



MEMORANDUM

TO: TPB Technical Committee
FROM: Cristina Finch, TPB Transportation Planner
SUBJECT: Visualize 2050 Plan and Program Development Updates
DATE: September 26, 2025

This memorandum provides an update on the progress of the Visualize 2050 regional transportation plan and the required air quality conformity analysis ahead of scheduled approval of the plan in December 2025.

In May 2024, the TPB approved the draft scope of work for the air quality conformity analysis of Visualize 2050 and the FY 2026-29 Transportation Improvement Program (TIP).¹ This scope of work included assumptions about the analysis years, the land use forecasts (Round 10 Cooperative Forecasts), and assumptions about other inputs, such as the transportation networks, which represent future-year highway and transit network projects that are considered regionally significant for air quality (RSAQ) planning purposes. In June 2024, the TPB directed staff to conduct two sets of conformity analysis, one with and the other without the I-495 Southside Express Lanes (SEL). At the July 16, 2025 TPB meeting, the results of both conformity analyses were presented providing additional information for members to consider its value to the region's future transportation system.

At the October 15, 2025 meeting, the TPB will be asked to decide if the I-495 SEL project should be included in the continued development of the next National Capital Region Transportation Plan, Visualize 2050. One final comment period, scheduled for Thursday, October 23 to Friday, November 21, 2025, will be held on the entire plan, in advance of the TPB's action on plan adoption in December.

BACKGROUND

In June 2021, the Board adopted R19-2021 to update Visualize 2045 by December 2024 with a zero-based budgeting (ZBB) perspective. In June 2022, Visualize 2045 was approved. Following its approval, the Technical Inputs Solicitation was issued in February 2023, including the TPB Synthesized Policy Framework, findings of TPB scenario analyses, and instructions for the ZBB exercise. To provide additional time for MDOT and WMATA to resolve project and funding plans, a six-month schedule extension was provided in April 2023, moving the plan deadline to June 2025. The scope of work for the air quality conformity (AQC) analysis including the Cooperative Forecasts for Land Use (Round 10.0), the technical tools and assumptions, and the RSAQ project inputs were approved in May 2024.

¹ "Air Quality Conformity Analysis: Visualize 2050 and FY 2026-29 TIP, Draft Scope of Work" (Washington, D.C.: National Capital Region Transportation Planning Board, Metropolitan Washington Council of Governments, April 3, 2024).

In June 2024, the Board directed TPB staff to conduct two sets of AQC analyses: one with the I-495 SEL project and one without. This led to a further extension of the plan's schedule to be due in December 2025. In May 2025, agencies submitted final TIP financials for the financial analysis, which was then shared with the Technical Committee in September. In July 2025, TPB staff shared the results of the AQC analyses and key data points from the future system performance analysis based on model output from the Round 10.0 Cooperative Forecasts both with and without the I-495 SEL project.

WHAT HAS BEEN APPROVED TO DATE

In May 2024, the TPB approved several inputs for Visualize 2050 and the AQC analysis.

Land Use and Demographic Forecasts

Metropolitan Washington Council of Governments (COG) staff worked with local planning directors for all of COG's member agencies to determine where growth will occur by 2050. Following a process to determine the population, employment, and household forecasts by locality, the data was compiled to create the Cooperative Forecast for Land Use Round 10.0 which was approved by the COG Board and subsequently by the TPB. The Cooperative Forecast data, a key input to developing Visualize 2050, is applied to the TPB's Traffic Analysis Zones (TAZs), which are structured to reflect currently approved local and comprehensive plans and zoning. The data provides a basis from which future air quality conformity and system performance can be assessed.

Technical Tools and Assumptions

In addition to the Cooperative Forecasts Round 10.0, the table below summarizes many other TPB-approved technical inputs. These were necessary to conduct the AQC analysis for Visualize 2050 and the FY 2026-2029 TIP in compliance with the air quality conformity regulations. The information in Table 1 is being used in the travel demand forecasting model and motor vehicle emissions model to determine if the total on-road mobile source ozone emissions will be within the EPA-approved levels as well as measuring the future system performance.

Table 1: *TPB approved Technical Tools and Assumptions for Visualize 2050 AQC Analysis*

Pollutants	Ozone Season VOC and NOx
Emissions Model	MOVES4
Conformity Test	<u>Budget Test</u> : Using EPA approved mobile emissions budgets from the 2008 Ozone NAAQS Maintenance Plan
Vehicle Fleet Data	December 2023 vehicle registration data
Geography	8-hour ozone non-attainment area
Network Inputs	Regionally significant projects
Land Activity	Cooperative Forecasts Round 10
HOV/HOT	<u>VA</u> : I-66, I-95, I-395, and I-495 are all HOT3+; all HOV facilities will be HOV2+ through 2050 <u>MD</u> : HOV facility on US 50 will remain HOV2+ through 2050; HOV facility on I-270 will convert from HOV2+ to HOT3+ when additional lanes are added;
Roadway Restrictions	Roadway restrictions, such as truck prohibitions, are reflected in the travel model network using information supplied by the Departments of Transportation

Analysis Years	2025, 2026, 2030, 2040, 2045, and 2050
Modeled Area	6,800 square mile area with 3,722 Transportation Analysis Zones (TAZs)
Travel Demand Model	Gen2/Version 2.4.6

Projects Regionally Significant for Air Quality (RSAQ)

As noted in the technical inputs table above, the approved regionally significant highway capacity projects are expected to cumulatively add approximately 530 lane miles to the region's transportation network—an overall increase of about three percent. This total includes 239 arterial lane miles, representing a two percent increase. These arterial improvements encompass major arterials, minor arterials, and collector roadways.

The network will also gain 291 freeway and expressway lane miles—an eight percent increase—including 86 lane miles of tolled facilities (81 new HOT express lane miles and five electronic toll road lane miles). If approved, the I-495 SEL project would contribute an additional 41 express lane miles to the freeway and expressway network, raising the total number of freeway and expressway lane miles to 332, representing a further one percent increase.

A total of 25 RSAQ projects will expand the region's high-capacity transit (HCT) capacity with 97 HCT lane miles, comprising 14 bus rapid transit (BRT)/bus projects, nine commuter rail projects, one light rail project, and one streetcar project.

WHAT HAS BEEN SHARED

Since 2023, various reports, studies, and data updates have been shared with the Technical Committee regarding numerous topics that will be covered in Visualize 2050. The items below are a sampling and not comprehensive of all the topics discussed at the Technical Committee or included in Visualize 2050.

Public Transit: Several reports were shared with the Technical Committee, including the annual State of Public Transportation Reports, the Intercity Bus and Rail Travel Final Report, and the HCT Local Transit Access Study. These documents provided insight into how public transit in the region has operated in the past few years, how it serves the region today, and what will remain a challenge.

Bicycles, Pedestrians, and Micromobility: The region's Bicycle and Pedestrian Plan, along with data on bicycle and pedestrian volumes, and updates to the National Capital Trail Network have informed insight on trends, current access and performance, and safety and accessibility challenges, as well as aspirations for the future.

Driving and Riding in a Vehicle: To provide insight on how the roadways for driving serve the region, the 2022 State of the Commute Report, the Curbside Management Report, and the 2023 Vehicle Registration Data, along with model output data, have provided the region with valuable insights. Trends on the mode share, accessibility, system management strategies, and challenges will be highlighted in the plan as well as relevant projects and programs as they relate to TPB Priority Strategies.

Travel Demand Management (TDM): The 2022 State of the Commute Report, the Curbside Management Forum, and the Commuter Incentives: Motivating Travel Behavior Change presentation have explained how TDM strategies, like Commuter Connections, have positively impacted the region. TDM projects and programs demonstrate implementation of a TPB Priority Strategy.

Freight Planning: The National Capital Region Freight Plan was shared with the Technical Committee in July and September of 2023 and provides freight trends, freight travel time reliability data, freight system management, emerging technologies in freight, challenges, and future freight-related projects informing Visualize 2050.

Safety: Safety is a fundamental element of the TPB policy framework. Insights have been gained from the TPB Roadway Safety Summit, TPB's ongoing work with agencies on identifying and implementing safety best practices, and the performance measures and targets for transit and highway safety. The safety performance for various transportation modes, the ongoing challenges with addressing safety, and the importance of safety as a TPB goal and the related priority strategy inform the plan.

Congestion Management: The TPB's delay and reliability performance measures and targets and information shared on the Congestion Management Process (CMP), including the draft 2024 CMP Technical Report, provide insight on how congestion has impacted the region in recent years, and the ongoing challenges associated with it. Using the Round 10.0 Cooperative Forecasts and the region's planned RSAQ projects, the TPB's travel demand model forecasts data pertaining to several highway and transit congestion performance measures to understand mobility and accessibility in 2050.

Maintenance: The TPB staff tracks current and future highway asset and performance measures and targets which inform the baseline and guide future efforts to maintain the region's transportation assets. The TPB's member agencies have submitted many maintenance inputs for the Visualize 2050 financial plan demonstrating how the TPB's Priority Strategy and goal related to maintenance are being supported. Ongoing challenges related to funding and prioritization are also reflected.

Land Use and Transportation Coordination: The region's cooperative forecasts are developed with input from local government agencies providing the land use inputs for the plan regarding where population, households, and employment will be located in 2050. Given the land use and transportation relationship and how it influences mode choice, congestion, access, and safety, TPB's travel demand model provides insights for 2050 considering the forecast land use and transportation changes from today.

Electric Vehicles (EVs): As electric vehicles grow as a portion of registered vehicles in the region, TPB staff have shared the National Electric Vehicle Infrastructure (NEVI) Plan for the three states and the Regional EV Infrastructure Implementation (REVI) Strategy which support information for the plan related to EV trends. Member agency project inputs will showcase how TPB's Priority Strategy is being implemented to expand the region's EV fleet and charging capacity.

Environmental Consultation and Mitigation: The TPB staff presented the Environmental Consultation and Mitigation Strategies in March 2025 and provided an interactive map to help agencies with their project development activities.

Air Quality: In May 2024, the TPB approved the draft scope of work for the AQC analysis of Visualize 2050. The TPB staff conducted the AQC analysis on two sets of project inputs over the next year, and in July 2025, presented the findings of both analyses as requested by the TPB. The AQC analysis informs the plan's findings of the AQC process and demonstrates the region's compliance with air quality standards, including Volatile Organic Compounds (VOCs) and Nitrogen Oxides (NO_x).

Resilience: In May 2024, the TPB staff shared the Transportation Resilience Improvement Plan (TRIP), followed by the TRIP project list update and the integration of updated flood data into risk assessment. Together, this report and data have strengthened the topic of resilience in the plan by touching on expected impacts on transportation assets from extreme natural hazards. Member agency projects and programs to improve system resilience help to demonstrate members' actions towards the TPB's goal for resilience.

Financial Plan: This is an activity conducted uniquely for Visualize 2050, and the Technical Committee has received updated on the financial plan's development at various stages during the planning process including in January 2023 on the scope of work for the plan, in September 2023 on preliminary revenue and expenditure projections, and at the September 2025 meeting on the results of the plan analysis. The financial analysis informs Visualize 2050's financial plan including the anticipated revenues and detailed revenues by funding source are described, along with the plan's planned expenditure details by type and mode.

System Performance: In July 2025, the TPB staff presented the system performance analysis of Visualize 2050. From the model output of the Round 10.0 Cooperative Forecasts, TPB staff shared the 2025 and 2050 projected access to jobs in a 45-minute commute, reliability, congestion and delay, changes in the balance of Regional Activity Centers (RACs) and HCT stations, daily vehicle miles traveled (VMT) per capita, and mode share which are all key takeaways to highlight in the plan.

Other Visualize 2050 Topics: Many other topics have informed Visualize 2050:

- Emerging Technologies
- Coordinated Human Services
- Surface Connections to Air
- Public Engagement and Communications
- Public Health
- Regional ITS Architecture
- Emergency Preparedness Planning
- Housing Coordination
- Travel and Tourism
- Policy Evolution
- Pipelines and Waterways

FINAL PUBLIC COMMENT PERIOD

One final comment period is scheduled for October 23 to November 21, 2025. This is a 30-day public comment period on the Draft Visualize 2050 National Capital Region Transportation Plan; Draft Fiscal Year (FY) 2026-2029 Transportation Improvement Program (TIP); and the Draft Air Quality Conformity Analysis Report of Visualize 2050 and the FY26-29 TIP. This will be the final opportunity for the public to comment on the documents. The promise to the public is to convey their comments to the elected and appointed officials, and the involved agencies. TPB staff will also develop written responses to comments received; any comments related to projects or other state-specific activities will be shared with appropriate agency. The TPB will also host a TIP Forum on November 13, 2025 in conjunction with the TPB Community Advisory Committee meeting.

COMMUNICATIONS UPDATES

In support of the October 23-November 21, 2025, comment period, COG and the TPB will share information about the Visualize 2050 draft plan, the FY 2026-2029 TIP, and the accompanying Air Quality Conformity Analysis Report on its Visualize communications hub website, <http://visualize2050.org> and also on the COG website, <https://www.mwcog.org/>.

The Visualize 2050 website is where members of the public will find the Visualize 2050 draft plan, executive summary, FY 2026-2029 TIP, Air Quality Conformity Analysis Report, and supplemental materials including an interactive map gallery.

Key visualize2050.org webpages during the comment period include The Plan, Plan Resources, and the Get Involved page. A link to the comment form and instructions will be placed in several locations: the homepage and Get Involved page at visualize2050.org and the TPB Comment Form page at mwcog.org (with a link from the COG homepage).

The October 23-November 21 comment period will be announced in COG and TPB e-newsletters, and through the following COG and TPB social media channels: Bluesky, Facebook, Instagram, LinkedIn, and X/Twitter. An Ambassador Toolkit consisting of a comment period guide, flyer, sample social media graphics, and logos will be available for download on the Get Involved page of the Visualize 2050 website. Comment period information will be shared with COG and TPB members, committee members, regional public information officers, and the public. Legal advertisements will be posted in the Washington Post, Washington Hispanic, and AFRO News. COG's Office of Communications will field and share any news media about the draft Visualize 2050 plan.

The TPB will also share information about the November 13, 2025, FY 2026-2029 TIP Forum, which will be held at 6:00 P.M. at the COG office (with a virtual option). TIP Forum details will be posted on the Visualize 2050 website, in newsletters, and on social media.

NEXT STEPS

The key milestones for the remainder of this year are shown in Table 2. The TPB is scheduled to act on Visualize 2050, the FY 2026-2029 TIP, and the AQC Report at the December 17, 2025 meeting.

Table 2: Remaining Schedule for Developing Visualize 2050

2025	
October	<ul style="list-style-type: none">• 10/15/2025 TPB votes to move forward with or without the I-495 Southside Express Lanes project for continuation in the plan development and air quality conformity processes.• Staff finalizes the draft Visualize 2050 plan, TIP, and AQC documents, website, reflecting TPB's action.• 10/23/2025 Staff releases above draft documents and advertises a 30-day public comment period.
November	<ul style="list-style-type: none">• 11/19/2025 TPB briefed on all aspects of Visualize 2025 and the FY 2026-2029 TIP and comments received with responses, to date.• 11/21/2025 Public comment period closes.
December	<ul style="list-style-type: none">• 12/17/2025 TPB updated on additional comments and responses and acts to: approve the results of the AQC analysis and adopt the Visualize 2050 plan and the FY 2026-2029 TIP.