and detain excess stormwater in parks and on right-of-way so that it does not impact local residential areas, especially the 1,000 public housing units around the project, the Southwest Police Station, and the Southwest Fire and EMS station.
	12.	From funding to implementation the project will take about 5 to 6 years including project design and engineering and construction
	14.	Currently the District invested \$500k in the plan + \$4 million dollars in match funding for the \$18 million FEMA BRIC funding for the BGI upgrade for the detention/floodable parks projects
	15.	None of the above
	17.	No
	18.	Yes

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	19.	SW was identified as a priority planning area for flood resilience work in: <ul style="list-style-type: none"> <li>- Southwest Neighborhood Plan (DC Office of Planning or OP)</li> <li>- Climate Ready DC Plan (DOEE)</li> <li>- Resilient DC (DOEE)</li> <li>- DC Comprehensive Plan (DC OP)</li> <li>- Southwest &amp; Buzzard Point Flood Resilience Strategy (DOEE)</li> </ul>
	20.	Yes, identified through other studies, data, or assessments
	22.	When completed the project will handle the 80-year rain storm in 2100 keeping residents and carways free of rainwater flooding and ponding. The network will also alleviate minor storm surge events and help cool the community in the summer months.
	23.	The BGI Network will be the first such comprehensive, community-wide project in DC and probably one of the first in the country. The project redesigns ROW and parks utilizing nature-based solutions for conveying and detaining excess rainwater while creating new trails and new park amenities and cooling the community
	24.	Yes
	<b>Project</b>	<b>Watts Branch Flood Resilience Strategy Implementation</b>

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
<b>DDOT (Unit of local government)</b> <i>Supported by DOEE (Unit of local government)</i>	8.	Roadway system (Functional Class 1-3, 5)
	9.	NHB Ave is a minor arterial corridor that runs through DC's Ward 7, alongside Watts Branch, a tributary of the Anacostia River. NHB Ave is also largely located in the FEMA 100-year floodplain, and frequently floods during storm events, impacting mobility for local residents. DOEE is currently working on a Watts Branch Flood Resilience Strategy (FRS), that will identify and create preliminary designs for flood mitigation and resilience along the Watts Branch watershed. DOEE anticipates that NHB Ave will serve as a key site for reducing flood risk in this project. Upon completion of the Watts Branch FRS, DOEE plans to partner with DDOT to submit a PROTECT grant application for nature-based and gray infrastructure solutions along NHB Ave to reduce flooding along this corridor.
	10.	The project will be located on NHB Ave, between the I-295 underpass, and Division Ave. The total specifics will be determined in the Watts Branch FRS, due to be completed by April 2025.
	11.	NHB Ave is currently susceptible to riverine and interior/urban flood risk, which is only expected to increase with climate change. The PROTECT grant will seek to implement blue, green, and gray infrastructure along the corridor, to reduce flooding and improve mobility for residents during storms.
	12.	This project is proposed to start in Spring 2026, and estimated for completion by Spring 2028.
	14.	DC has received \$581,250 of FEMA Flood Mitigation Assistance funding for the Watts Branch FRS, which will be focused on reducing flood risk along Watts Branch and surrounding corridor area including NHB Ave. MWCOCG has also received \$1.43 million of funding from FEMA's Regional Catastrophic Preparedness Grant, where over \$1M is allocated toward BGI planning in areas including Watts Branch, which will likely include NHB Ave. Finally, DDOT submitted a \$1 million PROTECT grant proposal for an engineering feasibility study specifically focused on flood resilience strategies at the intersection of the NHB Ave underpass at I-295. The District is still waiting to hear back on the status of this proposal.
	15.	None of the above



## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	17.	No
	18.	Yes
	19.	This project is expected to be included in the Watts Branch FRS, which DOEE will be carrying out in 2024.
	20.	Yes, identified through the Vulnerability Assessment
	22.	This project will construct blue-green and gray infrastructure solutions such as bioswales, raingardens, underground storage cells, and new stormwater pipes to move water underground where surface measures are not appropriate. Under existing conditions, extreme rain events create flooded roadways, which can damage property and disrupt the transportation system. By creating a controlled system of conveying water, this project's solutions will mitigate flood risk.
	23.	This project will incorporate nature-based solutions to provide flood mitigation and resilience, while also providing co-benefits to the surrounding community.
	24.	Yes
	25.	The area around Watts Branch is a high priority area for equity concerns, and has been identified not only in COG's EEA, but also in the District's Resilience Focus Area Strategy. There is a disproportionate amount of low-income and single-family homeowners living in the floodplain surrounding Watts Branch, and as a result, the District has prioritized this area for implementing flood resilience strategies.

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
<b>Prince William County Department of Transportation (Unit of local government)</b>	<b>Project</b>	<b>Residency Road Flooding Mitigation</b>
	8.	Roadway system (Functional Class 1-3, 5)
	9.	The project will design and construct a bridge over the railroad tracks connecting Residency Road to the Broad Run VRE Station. Residency Road has a history of flooding and with the planned and funded expansion of the Broad Run VRE Station, improving the resiliency of roadway access is critical. In addition to the VRE station, creating a grade separated connection over the tracks via Residency Road provides additional access to the Manassas Regional Airport. The airport is also planned for expansion and all three current access points to the airport have moderate inland flooding risk. The Broad Run Station Expansion is being designed to accommodate a future bridge connection.
	10.	The project is located on Residency Road (VA Route 782). The project extends from the current dead end of Residency Road across the train tracks to the Broad Run Station parking lot. The total distance is approximately 0.1 miles.
	11.	Residency Road the railroad tracks in the project area were assigned a medium risk of inland flooding in the TPB Vulnerability Assessment. The area has a documented history of flooding and future expansions at the Broad Run Station and Manassas Regional Airport necessitate a long-term solution to improving resiliency of the roadway and ensuring continued access. The project will grade separate the roadway over the railroad tracks to mitigate roadway flooding. Additionally, storm water improvements will be made to mitigate flooding on the rail route.
	12.	This project is not funded at this time and timeline will be dependent on funding schedule. The Broad Run Station Expansion project is anticipated to be complete in 2027 and the target date for completion of the bridge is 2030.
	14.	There is no committed funding for this project. This project is being submitted for grant consideration.

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	15.	None of the above
	17.	No
	18.	Yes
	19.	VRE Broad Run Station Expansion project planning study.
	20.	Yes, identified through other studies, data, or assessments
	21.	Project is identified as a medium priority in the Vulnerability Assessment and a high priority through the VRE Broad Run Station Expansion project planning process.
	22.	Project will mitigate roadway and rail route flooding to ensure reliability of Residency Road, the Broad Run Rail Station, and the Regional Airport.
	23.	Project is a collaborative effort between Prince William County and VRE that supports expansion of transit at Broad Run Station and Regional Airport.
	24.	No
	25.	Project supports expansion of public transit.
<b>Prince William County Department of Transportation (MPO)</b> <i>Supported by VDOT (State (including DC))</i>	<b>Project</b>	<b>Prince William County (PWC) Evacuation Operationalization Plan</b>
	8.	Study or plan
	9.	The PWC Evacuation Operationalization Plan is a countywide evacuation plan. This plan would quantify several catastrophic emergencies and its impact to Prince William County and its independent jurisdictions that are currently not addressed in several National Capital Region evacuation plans and the Quantico Marine Corps Base.

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	10.	The Plan is a countywide evacuation plan to include independent jurisdictions located within the county.
	11.	The Plan would look at evacuation-causing hazards that may call for localized, neighborhood-level, town-level, or large-scale evacuations (e.g., hurricanes, flash flooding, flooding, and other natural disaster events). This planning document will improve regional transportation resilience, enhance disaster response and recovery, support local communities, and promote environmental sustainability.
	12.	It is estimated to take approximately 16-20 months to develop the PWC Evacuation Operationalization Plan. This timeframe includes agreement execution, procurement process, and planning activities.
	14.	Prince William County has submitted this planning document as part of the FY22-23 PROTECT program requesting \$600,000 to develop the plan; however, no other funding commitments for this planning document has been made.
	15.	None of the above
	17.	Yes
	18.	Yes
	19.	When this planning document is completed, it would be referenced in several other regional/state/federal planning documents as it relates to evacuation plans by organizations such as VDOT, Virginia Department of Emergency Management, Virginia State Police, FEMA, Quantico Marine Corps Base, District of Columbia, and more.
	20.	Yes, identified through the Vulnerability Assessment

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	21.	<p>The 2022 Northern Virginia (NOVA) Hazard Mitigation Plan is a document that brings together hazard risk and disaster resilience efforts and other related activities that will help inform the PWC Evacuation Operationalization Plan. The 2022 NOVA Hazard Mitigation Plan also references COG's Cooperative Forecasts.</p> <p><a href="https://www.pwcva.gov/assets/2023-2/NOVA%20Hazard%20Mitigation%20Base%20Plan%20FINAL-%20Natural%20Hazards%20Only%20w%20Annexes.pdf">https://www.pwcva.gov/assets/2023-2/NOVA%20Hazard%20Mitigation%20Base%20Plan%20FINAL-%20Natural%20Hazards%20Only%20w%20Annexes.pdf</a></p>
	22.	<p>By developing this plan, the document will minimize disruptions and impacts on transportation infrastructure during emergencies. The document will also enhance disaster response and recovery efforts by providing real-time data visualization tools to responding agencies to understand and respond promptly to the impacts of various events causing evacuations or major detours into the region.</p>
	23.	<p>This planning document will incorporate innovative solutions to utilize real-time data visualization tools, geospatial solutions, and data-driven operational evacuation plans to enhance the efficiency and effectiveness of evacuations.</p>
	24.	<p>Yes</p>
	25.	<p>This planning document supports the safety and well-being of all individuals within and around Prince William County. This planning document will address vulnerable populations and provide a more inclusive and effective response during crises.</p>

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
<b>Prince William County Department of Transportation (Unit of local government)</b>	<b>Project</b>	<b>Incorporating Green Infrastructure into a Multimodal Transportation Corridor</b>
	8.	Roadway system (Functional Class 1-3, 5)
	9.	<p>In this application we propose the use of green infrastructure on Route 1 (Richmond Highway/US-1), a busy thoroughfare in a vulnerable area identified in the Prince William County Vulnerability Assessment and EEAs, and the Community Energy and Sustainability Master Plan. We will perform an evaluation of alternatives according to multiple metrics and their relative importance for factors such as general feasibility on typical capital improvement plan (CIP) transportation project, space lost for other right of way amenities, appropriateness for site context, life cycle cost, alignment with Prince William County plans, initiatives, and community acceptance. Subsequently, we will develop a project for preliminary engineering and design on the implementation of green infrastructure along Route 1 corridor.</p> <p>In 2013 and 2014, the Virginia Department of Rail and Public Transportation (DRPT) conducted a Multimodal Alternatives Analysis on Route 1, following an earlier 2011 study, directed by the Virginia General Assembly, which instructed DRPT to review and evaluate all previous studies and determine feasibility of transit improvements on Route 1 corridor.</p> <p>The DRPT Multimodal Alternatives Analysis study was conducted in coordination with Fairfax County, Prince William County, the VDOT, and the Office of Intermodal Planning and Investment, recommending a multimodal transportation corridor featuring a Bus Rapid Transit system.</p> <p>Route 1 is classified as an urban principal arterial characterized for heavy traffic* in both directions in a predominantly Residential Neighborhood (RN 2-3-4-5) and Mixed Use (MU 3-4-5-6) adjacent land use with small portions of different land use types such as Industrial (I-3), Public Land (PL), Office Mixed Use (OMU-2), and Parks and Open Space in a context with poor landscaping, lack of vegetation/greenery, right of way discontinuity for shoulders/sidewalks in several stretches along the route on both sides. Land cover, roadway design, and other useful project information will be used in this proposal for a 20%-30% preliminary engineering design. The green infrastructure concept developed will use potential design criteria formulated from examples from other jurisdictions in a list of prioritized green</p>

# Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
		<p>infrastructure types, available vulnerability and equity data, and other potential design criteria to be explored. The design, concept-level costs, concept-level design calculations, narrative of benefits and drawbacks relative to the CIP baseline will be summarized.</p> <p>The deliverables for this study will be the Evaluation Criteria Matrix, the Preliminary Report on the evaluated and prioritized alternatives, and the Multimodal Corridor Green Infrastructure preliminary design with respective Evaluation Memorandum.</p> <p>*AADT (2017) 38,000 from Featherstone Rd. to Marys Way. AADT (2040) 57,000 on the same segment.</p> <p>AADT (2017) 28,000 from Bradys Hill Rd. to Dumfries Rd. AADT (2042) 69,000 on the same segment.</p>
	10.	<p>Approximately 12 miles along Route 1 (Richmond Highway/US-1) within Prince William County from West Russell Road (Southbound near the limit with Stafford County) to Annapolis Way (Northbound near Occoquan River Bridge and the limit with Fairfax County). Bridge Asset Number 6228 Northbound/6229 Southbound.</p>
	11.	<p>Route 1 (Richmond Highway/US-1) crisscrosses Prince William County from southwest to northeast in the southernmost part of the county, in proximity to important water bodies and environmental protected areas such as the Potomac River, Occoquan River, several creeks and tributaries, the Occoquan Bay National Wildlife Refuge, the Locust Shade Park, and the Neabsco Regional Park.</p> <p>According to the Interactive Floodplain Map from Prince William County Flood Safety Information, Route 1 is located in a flood-prone area with historic flooding, road closures, and swift water data report. Although this data is for reference purposes only it shows the opportunity and necessity for green infrastructure implementation. Incorporating green infrastructure into a multimodal transportation corridor design is a way to improve water quality, detain stormwater flows, reduce the volume of stormwater runoff, and relieve burden on the county water treatment systems while improving</p>

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
		<p>landscape quality reducing the negative effects of motor vehicle use, improve driver behavior and overall conditions for non-motorized street users.</p> <p>The proposed project incorporates green infrastructure solutions to further increase the resilience of the transportation system, minimizing disruptions and potential negative impacts of project implementation, including nature-based solutions, which can provide a wide range of co-benefits and increase the service life of transportation infrastructure.</p> <p>Green infrastructure helps to improve the natural ecosystem reducing harmful pollutants where vehicles leave oil and other contaminants on the road surface, preventing large amounts of pollution from entering the watershed.</p>
	12.	The anticipated year of completion of the planning and preliminary engineering is 2028. This schedule is dependent on funding availability in 2025.
	14.	There are no funds currently allocated to the project. The County will be seeking grant funds to implement.
	15.	None of the above
	17.	No
	18.	Yes
	19.	Project identified through a FY 2024 Transportation-Land Use Connections planning study.
	20.	Yes, identified through the Vulnerability Assessment



## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	21.	This project addresses risks identified in a vulnerability assessment conducted as part of the Prince William County Community Energy and Sustainability Master Plan. This assessment used climate scenarios to predict 2050 and 2075 conditions and identify risks to County assets based on exposure, sensitivity, and adaptive capacity.
	22.	This project will address risks associated with inland flooding using infrastructure and landscaping to manage stormwater.
	23.	The project will use both nature-based solutions, such as additional landscaping in the right of way and bioswales, as well as infrastructure designed to mimic natural water filtration.
	24.	Yes
<b>Prince William County Department of Transportation (Unit of local government)</b>	<b>Project</b>	<b>Fuller Road Flooding Mitigation</b>
	8.	Roadway system (Functional Class 1-3, 5)
	9.	Fuller Road provides access to the Quantico Marine Corps Base via the Fuller Gate, and offers the only direct access to the main operating area of the base. Fuller Road is vulnerable to inland flooding and flooding at the gate has significant implications on operational readiness. The project consists of two main components to address flooding: increasing capacity of the existing storm water facility located near the National Museum of the Marine Corps and watershed restoration of Little Creek. This will increase flood capacity and mitigate flooding of the roadway.
	10.	The project is located along Fuller Road (VA Route 619) from the I-95 exit ramp to Mason Drive. The total distance is 0.6 miles.
	11.	A Military Installation Resilience Review conducted by the Northern Virginia Regional Commission identified Fuller Road as vulnerable to inland flooding and identified the storm water expansion and Little Creek stream restoration as measures to improve the resiliency of the roadway.

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	12.	The project has an estimated timeline of three years to design, secure permits, and construct. This project is not funded and will be submitted for grant funding consideration. It has an estimated completion year of 2028.
	14.	There is no committed funding for this project.
	15.	None of the above
	17.	No
	18.	Yes
	19.	Northern Virginia Regional Commission Military Installation Resilience Review Study.
	20.	Yes, identified through the Vulnerability Assessment
	22.	Project will increase flood and storm water capacity to reduce risk of roadway flooding. This will improve reliability of transportation on the roadway and operations of the Marine Corps Base.
	23.	Project was identified through a cooperative study that included Prince William County, the Marine Corps and the Northern Virginia Regional Commission and will be implemented through a partnership project.
	24.	Yes
	25.	Project serves two EEAs and a public transit route.

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
<b>Prince William County Department of Transportation (Unit of local government)</b>	<b>Project</b>	<b>Manage Stormwater Flooding Outside of the Floodplain</b>
	8.	Study or plan
	9.	This study will increase the County's understanding of flooding outside of the delineated FEMA floodplain through modeling and/or historic flood records and identify mitigation actions to reduce stormwater flooding. The study will be countywide and the intended outcome is to develop mitigation actions to be implemented for stormwater flooding.
	10.	The study will cover all roadways in Prince William County that have been adopted in the state-maintained roadway system that are not in delineated FEMA floodplains.
	11.	The study is intended to better understand and predict inland flooding. Based on the modeling and/or historical data review, the study will identify appropriate resilience measures for implementation.
	12.	The study has a proposed timeline of one year and estimated completion of 2026.
	14.	There is dedicated funding in the County budget for implementation of action strategies identified in the Prince William Community Energy and Sustainability Master Plan.
	15.	None of the above
	17.	No
	18.	Yes
	19.	Prince William County Community Energy and Sustainability Master Plan.
	20.	Yes, identified through other studies, data, or assessments

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	21.	The Prince William County Community Energy and Sustainability Master Plan conducted a vulnerability assessment that evaluated future climate hazards from extreme temperatures, sea level rise and precipitation and rated the vulnerability of County assets based on exposure, sensitivity, and adaptive capacity.
	22.	The project will provide a better understanding of the risks of inland flooding to allow for the development and implementation of effective mitigation measures.
	24.	Yes
<b>Prince William County Department of Transportation (Unit of local government)</b>	<b>Project</b>	<b>Implement Shoreline Protection and Nature-Based Solutions</b>
	8.	Study or plan
	9.	The project will develop guidance for Prince William County to prioritize nature-based solutions for shoreline protection of coastal areas in the County. It will cover all coastal areas of the County, including the shoreline with the Potomac and Occoquan Rivers in the eastern side of Prince William.
	10.	Project is a planning effort to develop guidance that will apply Countywide.
	11.	Project addresses shoreline erosion caused by rising sea levels. The resilience measures will be nature-based solutions identified through the planning process.
	12.	Proposed timeline for the study is one year and anticipated completion date is 2026.
	14.	There is dedicated funding in the County budget to advance strategies identified in the Community Energy and Sustainability Master Plan.
	15.	None of the above

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	17.	No
	18.	Yes
	19.	Prince William Community Energy and Sustainability Master Plan.
	20.	Yes, identified through the Vulnerability Assessment
	21.	The TPB Transportation Resiliency Study identified several coastal areas in Prince William County with a high sea level rise hazard. The proposed project was also identified as a high priority risk through the County's Community Energy and Sustainability Master Plan.
	22.	There are numerous major transportation corridors located along coastal areas of the County that are at risk due to sea level rise. The project will mitigate shoreline erosion to improve the resiliency of the transportation network to flooding.
	23.	The project will develop guidance to prioritize the use of nature-based solutions.
	24.	Yes
<b>Prince William County Department of Transportation (Unit of local government)</b>	<b>Project</b>	<b>Restore Streams to Reduce Flooding</b>
	8.	Roadway system (Functional Class 1-3, 5)
	9.	Project will develop and implement stream restoration projects in support of reduced flooding outcomes for roadways in the County.
	10.	The restoration project will focus on roadways in Prince William identified as high risk in the existing vulnerability assessments conducted by TPB and the County.
	11.	The climate hazard impacting the asset is flooding and the resilience measure is stream restoration.

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	12.	The number of total stream restoration projects will be based on available funding. Each project will have a two-year timeframe and an estimated completion year of 2030.
	14.	There is dedicated funding for strategies identified in the Community Energy and Sustainability Master Plan.
	15.	None of the above
	17.	No
	18.	Yes
	19.	Prince William County Community Energy and Sustainability Master Plan.
	20.	Yes, identified through the Vulnerability Assessment
	21.	There are multiple roadways in the County identified as high risk in the TPB Transportation Resilience Study. Additionally, the Prince William County Community Energy and Sustainability Master Plan conducted a vulnerability assessment that evaluated future climate hazards from extreme temperatures, sea level rise, and precipitation and rated the vulnerability of County assets based on exposure, sensitivity, and adaptive capacity. This project was a high priority strategy identified in the plan.
	22.	The project will increase streams ability to manage storm water and mitigate flooding on the roadway to improve the reliability of the transportation system.
24.	Yes	

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Submitting Agency	Question	Answers
<b>Prince William County Government Department of Transportation (Unit of local government)</b> <i>Supported by VDOT (State (including DC))</i>	<b>Project</b>	<b>Flooded Roadway Mitigation Study</b>
	8.	Study or plan
	9.	The Flooded Roadway Mitigation Study will assess flooding vulnerabilities at three specific locations and what transportation alternatives can be accomplished to mitigate flooding. The specific locations are Valley View Drive crossing over Kettle Run Stream, Old Church Road crossing over Slate Run Stream, and Fleetwood Drive crossing over Cedar Run Stream.
	10.	Valley View Drive (VA Route 611 sequences 50/60), structure Number (8): 000000000014300 Old Church Road (VA Route 649), structure Number (8): 000000000024232 Fleetwood Drive (VA Route 611 sequence 20), structure Number (8): 000000000014301
	11.	These locations are prone to flooding and flash flooding causing vehicular damage. The Study will determine what resilience measures can be deployed to reduce the risk of life and vehicular damage.
	12.	The studies proposed timeline collectively is approximately 25-27 months to include agreement executions, procurement processes, and study activities.
	14.	There are no funding commitments on this project, though it was submitted to the latest funding request for the PROTECT grant.
	15.	None of the above
	17.	Yes
	18.	Yes
	19.	Flooding and flash flooding of these roadways have been identified in the Northern Virginia Hazard Mitigation Plan.

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	20.	Yes, identified through the Vulnerability Assessment
	22.	The Mitigation Study will determine which resiliency measures can be utilized to reduce flooding on the roadway and ensure safe operation.
	23.	The study will identify resilient improvements to the impacted streams and surface transportation assets to reduce the magnitude and duration of impacts of current and future weather events and natural disasters.
	24.	No
	25.	All public engagement and collaboration are guided by Resolution 20-494 approved by the Prince William Board of County Supervisors on June 16, 2020. This resolution requires projects “include an equity lens in all planning and service delivery” to identify social and racial disparities and guide decisions to mitigate adverse impacts and encourage positive impacts. If awarded, the planning study will include analysis of impacts to EEAs, which are census tracts identified by the federally designated MPO that have high concentrations of low-income and/or minority populations, to ensure equitable outcomes and the inclusion of traditionally disadvantaged communities.



## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
Virginia Passenger Rail Authority (Special purpose district or public authority with a transportation function)	<b>Project</b>	<b>Flooding Mitigation Study for Quantico and Pohick Creek Rail Bridges</b>
	8.	Study or plan
	9.	Project location: Quantico, Prince William County and Fairfax County; Intercity (Amtrak) and Commuter (VRE) rail routes on the RF&P corridor Project activities: Identify Existing Conditions Identify Expected Adverse Conditions Recommend Specific Adverse Condition Mitigation Strategies Translate Mitigation Strategies to Specific Capital Improvements for future TRIP and PROTECT rounds
	10.	RF&P Rail Corridor, owned by CSX/Virginia Passenger Rail Authority. Quantico Creek Rail Bridge and Pohick Creek Rail Bridge 38.526743, -77.288966 and 38.712765, -77.217392
	11.	This study will assess two rail bridges within the 100-year flood plain and propose potential mitigation or resilience measures to ensure the rail infrastructure will with stand future flooding or storm inundation.
	12.	This study will take approximately 18 months to complete. If starting in 2024, estimated completion could be as soon as fall 2025 or winter/spring 2026.
	14.	No budget commitments have been identified at this time.
	15.	None of the above
	17.	No
	18.	No

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Submitting Agency	Question	Answers
	20.	Yes, identified through the Vulnerability Assessment
	22.	The project will assess the need for capital improvements or mitigation to limit or prevent damage to existing rail bridges. Should flooding be significant or damage occur to these bridges, passenger and freight rail traffic within the entire region could be halted to make emergency repairs.
	24.	Yes
<b>Virginia Passenger Rail Authority (Special purpose district or public authority with a transportation function)</b>	<b>Project</b>	<b>RF&amp;P Track Infrastructure Heat Impacts and Mitigation Study</b>
	8.	Study or plan
	9.	The Richmond, Fredericksburg and Potomac railroad line from Quantico, Prince William County, VA to Control Point VA in Washington, DC; Intercity (Amtrak) and Commuter (VRE) rail routes on the corridor. Project activities: Identify existing conditions Identify adverse conditions using past data on heat/slow orders Recommend specific mitigation strategies Translate mitigation strategies to specific capital or operational improvements for future TRIP and PROTECT rounds
	10.	The Richmond, Fredericksburg and Potomac railroad line from Quantico, Prince William County, VA to Control Point VA in Washington, DC; Intercity (Amtrak) and Commuter (VRE) rail routes on the corridor.
	11.	When the region has high temperatures, host railroads (CSX and Norfolk Southern) issue slow orders as a safety precaution to limit/prevent derailments. As temperatures continue to rise and temperatures remain elevated for longer periods of time, railroads will issue more heat orders, slowing rail traffic in the region and lowering on time performance. This study will look at the ways to ensure safety while limiting heat orders. Recommendations could be in the form of capital or operational improvements.

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Submitting Agency	Question	Answers
	12.	This study will take approximately 18 months to complete. If starting in 2024, estimated completion could be as soon as fall 2025 or winter/spring 2026.
	14.	No budget commitments have been identified at this time.
	15.	None of the above
	17.	No
	18.	No
	20.	Yes, identified through the Vulnerability Assessment
	21.	Portions of the corridor are identified by the Vulnerability Assessment. However, heat orders are not limited to specific areas, they are corridor wide and come from the host/operating railroad. Virginia Passenger Rail Authority has historic data on slow orders and on time performance data for Amtrak trains. Virginia Passenger Rail Authority can also obtain on time performance data from VRE as well.
	22.	The project will assess the need for capital or operational improvements to limit slow orders during heat events. By reducing the number of heat orders, train on time performance will improve, leading to customer satisfaction improvements.
	24.	Yes

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Submitting Agency	Question	Answers
VRE (Special purpose district or public authority with a transportation function)	<b>Project</b>	<b>VRE Stations Heat Vulnerability and Mitigation Strategies Analysis</b>
	8.	Study or plan
	9.	Five VRE station facilities in their entirety will be studied, including L'Enfant, Manassas, Lorton, Rippon, and Quantico, for their level of vulnerability to future adverse heat events. This study will detail potential effects to both passengers and the facilities themselves of adverse future heat events, and will propose, at a planning level, conceptual projects that could mitigate or eliminate the adverse condition(s) through the horizon planning year. These studies will not include an analysis of track infrastructure at the station locations.
	10.	This study would focus on station assets located on VRE's Manassas and Fredericksburg Lines, as well as the joint line between Alexandria and Union Station.
	11.	Heat. The project would be a study that would recommend appropriate resilience measures for each asset location that could be translated into capital projects for future TRIP project submission rounds.
	12.	By end of calendar year 2024
	14.	None
	15.	None of the above
	17.	No
	18.	No
20.	Yes, identified through the Vulnerability Assessment	

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	22.	This project will identify the appropriate mitigation strategies to address the adverse effects of heat on certain VRE passenger facilities identified as higher risk in the TPB Vulnerability Assessment. Starting the project pipeline will allow VRE to submit a more developed project for full design and construction in future rounds of TRIP project solicitations.
	24.	Yes
<b>VRE (Special purpose district or public authority with a transportation function)</b>	<b>Project</b>	<b>VRE Manassas Line Track Heat Vulnerability and Mitigation Strategies Analysis</b>
	8.	Study or plan
	9.	This effort will include the Norfolk Southern railroad corridor between the “AF Interlocking” in Alexandria, VA and the Broad Run VRE station in Manassas, VA. This study will detail potential effects on the railroad track infrastructure from adverse future heat events, and will propose, at a planning level, conceptual projects that could mitigate or eliminate the adverse condition(s) through the horizon planning year. This study will also review the projected effects to VRE service as a result of adverse heat effects on the rail infrastructure.
	10.	This study would focus on the entirety of the track infrastructure on VRE’s Manassas Line between the Broad Run station and “AF Interlocking.”
	11.	Heat. The project would be a study that would recommend appropriate resilience measures for track and related assets that could be translated into capital projects for future TRIP project submission rounds.
	12.	By end of calendar year 2024
	14.	None
	15.	None of the above

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Submitting Agency	Question	Answers
	17.	No
	18.	No
	20.	Yes, identified through the Vulnerability Assessment
	22.	This project will identify the appropriate mitigation strategies to address the adverse effects of heat on track and ancillary facilities identified as higher risk in the TPB Vulnerability Assessment. The study scope will not include passenger station or yard facilities. Starting the project pipeline will allow VRE to submit a more developed project for full design and construction in future rounds of TRIP project solicitations.
	24.	Yes
<b>VRE (Special purpose district or public authority with a transportation function)</b>	<b>Project</b>	<b>VRE Maintenance and Storage Facilities Heat Vulnerability and Mitigation Strategies Analysis</b>
	8.	Study or plan
	9.	This effort will include VRE’s Broad Run and Crossroads Maintenance and Storage Facilities, supporting the Manassas and Fredericksburg Lines, respectively. This study will detail potential effects on the yard infrastructure from adverse future heat events, and will propose, at a planning level, conceptual projects that could mitigate or eliminate the adverse condition(s) through the horizon planning year. This study will also review the projected effects to VRE service and yard personnel as a result of adverse heat effects on the rail infrastructure at yards.
	10.	This study would focus on VRE-controlled property at the Broad Run and Crossroads Maintenance and Storage Facilities.

# Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	11.	Heat. The project would be a study that would recommend appropriate resilience measures for the entire Broad Run and Crossroads Maintenance and Storage Facilities that could be translated into capital projects for future TRIP project submission rounds.
	12.	By end of calendar year 2024
	14.	None
	15.	None of the above
	17.	No
	18.	No
	20.	Yes, identified through the Vulnerability Assessment
	22.	This project will identify the appropriate mitigation strategies to address the adverse effects of heat on track and ancillary yard facilities (including those that support train crews and yard support staff). The study scope will not include passenger station facilities adjacent to these yard facilities. Starting the project pipeline will allow VRE to submit a more developed project for full design and construction in future rounds of TRIP project solicitations.
	24.	No

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
VRE (Special purpose district or public authority with a transportation function)	<b>Project</b>	<b>VRE Assets Flooding Vulnerability and Mitigation Strategies Analysis</b>
	8.	Study or plan
	9.	This effort will include VRE's Broad Run Maintenance and Storage Facility as well as the L'Enfant and Quantico stations. The study will analyze the proposed effects to this infrastructure from adverse future inland flooding events, and will propose, at a planning level, conceptual projects that could mitigate or eliminate the adverse condition(s) through the horizon planning year.
	10.	This study would focus on the two stations and the entirety of the Broad Run Maintenance and Storage Facility, excluding the passenger station platform, but including the parking facilities at this location that serve a joint use as yard crew employee and passenger parking.
	11.	Inland Flooding. The project would be a study that would recommend appropriate resilience measures for the entire Broad Run Maintenance and Storage Facility as well as the Quantico and L'Enfant stations that could be translated into capital projects for future TRIP project submission rounds.
	12.	By end of calendar year 2024
	14.	None
	15.	None of the above
	17.	No
	18.	No
	20.	Yes, identified through the Vulnerability Assessment



## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	22.	This project will identify the appropriate mitigation strategies to address the adverse effects of inland flooding on track and ancillary yard facilities (including those that support train crews and yard support staff) at Broad Run, as well as passenger station facilities at identified locations. Starting the project pipeline will allow VRE to submit a more developed project for full design and construction in future rounds of TRIP project solicitations.
	24.	Yes
<b>WMATA (Transit Agency)</b>	<b>Project</b>	<b>Systemwide Flood Resiliency Infrastructure Upgrades Implementation</b>
	8.	Facility or service for public transportation
	9.	WMATA developed and built the MetroRail system over the last 50 years, beginning with the Red Line, which opened in 1976. Since that time, changes in local development, aging of the system, updates in design guidelines and criteria, and the effects of climate change have led to vulnerabilities in the system due to flooding. Parts of the MetroRail system are now in the 100-year floodplain. Extreme weather events may impact passenger service and system operations and require corrective measures. Investments include new grading at station entrances, installation of temporary flood barriers, raising vent shaft openings to above street level, and improving drainage capacity around stations. This work can be broken out into component parts, focusing on one asset at a time.
	10.	Cleveland Park, Federal Triangle, Smithsonian, Archives/Navy Memorial, Rhode Island Ave/Brentwood, Capitol South, and Waterfront Stations (District of Columbia); Greenbelt Rail Yard (Greenbelt, MD)
	11.	Flooding—investments would minimize passenger and asset impacts from flooding. These include new grading at station entrances, installation of temporary flood barriers, raising vent shaft openings to above street level, and improving drainage capacity around stations.

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	12.	This project will be completed in a five-year time period beginning in FY2026. Assumed completion date would be by FY2032.
	14.	This project is currently unfunded but is considered part of WMATA's six-year Capital Plan
	15.	None of the above
	17.	No
	18.	Yes
	19.	FY2025 Capital Plan
	20.	Yes, identified through the Vulnerability Assessment
	21.	Many of these sites are in the 100-year flood zone and we have supporting documentation on the risk associated with these sites. An internal memo risk assessment was completed in 2016 and solutions were identified in 2020.
	22.	Exposure to higher frequency, more intense storms has the potential to impact the listed assets more frequently. All listed stations are known to be either in the 100-year flood zone or regularly are impacted by interior flooding due to the increase of impermeable pavement and undersized stormwater systems.
	23.	Creates low-impact solutions that do not impact mobility of riders including ADA-reliant passengers.
	24.	Yes
	25.	Two of the facilities are in Justice40 defined areas. Additionally, equity communities have been shown to be more public transit dependent.

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
WMATA (Transit Agency)	<b>Project</b>	<b>Drainage Pump Stations Rehabilitation Program</b>
	8.	Facility or service for public transportation
	9.	There are 59 Drainage Pumping Stations located at low points in MetroRail tunnels. There is a need to replace and improve drainage pumping stations to facilitate the removal of excess water from MetroRail tunnels and stations, and support flood resiliency improvements. There is also a need to replace and improve pumping equipment and tunnel piping systems that have exceeded their lifecycle throughout the MetroRail system. Climate change projections call for increase intensity and frequency of rainfall events making these pumps even more crucial to flood resilience and recovery. This program prioritizes the highest risk locations based on flooding and equipment need. Multiple years beginning in FY2026 and continuing forward. This program can be funded in parts—the whole project does not need to be completed simultaneously.
	10.	L'Enfant, Wheaton, Federal Triangle, Metro Center, and Glenmont Stations (District of Columbia); Noyes Road (Silver Spring, MD), Medical Center (Bethesda, MD)
	11.	Flooding—sea level rise/storm surge, riverine, and interior
	12.	Multiple years beginning in FY2026 and continuing forward. This program can be funded in parts—the whole project does not need to be completed simultaneously.
	14.	The project is currently unfunded but is part of the 6-year capital improvement plan.
	15.	None of the above
	17.	No
	18.	Yes

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	19.	FY 2025 6-year Capital Improvement Plan
	20.	Yes, identified through other studies, data, or assessments
	21.	WMATA has conducted multiple flood risk assessments and these locations have been identified as the highest risk.
	22.	When flooding or intense rainfall occurs, WMATA's tunnels can fill with water. These pumps remove the water. A flooded section of track will shut down portions of the system resulting in delays for customers and loss of revenue for WMATA.
	24.	No
	25.	Low-income residents in the DMV are often transit-dependent; having a resilient, efficient public transit system is necessary.
<b>WMATA (Transit Agency)</b>	<b>Project</b>	<b>Comprehensive Stormwater System Program (Planning)</b>
	8.	Facility or service for public transportation
	9.	Metro needs a comprehensive program to design, construct, and rehabilitate stormwater infrastructure to reduce the risk of flooding. Flooding can impact customer satisfaction by reducing access to facilities, it can impact assets, and disrupt travel times. Metro wants this systematic look before investing in millions of dollars in green and gray infrastructure.
	10.	Throughout the Metro/WMATA system.
	11.	Flooding--riverine, sea level rise/storm surge, and interior flooding
	12.	Beginning in FY2026 and estimated to take 1-2 years.

# Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	14.	This program is unfunded but part of the FY2025 6 Year Capital Plan
	15.	None of the above
	17.	No
	18.	No
	20.	Yes, identified through other studies, data, or assessments
	21.	Current stormwater planning is piecemeal and based on facility. The creation of this program would allow WMATA to conduct a comprehensive study to better understand needs and prioritize investments. The need is known, the coordination and implementation plan needs to be developed.
	22.	Increased stormwater facilities will reduce runoff to other areas that would otherwise lead to flooding.
	23.	The desire would be to invest as much as possible in green infrastructure. Bioswales, green roofs, rain gardens, and retention ponds, along with other green and gray infrastructure will be evaluated.
	24.	Yes
	25.	Several of Metro's facilities are in Justice40 communities that experience flooding. Increased investment in stormwater facilities will reduce impacts.

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
WMATA (Transit Agency)	<b>Project</b>	<b>Stormwater System Rehabilitation</b>
	8.	Facility or service for public transportation
	9.	Metro has an interest in reducing the impacts of stormwater on our customers, assets, and community as well as meeting stormwater regulations. Metro knows that as projected rainfall events increase in intensity and in frequency local jurisdictions will be looking for increased nature-based solutions to address stormwater runoff. Metro will install or retrofit stormwater management systems including bioretention ponds, wet ponds, and/or tree box filters.
	10.	Carmen Turner Center, Branch Ave Rail Yard, Glenmont Rail Yard, Greenbelt Rail Yard, Landover Bus Division, Montgomery Bus Division, New Carrollton Rail Yard, Shady Grove Rail Yard, and Southern Ave Bus Division (all in Maryland).
	11.	Flooding--riverine, sea level rise/storm surge, and interior flooding
	12.	Work to begin in FY2026 and expected to take 1-2 years. This project can be completed on facility at a time.
	14.	This program is unfunded but part of the FY2025 6 Year Capital Plan
	15.	None of the above
	17.	No
	18.	Yes
	19.	Metro has done assessments under the requirements of the Chesapeake Bay Restoration Act.
	20.	Yes, identified through other studies, data, or assessments

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	21.	Metro has conducted studies on facilities vulnerable to flooding for many years. Many of these locations were identified in those plans.
	22.	These sites are in or adjacent to facilities that are necessary to operate the WMATA system. If flooding occurs it can be a burden on the system resulting in time delays and lost revenue.
	23.	Metro will install or retrofit stormwater management systems including bioretention ponds, wet ponds, and/or tree box filters.
	24.	Yes
	25.	Many of the locations are in Justice40 Communities that are often impacted by flooding. More investments in stormwater retention will reduce those risks.
<b>WMATA (Transit Agency)</b>	<b>Project</b>	<b>Rehabilitation of Station Vault Pre-Cast Supports</b>
	8.	Facility or service for public transportation
	9.	As rainwater percolates through the ground, the water leaks into MetroRail stations. This water flows into the vaulted ceilings at several stations located along the Red Line. Climate projections indicate that there will be more frequent and intense rainstorms in the region, resulting in more leaking and accelerating the damage to the ceilings. The connecting supports for the vaulted ceilings at several stations have begun to deteriorate, requiring a detailed inspection and condition report to determine the extent and location of where repairs will be needed, and rehabilitation of the identified issues.
	10.	Dupont Circle, Woodley Park, Cleveland Park, Van Ness, Tenleytown, Friendship Heights, DC. Bethesda and Medical Center Stations, MD.
	11.	Projected increased intensity and frequency of rain events. As these events increase, the amount of rainwater percolating into the system will increase.

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	12.	FY2026 with a multiple year implementation. This project can be broken down to facility by facility.
	14.	This program is unfunded but part of the FY2025 6 Year Capital Plan
	15.	None of the above
	17.	No
	18.	Yes
	19.	Internal studies have documented the need for this work. The leak mitigation work has been ongoing for years.
	20.	No
	22.	The Red Line is one of the most used routes on the Metro system. This portion connects Montgomery County to the rest of the system. Each of these stations are critical for the operation of the line and if they were required to close there would be a loss in ridership, riders would be delayed, and WMATA would lose revenue.
	24.	No
	25.	Low-income residents in the DMV are often transit-dependent; having a resilient, efficient public transit system is necessary.



## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
WMATA (Transit Agency)	<b>Project</b>	<b>Tunnel Chilled Water Piping Assessment</b>
	8.	Study or plan
	9.	A full systemwide assessment of the state of chilled water piping in tunnels will be necessary to evaluate the need for improvement of this piping. Chilled water is used to cool stations and all designs are outdated due to increasing population, increased density, and more high heat days. There are nearly 20 miles of pipe in the Metro system and evaluating the system and integrating climate projections will be necessary.
	10.	Systemwide
	11.	High heat. Likely need larger chillers and better piping.
	12.	Work to begin in FY2026 and expected to take 1-2 years
	14.	This program is unfunded but part of the FY2025 6 Year Capital Plan
	15.	None of the above
	17.	No
	18.	Yes
	19.	The 6 Year Capital Plan
	20.	No
	22.	High heat is going to impact public transit because riders will be more uncomfortable waiting for trains and may choose less environmentally friendly modes of transportation. Keeping stations cool will help keep ridership.

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	23.	Will reduce energy consumption.
	24.	Yes
	25.	Low-income residents in the DMV are often transit-dependent; having a resilient, efficient public transit system is necessary.
<b>WMATA (Transit Agency)</b>	<b>Project</b>	<b>MetroBus Shelter Replacement</b>
	8.	Facility or service for public transportation
	9.	As temperatures rise and the likelihood of intense storm events occur, having functional, well designed bus shelters will make the rider experience more comfortable. Metro will replace bus shelters in service beyond their useful life and improve the rider experience by replacing paper signage, route/sign poles, bus stop decals, and wayfinding signage. In some cases, customer electronic information Displays will be installed. These investments improve customer comfort and improve customer communication and information through proper signage, maps, and schedules for customers to see clearly bus stops and bus route timetables.
	10.	Systemwide
	11.	High heat–improved and new shelters will provide shaded areas for bus riders to wait.
	12.	Work to begin in FY2026 and expected to take multiple years. This project can be completed on facility at a time.
	14.	This program is unfunded but part of the FY2025 6 Year Capital Plan
	15.	None of the above

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	17.	No
	18.	Yes
	19.	Internal WMATA plans indicate the need for improved or new bus shelters.
	20.	Yes, identified through the Vulnerability Assessment
	22.	Bus riders will have shaded areas to wait for buses. As high heat (and more frequent rain events) occur, the need for shade will be even greater. This project will help improve the comfort of bus riders.
	24.	Yes
	25.	Low-income residents in the DMV are often transit-dependent; having a resilient, efficient public transit system is necessary.
<b>WMATA (Transit Agency)</b>	<b>Project</b>	<b>Traction Power/Rectifier Replacement</b>
	8.	Facility or service for intercity passenger rail
	9.	MetroRail trains run on high voltage electricity known as traction power. There are multiple traction substations across the service area. Heat buildup is a concern inside these substations and gaining electrical efficiency will help reduce heat, especially as the regions is projected to get much hotter in the future due to climate change. By using previously successfully tested methods of rectifier replacement MetroRail has improved stability of power which will be particularly important as heat levels rise. This is a win-win-win solution; in addition to increasing resilience, it stabilizes the rail system, and saves the agency money by reducing electricity consumption.
	10.	33 traction power substations though DC, VA, and MD

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	11.	This project addresses the concern that high heat will impact traction power substations and result in slow or interrupted MetroRail services
	12.	This is a multiyear project that may be completed in substation by substation.
	14.	This program is unfunded but part of the FY2025 6 Year Capital Plan
	15.	None of the above
	17.	No
	18.	Yes
	19.	Internal documents describe the need for the rectifier replacement.
	20.	No
	22.	MetroRail depends on traction power substations to propel trains. Each substation has a redundancy but if one overheats, train speed and frequency have to be decreased. This will result in delays for riders and a loss of revenue.
	24.	Yes
	25.	Low-income residents in the DMV are often transit-dependent; having a resilient, efficient public transit system is necessary.

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
WMATA (Transit Agency)	<b>Project</b>	<b>Shaft Damper and Attenuator Replacement Program</b>
	8.	Facility or service for public transportation
	9.	Climate projections for the region show much higher temperatures in the future. The climate inside stations and tunnels of the MetroRail system are maintained to keep customers comfortable and equipment running properly. Hotter temperatures will cause strain on those systems. One part of that system is a series of fans that run through shafts to keep air circulating—which is important in the case of fire as well. These shafts have dampers and attenuators that need to be running properly. MetroRail plans to replace older equipment with newer and more efficient ones to help maintain cool conditions in stations and tunnels.
	10.	221 shafts throughout the MetroRail system in DC, MD, and VA
	11.	High heat weather will require better circulation of MetroRail tunnels and stations for comfort and operability. Improving dampers will help address these issues
	12.	This is a multiyear project and can be completed shaft by shaft
	14.	This program is unfunded but part of the FY2025 6 Year Capital Plan
	15.	None of the above
	17.	No
	18.	Yes
	19.	This has been identified as a need by the agency. WMATA has internal documentation.
	20.	No

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	22.	Improved shaft dampers and attenuators will serve multiple purposes including keeping riders more comfortable and reduce the temperature in the tunnels. High heat can hold more water and when this cools at night it results in condensation which can impact assets within the tunnel.
	24.	Yes
	25.	Low-income residents in the DMV are often transit-dependent; having a resilient, efficient public transit system is necessary.
<b>WMATA (Transit Agency)</b>	<b>Project</b>	<b>Non-Revenue Facility HVAC Replacement</b>
	8.	Facility or service for public transportation
	9.	Climate projections indicate that the Metro region will be experiencing many more high heat days impacting the MetroRail and MetroBus systems. An agency-wide energy audit in 2017 identified issues with aging and inefficient heating and cooling rooftop units (HVAC units and the accompanying building automation systems) at multiple Metro non-revenue facilities. These facilities are crucial for the operation of the system, so it is vitally important to protect the workers and the equipment from high heat. The audit recommended replacing the aging assets and implementing a Building Energy Management Control System that would allow for greater operational and maintenance efficiency and improved resiliency to the changing climate. The solution is win-win: lower energy costs and improved climate resilience.
	10.	locations systemwide in MD, DC, and VA.
	11.	Facilities were built with historical weather in design. With increase heat and the increase in electronic controls (which produce heat), the rooms are often get too hot and this is only projected to increase in the future. This project will address this concern by improving HVAC system.
	12.	This is a multiyear project that can be addressed facility by facility.

## Appendix D. Priority Resilience Investment Submissions

Submitting Agency	Question	Answers
	14.	This program is unfunded but part of the FY2025 6 Year Capital Plan
	15.	None of the above
	17.	No
	18.	Yes
	19.	Internal documents describe the need for these improvements including an agency-wide energy audit in 2017.
	20.	No
	22.	These facilities are crucial for the operation of the system, so it is vitally important to protect the workers and the equipment from high heat
	24.	Yes
	25.	Low-income residents in the DMV are often transit-dependent; having a resilient, efficient public transit system is necessary.

# Endnotes

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**ITEM 8 – Action  
June 20, 2024**

Transportation Resilience Improvement Plan (TRIP)

**Action:** Approve the Transportation Resilience Improvement Plan.

**Background:** Staff will brief the board on the Transportation Resilience Improvement Plan (TRIP). The board will be asked to approve the TRIP.

**ATTACHMENTS**

- Item 8 – Transportation Resilience Planning Memo
- Item 8 – Draft Transportation Resilience Improvement Plan
- Item 8 – Transportation Resilience Improvement Plan Presentation



## **MEMORANDUM**

**TO:** Transportation Planning Board  
**FROM:** Katherine Rainone, Transportation Resilience Planner  
**SUBJECT:** Regional Transportation Resilience Improvement Plan: Request for Approval  
**DATE:** June 13, 2024

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### **CONTEXTUAL INFORMATION**

In 2015, Congress enacted provisions in the Fixing America's Surface Transportation (FAST) Act requiring transportation agencies to consider resilience in their transportation planning process – specifically to “improve transportation system resiliency and reliability and reduce (or mitigate) the stormwater impacts of surface transportation.” At the end of 2021, FHWA and FTA jointly issued updated Planning Emphasis Areas (PEAs), areas of planning that MPOs should emphasize when identifying and developing tasks for the Unified Planning Work Program. And most recently, the Bipartisan Infrastructure Law (BIL), enacted as the Infrastructure Investment and Jobs Act (IIJA), established the Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation program (PROTECT), which established formula and discretionary grant programs to plan for and strengthen surface transportation to be more resilient to natural hazards, including climate change, sea level rise, flooding, extreme weather events, and other natural disasters through both non-competitive and competitive grants.

This emphasis, paired with increasing importance of planning for improved resilience of regional transportation systems, has led to the creation of TPB's Transportation Resilience Planning Program. The first major products to come out of the program are the National Capital Region Transportation System Climate Vulnerability Assessment and the National Capital Region Transportation Resilience Improvement Plan (TRIP).

### **REGIONAL TRANSPORTATION RESILIENCE IMPROVEMENT PLAN (TRIP)**

One major element of the PROTECT program is the Transportation Resilience Improvement Plan (TRIP), a comprehensive plan for state or regional transportation resilience with at least the major components of: a systematic approach to transportation system resilience, a risk-based vulnerability assessment, an investment plan, and a list of transportation resilience projects. Developing a TRIP can lower the non-federal construction match for projects funding by the PROTECT program from 20% to 13% and integrating that TRIP into the LRTP can reduce the match to 10%.

Together with member jurisdictions and agencies, TPB has developed a regional TRIP as part of the second phase of its transportation resiliency study, and a draft is now available for board review. Stakeholder engagement was a major component of the plan – work was guided by a regional working group who primarily provided input and feedback on key milestones during the development of the TRIP through a series of meetings, in addition to convening a Resiliency Forum, which included a broad swath of regional participants, aimed at building knowledge of climate risks among the jurisdictions and collaborating to develop resilience solutions. The TRIP provides an overview of climate and resilience planning in the National Capital Region, outlines TPB's approach to understanding transportation vulnerabilities across the region, includes a two-phased vulnerability

assessment of risks posed by natural hazards on generalized transportation assets and regional-specific assets, and a list of priority resilience projects submitted by member agencies that addresses the vulnerabilities previously identified. The plan concludes with the Future Enhancements section, which includes a list of future work TPB staff plan to take on to continue informing transportation resilience planning and investments in the region. One additional component of the study is an interactive map of major regional resilience hazards which includes climate hazard layers, transportation asset layers, and Equity Emphasis Areas, included in the Vulnerability Assessment and provided to member agencies and jurisdictions as a resource.

### **DRAFT TRIP FOR BOARD APPROVAL**

Included in the packet of materials for the June 20, 2024 TPB Board Meeting is a draft version of the TRIP document for board members to review and approve during the meeting.

Please note, the Vulnerability Assessment is a major component of this plan and the source for much of the analysis, but is itself a separate, longer document and [can be found at this link](#). Top-line results of the Vulnerability Assessment are noted in the TRIP, but methodology and full results can be found in this separate document. The results of the Vulnerability Assessment have also been mapped and integrated into [this interactive mapping tool](#) to help agencies evaluate transportation assets at risk in their region and identify priority resilience projects.

The plan has been reviewed by the working group and edits and comments have been incorporated into this draft. Staff at FHWA have also completed a preliminary review of the draft, providing minor comments and edits that have been incorporated into this draft. FHWA noted the plan was excellent and will serve as an example for other MPOs interested in preparing Resilience Improvement Plans of their own.

Please email any comments or questions on the draft plan to Katherine Rainone, [krainone@mwcog.org](mailto:krainone@mwcog.org).





# NATIONAL CAPITAL REGION TRANSPORTATION RESILIENCE IMPROVEMENT PLAN

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## Plan Overview: TPB Board Notice for Approval

Katherine Rainone, AICP  
Transportation Planner

TPB Board Meeting  
June 20, 2024



National Capital Region  
**Transportation Planning Board**

# Today's Objectives

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- Overview how the Transportation Resilience Improvement Plan (TRIP) improves regional resilience and top-line results:
  - TRIP Objectives and Components
  - Vulnerability Assessment
  - Regional Resilience Improvement Projects
- Vote on plan approval

# TRIP Financial Benefits

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FHWA's Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Program provides grants to projects that make surface transportation more resilient to natural hazards. Grants cover planning activities; resilience improvements; community resilience and evacuation routes; and at-risk coastal infrastructure.

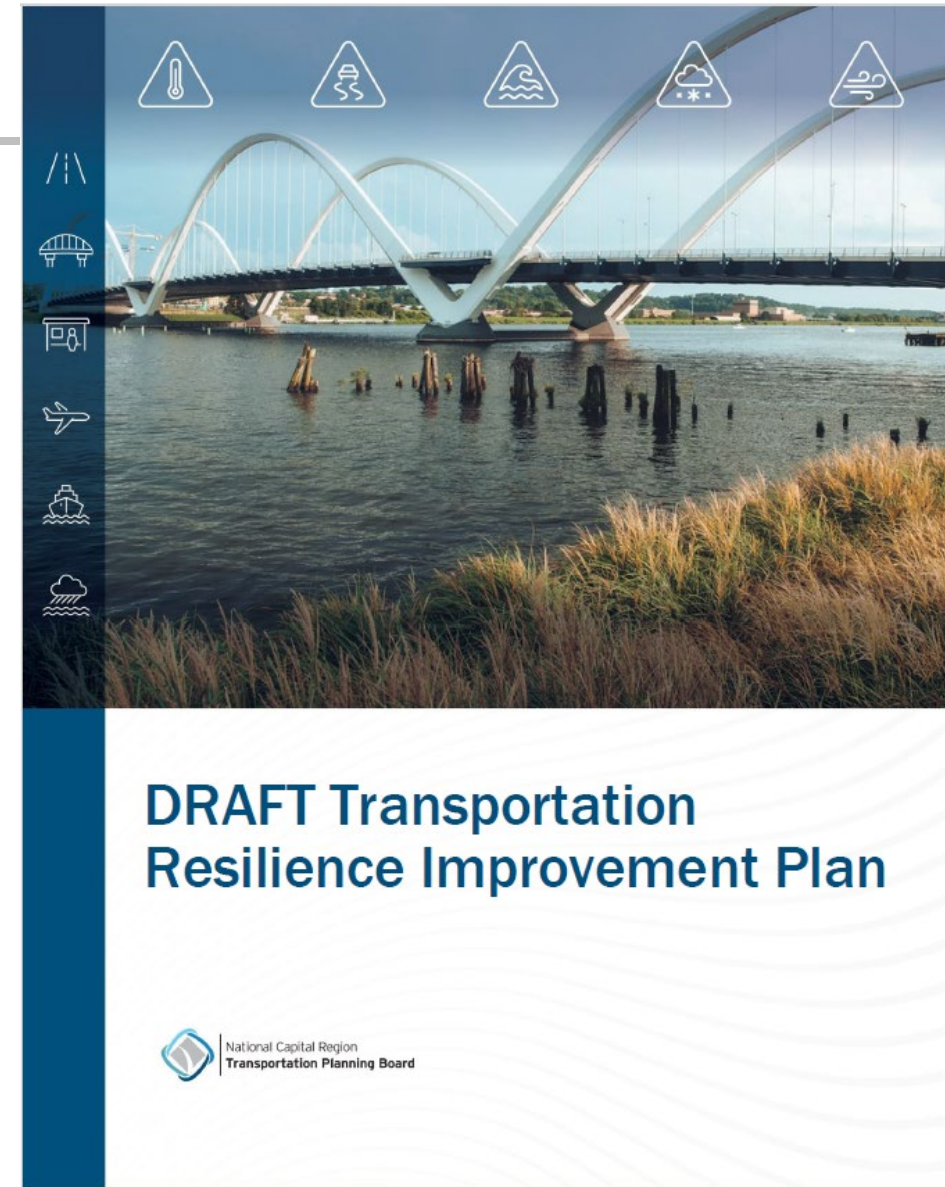
## TRIP Benefit:

- Projects in the TRIP are eligible for a **7% reduction in non-federal cost share.**
- If the TRIP is incorporated into the TPB National Capital Region Transportation Plan, the projects are **eligible for an additional 3% cost share reduction.**
- Projects included in the TRIP do not have to complete a benefit-cost assessment as part of their grant application.

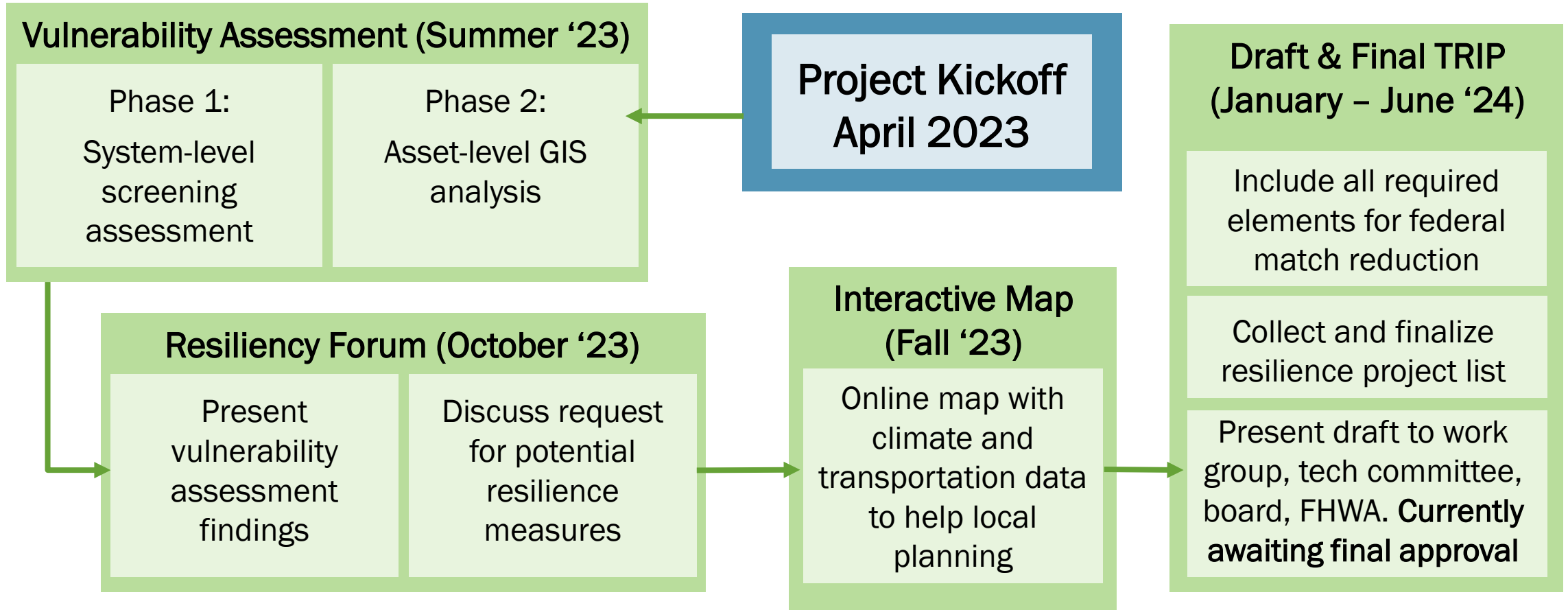


# TRIP Objectives

- Build on the strong foundation of resilience work by TPB
- Contribute to member organizations' understanding of and planning for climate change risk and resilience
- Identify regional priorities for resilience investment
- Better position member agencies and jurisdictions for federal funding and match reduction under the PROTECT program



# Process and Timeline



# Stakeholder Engagement and Collaboration



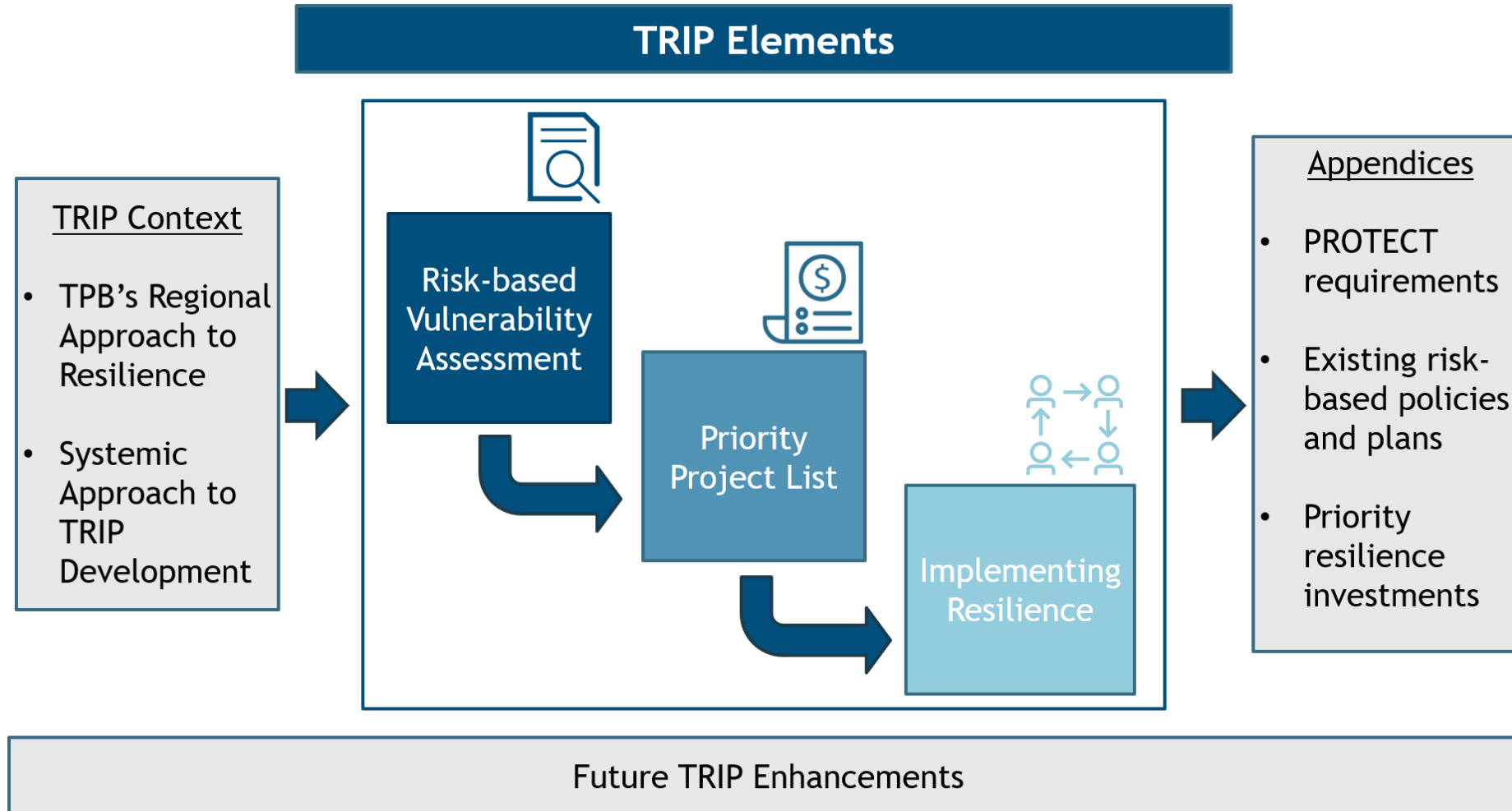
# TRIP COMPONENTS

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# TRIP Components













# Vulnerability Assessment Overview

## The assessment

- Identifies climate vulnerabilities of the region’s transportation system and priority areas for resilience investments
- Informs the resilience project list that facilitates the use of PROTECT funding

Asset/Hazard Pairs Analyzed in the Vulnerability Assessment

Hazard	Asset Groups				
	Public transit	Roads and highways	Active transportation	Bridges	Stormwater
Extreme Heat 					
Temporary Flooding (Coastal and Riverine) 					
Permanent Flooding (Sea Level Rise) 					
Extreme Winter 					
Extreme Wind 					

Analysis Method	
	Asset-level, indicator-based vulnerability assessment
	Literature review
	Map layer

# Asset-Level Assessment Methodology

Assets receive a score based on exposure to hazard and asset criticality

- **Exposure indicator:** Hazard Exposure (70% weighting)
- **Criticality indicator:** MWCOG Equity Emphasis Areas, Functional Classification, Detour Length (30% weighting)

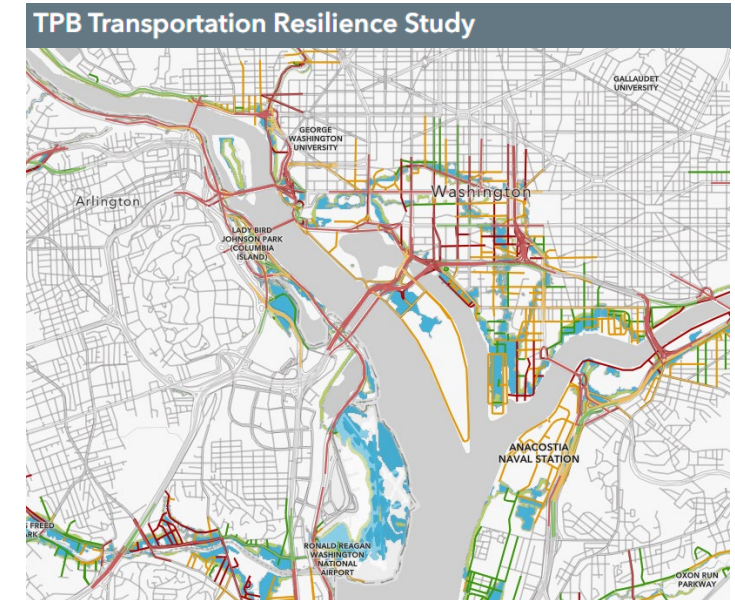
**Example scoring system: Extreme Heat and Public Transit**

Scoring Scale for Exposure		Scoring Scale for Criticality	
Indicator Value	Score	Indicator Value	Score
Top 1/3 of surface temperatures	3	Located in Equity Emphasis Area	3
Middle tier of surface temperatures (1/3-2/3) experienced in the study area	2	Not located in Equity Emphasis Area	1
Bottom 1/3 of surface temperatures experienced in the study area	1		



# Asset-Level Assessment Results




- Greatest number of assets are highly vulnerable to **temporary flooding (coastal and riverine)**, followed by **extreme heat** and **permanent flooding (sea level rise)**.
- **Equity emphasis areas (EEAs)** contributed **15-30%** of the overall vulnerability score. For several asset categories, all highly vulnerable assets were in an EEA.
- Several assets are highly vulnerable to multiple hazards:
  - 50 miles of road
  - 20 miles of rail line
  - 6 bus stops
- Rates of vulnerability to each climate hazard vary by geography
  - The online mapping tool helps determine vulnerabilities of specific areas.



Mapping tool example with visualization of roads, temporary flooding hazards (coastal and riverine), and road vulnerability to temporary flooding. Source: [Mapping tool](#).








# Asset-Level Assessment Results

Asset Type	 Extreme Heat				 Temporary Flooding (Coastal and Riverine)				 Permanent Flooding (Sea Level Rise)			
	High	Medium	Low	Not Exposed	High	Medium	Low	Not Exposed	High	Medium	Low	Not Exposed
Roads/Highways (miles)	Not Assessed				1,097 (5%)	1318 (6%)	733 (3%)	19,754 (86%)	50 (0.2%)	17 (0.1%)	14 (0.1%)	22,820 (99.6%)
Bridge	Not Assessed				1 (0%)	39 (3%)	1,281 (97%)	0 (0%)	* Bridges were evaluated for flood vulnerability generally based on condition data rather than coastal and riverine vs. sea level rise			
Bus Stops	196 (3%)	6,467 (89%)	583 (8%)	0 (0%)	173 (2%)	336 (5%)	377 (5%)	6,360 (88%)	0 (0%)	0 (0%)	0 (0%)	7,246 (100%)
Rail Stops	0 (0%)	53 (33%)	107 (67%)	0 (0%)	1 (1%)	6 (4%)	4 (3%)	149 (93%)	0 (0%)	0 (0%)	0 (0%)	160 (100%)
Rail Line (miles)	18 (2%)	352 (35%)	646 (64%)	0 (0%)	115 (11%)	154 (15%)	128 (13%)	619 (61%)	19 (1.9%)	42 (4.1%)	2 (0.2%)	954 (93.8%)



# Literature Review Results Overview

	Hazard	Historical Trends	Future Conditions	Example Impacts to Transportation Assets
	Extreme Heat	Average temperatures increasing	Number of extreme heat days increasing	Extreme heat can cause changes to physical transportation infrastructure and decrease the usability of transportation options.
	Temporary Flooding (Coastal and Riverine)	Annual precipitation increasing	Extreme precipitation more frequent and intense	More frequent and intense rainfall events could significantly affect stormwater infrastructure in the region.
	Permanent Flooding (Sea Level Rise)	Increasing	Increasing	Rising sea level and more intense coastal storms could significantly affect stormwater infrastructure in the COG region.
	Extreme Winter	Decreasing	Average winter conditions decreasing; storm intensity increasing	Above ground rail tracks can ice over during severe storms, and snow and ice conditions can make rail yards impassable.
	Extreme Wind	No clear trend	No clear trend	Extreme wind can create and move debris and bring down trees and power lines, resulting in service delays and detours, power outages, and in some cases, physical infrastructure damage.



# PROJECT SUBMISSIONS

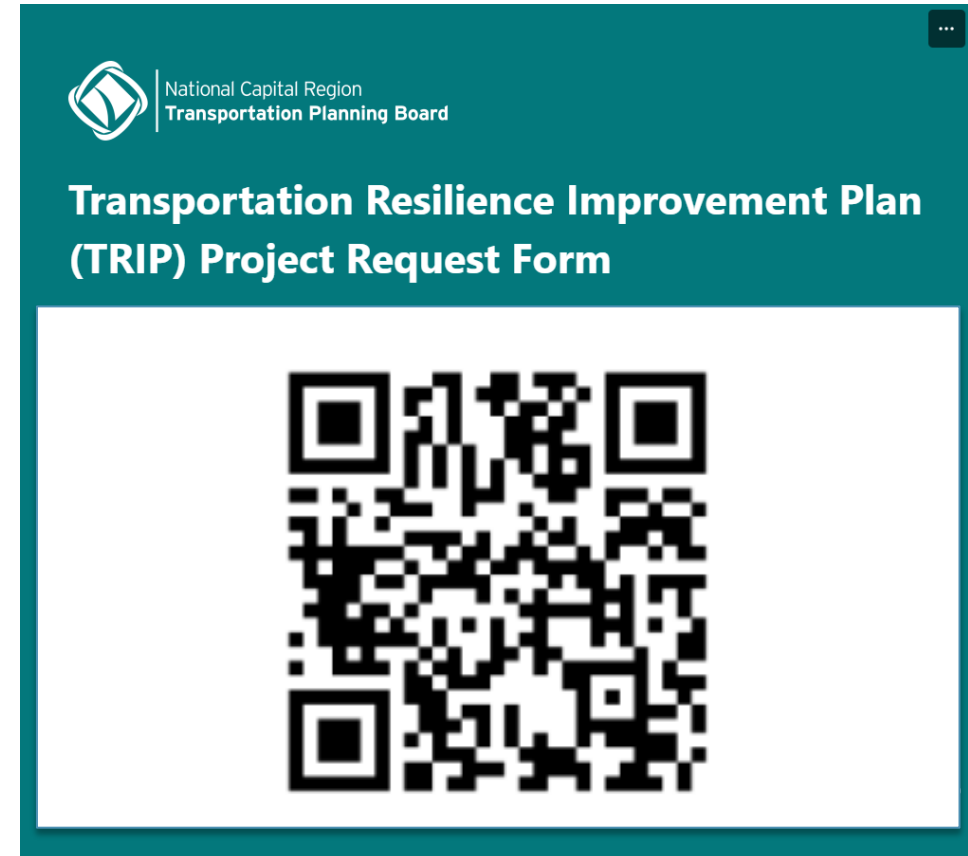
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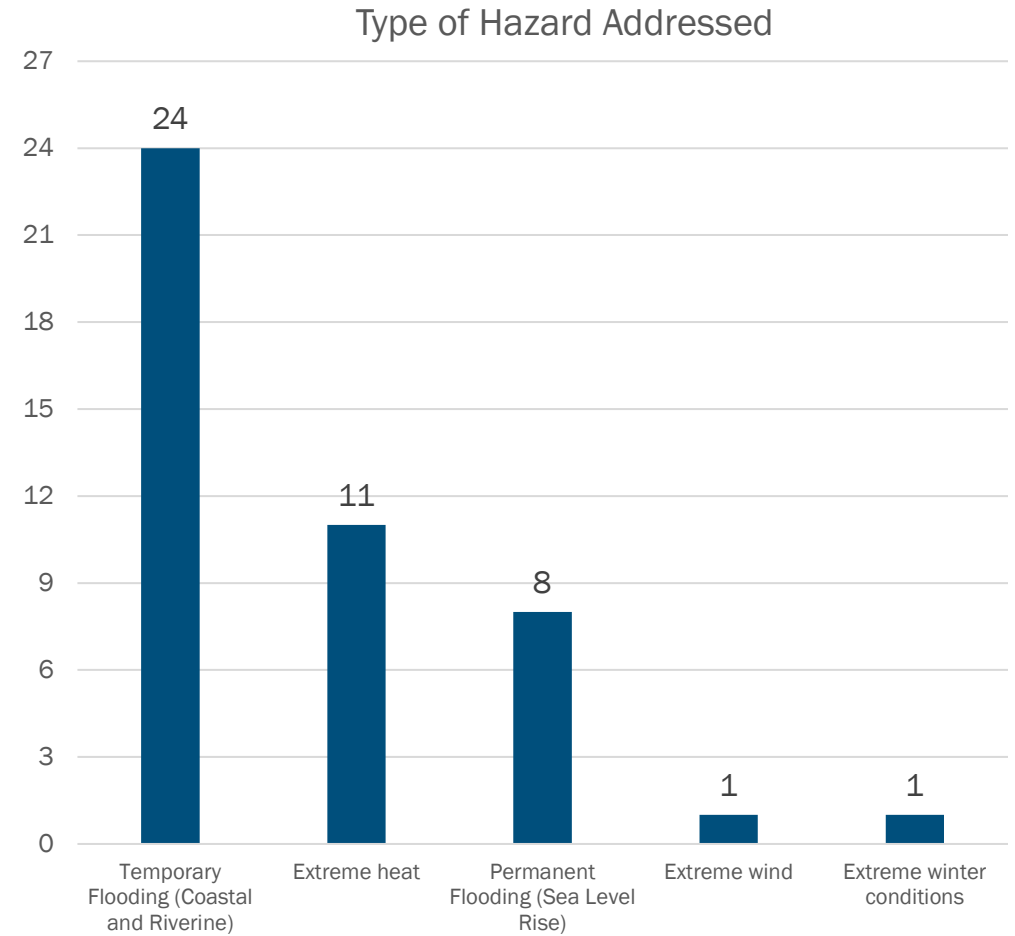
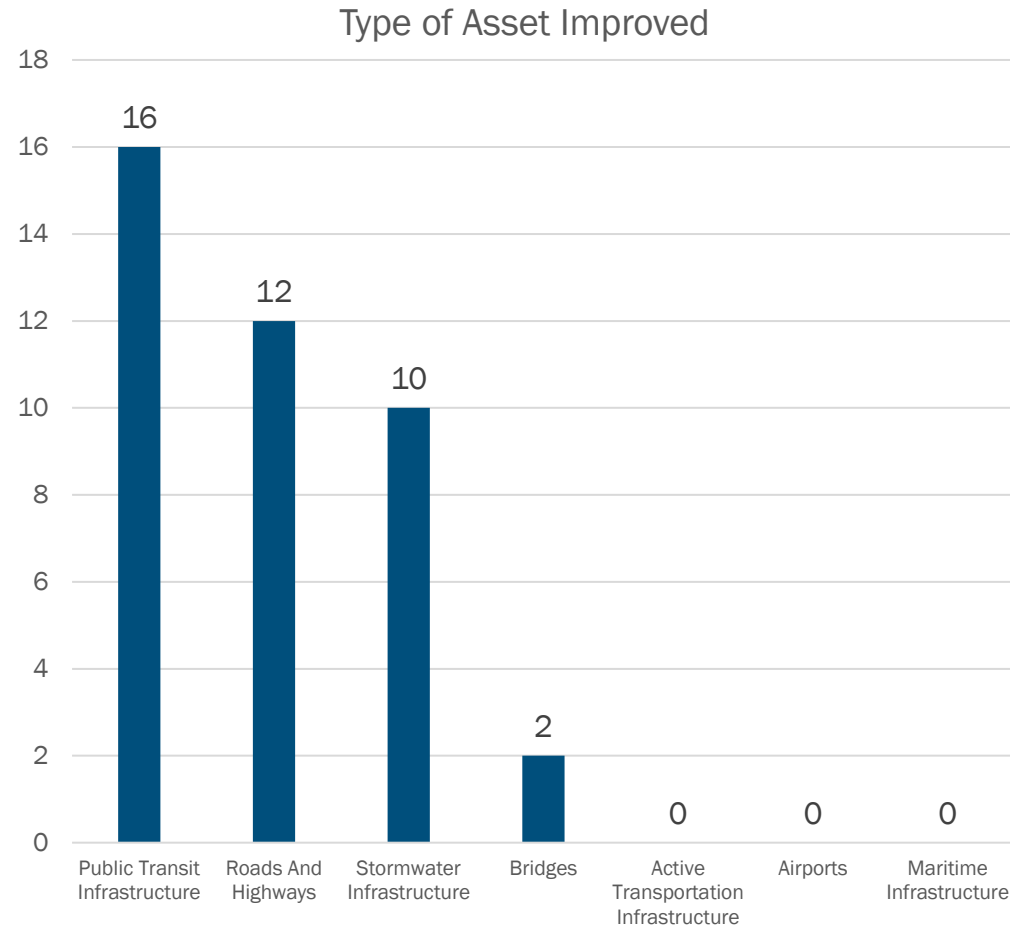
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# Priority Resilience Improvement Projects

- 34 projects from 8 jurisdictions submitted
  - 14 resilience plans
  - 20 resilience improvement projects
- Final project list included in the TRIP with submitting agencies providing information such as:
  - Project description and location
  - Climate hazards impacting the asset and resilience measures to be completed
  - Cost and timeline
  - Whether the project supports an EEA







# Priority Resilience Improvement Projects





# Resilience Improvement Projects - Examples

Lead Agency	Project Title	Location	Description	Hazards
DDOT (supported by the DOEE)	Nannie Helen Burroughs Avenue DC-295 Underpass	Nannie Helen Burroughs Avenue NE underpass beneath DC-295 in the District of Columbia.	The Nannie Helen Burroughs Avenue experiences frequent flash flooding due to the impermeable surfaces in the nearby Watts Branch watershed. Flooding happens quickly, leaving disadvantaged neighborhoods with vulnerable populations between DC-295 and the Anacostia River isolated with very little warning. The proposed Engineering Feasibility Study would identify methods to improve the flood resilience of transportation infrastructure while creating additional greenspaces between the Anacostia River and Kenilworth Park and the Nannie Helen Burroughs Avenue Commercial Corridor.	
Lead Agency	Project Title	Location	Description	Hazards
Virginia Railway Express	VRE Stations Heat Vulnerability and Mitigation Strategies Analysis	Station assets located on VRE's Manassas and Fredericksburg Lines, as well as on the joint line between Alexandria and Union Station.	Increasing temperatures have the potential to cause significant passenger discomfort to VRE riders. This project will identify the appropriate mitigation strategies to address the adverse effects of heat in five VRE station facilities. The project will detail potential effects on passengers and facilities, and will propose, at a planning level, conceptual projects that could mitigate or eliminate the adverse condition(s) through the horizon planning year.	
Lead Agency	Project Title	Location	Description	Hazards
Charles County Government (supported by the Resilience Authority of Charles County)	Cobb Island (MD-254) - Bridge Approach	MD-254 (Cobb Island Road) between MD-257 and the Cobb Island Bridge.	While the Cobb Island Bridge was recently replaced in 2020, the bridge approach and surrounding roadways still experience tidal flooding and inundation from sea level rise. There is ongoing planning for this project, and possible options include a range of possible nature-based and innovative interventions to address flood vulnerability from multiple hazards.	 

# Resilience Improvement Projects

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TPB will continue to solicit resilience improvement projects from member agencies for inclusion in a possible future TRIP

Each year, TPB will:

- Call for project submission through TRIP project request form
- Update of projects included in the Resilience Investment Plan and post the updated list on TPB website



# Future TRIP Enhancements

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Potential future improvements to the TRIP include:

- **Additional flooding impact analysis**  
Consider urban flooding, pluvial flooding, floodplain change due to climate change, combined effects of sea level rise and coastal and riverine flooding; ground-truth flooding results.
- **Increased consideration of equity and potential impacts to critical services**  
Conduct user-based analysis, critical service access analysis.
- **Economic impacts and system-level analysis**  
Identify monetary risk associated with hazard; consider how alternative transportation options or a lack thereof impact vulnerability.
- **Mapping regional closures due to natural hazards**  
Analyze Regional Integrated Transportation Information System data alongside hazard data.

# Thank You!



National Capital Region  
**Transportation Planning Board**

## Katherine Rainone

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