National Capital Region
Transportation Planning Board

Draft
as of 01/16/26

TPB TRAVEL FORECASTING SUBCOMMITTEE

HIGHLIGHTS OF THE NOVEMBER 21, 2025 MEETING, 9:30 AM TO 12:00 PM

Meeting was held virtually via web conferencing software. There was no on-site meeting.

MEETING ATTENDEES

MEMBERS, ALTERNATES, AND PARTICIPANTS

- Jonathan Avner (Whitman, Requardt & Assoc.)
- Jim Bunch (Mead & Hunt)
- Kevin Chai (Fairfax County)
- Filippo Contiero (Bentley Systems)
- Xiao Cui (VDOT)
- Ali Etezady (RSG, Inc.)
- Daniel Florian (Bentley Systems)
- Joel Freedman (RSG, Inc.)
- Anson Gock (Delaware DOT)
- Tony Hofmann (Michael Baker, Inc.)
- Li Li (Whitman, Requardt & Assoc.)
- Feng Liu (Cambridge Systematics)
- Chunyu Lu (Texas A&M Transportation Institute)
- Ahmed Mohideen (Bentley Systems)
- Chaitanya Paleti (RK&K)
- Kelli Raboy (WMATA)
- Harun Rashid (NVTA)
- Andrew Rohne (Caliper)
- Gaurav Vyas (Bentley Systems)
- Jun Yang (M-NCPPC, Montgomery Co.)
- Shanjiang Zhu (GMU)

COG STAFF

- Timothy Canan
- Anant Choudhary
- Robert d'Abadie
- Nazneen Ferdous
- Yu Gao
- Tom Harrington
- Charlene Howard
- Kaelem Mohabir
- Mark Moran
- Ian Newman
- Ray Ngo
- Wanda Owens
- Sergio Ritacco
- Meseret Seifu
- Bahar Shahverdi
- Jessica Storck
- Uttara Sutradhar
- Dusan Vuksan
- Feng Xie
- Zhuo Yang

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1. OPENING: MEETING ROLES, RULES, AND ROLL CALL OF PARTICIPANTS

Mark Moran opened the meeting by announcing that the Model Application Group of the Travel Forecasting and Emissions Analysis Team had a new member, Kaelem Mohabir. Kaelem earned a Bachelor of Science degree in Mechanical Engineering from the University of Central Florida. Before coming to COG, he mostly worked for the Oregon Department of Transportation as a Project Engineer, Analyst, and Modeler.

Tim Canan then proceeded to give a brief update to the subcommittee on two ongoing survey efforts. He first announced that, due to the implications of the federal government shutdown on air travel and the expected reduced data quality, the Washington-Baltimore regional air passenger survey that had been scheduled for mid-autumn 2025 has been postponed to spring 2026. Tim then announced that key activities for the Regional Travel Survey (RTS), such as developing the sampling plan and survey instruments, are underway. He also noted that, as previously mentioned by Kenneth (Ken) Joh, the project manager for this effort, interested jurisdictional or agency partners should contact Ken to fund additional sampled households in their area. Tim explained that this window of opportunity is likely going to close in early 2026.

Mark finished opening the meeting by discussing the roles of the meeting participants (e.g., chair, host, technical host, note taker), meeting rules, and performing a roll call of participants. This meeting of the TFS was chaired by Kelli Raboy.

2. APPROVAL OF MEETING HIGHLIGHTS FROM THE PREVIOUS MEETING, HELD ON JULY 18 (SEPTEMBER 19 MEETING WAS CANCELLED)

The highlights of the July 18, 2025 meeting of the TFS were approved without any changes.

3. COG/TPB GEN3 TRAVEL MODEL: STATUS REPORT FROM COG/TPB STAFF

This item was presented by Feng and Mark, who spoke from two sets of presentation slides. Mark started by announcing that he gave an update on the development of the Gen3 Travel Model at the November 7 meeting of the TPB Technical Committee and that, following that presentation, the beta version of the Gen3 Model was released. He then proceeded to give a brief overview of regional travel demand forecasting models (TDFM), as well as their standard use cases and how the TPB uses the models. Mark continued by going into more detail on two types of TDFM: the four-step model, an aggregate model (e.g., the Gen2 Model), and the disaggregate activity-based model (ABM, e.g., the Gen3 Model), and highlighted differences between both model types. Mark concluded his presentation with the next steps and acknowledgements.

Following Mark's presentation on the Gen3 Model, Feng provided a status update on the recent Gen3 Model development activities. He first talked about the beta release of the Gen3 Model and explained what is included in the transmittal package and how to request it. He then went through the post-beta model enhancements and bugfixes, including the recent re-calibration of the transit pass subsidy model and free parking eligibility model, a bugfix in the Park-and-Ride (PNR) access transit skimming, and the ongoing recalibration of the tour and trip mode choice models. Feng concluded his presentation with next steps.

Kelli asked if the results from the new Regional Travel Survey (RTS) will be integrated into the Gen3 Model. Mark explained that the next RTS will be conducted in 2026 and that COG staff plan to use the 2026 RTS to update/recalibrate the travel model. Jim Bunch then asked how much the results for the Visualize 2050 scenarios change when using the Gen2 vs. the Gen3 Model. Mark pointed out that COG staff performed tests and recorded the results in a draft memo, before noting that both models produced very comparable results on many metrics. Feng added that, at the regional level, the Gen2 and Gen3 model results compare very well except for transit ridership and VHD. He also noted that the Gen3 Model status reports at the previous TFS meetings summarized these findings in more detail.

4. VISUALIZE 2050 NATIONAL CAPITAL REGION TRANSPORTATION PLAN: RESULTS FROM THE PERFORMANCE ANALYSIS OF THE PLAN AND THE AIR QUALITY CONFORMITY ANALYSIS

This item was presented by Sergio Ritacco and Rob d'Abadie, who spoke from two sets of presentation slides. Sergio first provided an overview of the draft Visualize 2050 plan's system performance analysis. He first highlighted that more information about the plan could be found on the plan's website,[1] where the report, as well as interactive maps, could be viewed. He then went through some of the major sections of the report, emphasizing Chapters 3 and 6, which show the current and future transportation system performance. He highlighted how Chapter 6 shows the mode choice by subarea, making it easier for jurisdictions to focus on regional transportation goals, such as reducing Single-Occupant Vehicle (SOV) trips. Sergio concluded his presentation by giving an overview of Chapter 7, explaining that challenges are still expected to exist and mentioning elements not captured by the travel demand forecasting model, such as traveler safety.

Following Sergio's presentation, Rob provided a brief overview of the Air Quality Conformity (AQC) analysis which was done for Visualize 2050. He first explained that AQC is a requirement of the Clean Air Act (CAA) and an analysis intended to ensure that Metropolitan Transportation Plans (MTPs), such as Visualize 2050, meet the region's targets for achieving and maintaining the National Ambient Air Quality Standards (NAAQS). Rob proceeded to highlight that the region's strategy to meet the NAAQS, specifically ground-level ozone, is outlined in its State Implementation Plan (SIP). He further elaborated that this SIP establishes Motor Vehicle Emission Budgets (MVEBS), which are the maximum allowable total emissions from on-road vehicles of the precursor pollutants for ozone: Volatile Organic Compounds (VOCs) and Nitrogen Oxides (NOx). Rob concluded his presentation by highlighting that the conformity analysis confirmed that Visualize 2050's forecasted on-road VOC and NOx emissions are below the MVEBs and with the next steps.

Kelli and Harun Rashid both submitted questions to Sergio via the chat. Kelli asked whether the Visualize 2050 analyses incorporated or will incorporate impacts estimated with DMVMoves. Harun also inquired about how DMVMoves and SJ28 initiatives were considered in the financial plan. Sergio responded that, given the two- to three-year development process of Visualize 2050 and the submission of projects occurring in Spring 2024, more recent DMVMoves recommendations and policy actions, as well as the ongoing policy coordination and deliberation, will be more formally included in the next major plan update. Harun also asked whether the Bus Rapid Transit (BRT) Action Plan of the Northern Virginia Transport Authority (NVTA) was considered for future networks. Sergio explained that federal requirements state that projects submitted in the plan must have funding reasonably expected and allocated to be incorporated. He followed up by highlighting how some of the BRT projects were included as they were further along in their development process and met the requirements, such as parts of the VA-7 and Route 1 BRT.

5. LEVERAGING CONNECTED CAR DATA TO IMPROVE TRAVEL DEMAND MODELING

This item was presented by Dr. Shanjiang Zhu, who spoke from a set of presentation slides. Shanjiang reported on a study conducted by George Mason University in collaboration with Villanova University and funded by the Virginia Department of Transportation (VDOT). He explained that this study aims to use connected vehicle (CV) data, such as the Wejo data used in this study, to improve travel demand modeling. Shanjiang first highlighted unusual travel behavior revealed by trajectory data, such as excessive non-moving time and extremely long trips, and discussed how they were handled for modeling applications. He further demonstrated that CV data can provide nuanced information about trip time, trip distance, and path patterns with fine geographic and temporal resolution. However, he

[1] MWCOG, TPB Visualize 2050. 2025. https://visualize2050.org/

noted that significant data processing work, usually within the big data analytics domain, is required. Shanjiang concluded his presentation by discussing some ongoing efforts that aim to integrate CV data into travel demand modeling.

During the presentation, Yu Gao asked whether the trip charts from CVs include public transportation data. Shanjiang answered that the current Wejo data includes only passenger cars. Harun then inquired about the penetration rate of CV data and Shanjiang answered that it was about 2-5%, depending on location. Kelli asked whether CV trips are a representative sample of overall trip making behavior and Shanjiang answered that this question is an ongoing research topic under investigation by the research team. He further pointed out that geographic bias is easier to control than biases related to social demographics and that current CV data does not include such information for privacy protection.

6. MODELING SOFTWARE UPDATES

Daniel Florian, who spoke from a set of slides, presented ideas for exploring new transport model workflows in the OpenPaths transport modeling software.[2] He explained that for almost two years CUBE has been advanced and distributed as part of OpenPaths, which also provides users with access to other modeling software with expanded capabilities. The presentation slides propose specific ideas to explore broader OpenPaths capabilities, including integrated CUBE<>EMME model workflows, new visualizations for network and ABM model results, importing and connecting ActivitySim model results, improving trip-based models, adding automated vehicle (AV) scenarios to ABMs, and technology previews of potential new OpenPaths traffic assignment capabilities.

Due to time constraints, questions were submitted via the chat and responded to by Bentley Systems staff. Feng asked whether trip tracing could also be performed with transit trips. Filippo Contiero replied that that is indeed the case, as the trips traced are related to the tours of the demand model, which include transit modes. Ray inquired about whether the ABM visualization tool was an independent tool from the OpenPaths suite or part of CUBE or EMME. Gaurav Vyas responded that the tool was part of both EMME and CUBE and could be accessed by opening the Scenes application. However, he mentioned that the ABM outputs had to first be imported into the OpenPaths AGENT database. Ray followed up by asking if the new highway assignment was deterministic and independent from the number of cores/threads utilized. Daniel explained that this was their design goal and the expectation for the new traffic assignment. He highlighted that there is stability of results across the threads and that OpenPaths EMME already demonstrated this property.

7. THANK OUTGOING CHAIR OF THE TFS AND WELCOME NEW CHAIR FOR CY 2026

Mark explained that at the end of the calendar year, a new chair is selected to staff the subcommittee and that this chair generally rotates between agencies from four different entities: the District of Columbia, Maryland, Virginia, and a transit or regional agency, with the next chair being from a Maryland-based agency. Before announcing the next chair, Mark thanked both chairs who staffed the subcommittee in 2025, Leanne Young and Kelli Raboi from WMATA, and presented them with certificates of appreciation. He then introduced Jun Yang from M-NCPPC, Montgomery Co. Planning Department, who will act as chair to the subcommittee for 2026. In his university studies, Jun learned Construction Engineering and Management, Transportation Engineering, and GIS. At M-NCPPC, Montogomery Co., he has started working with the COG/TPB Gen2 Model and is also doing traffic operational modeling and simulation.

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[2] Bentley Systems, Inc. OpenPaths. 2025. https://www.bentley.com/software/openpaths/

8. ROUNDTABLE DISCUSSION OF CURRENT MODELING EFFORTS AROUND THE REGION

Kelli asked the attendees of the subcommittee if they had any planning studies or modeling updates to provide, but none were given.

9. NEXT MEETING AND OTHER BUSINESS

Mark first announced all the dates for the planned TFS meetings for 2026, before explaining that COG/TPB generally likes to have at least one external or non-COG presenter at every meeting. He noted that there are open opportunities at upcoming meetings and that interested parties should contact him via email.

For other business, Mark noted that the first item, the update on TPB survey activities, was presented earlier on in the meeting due to scheduling conflicts. Ian Newman continued with the second item by giving an update on the progress of the Mobility Analytics Subcommittee (MAS) since the May TFS meeting. Ian gave a summary of the MAS, highlighting that travel monitoring activities have been performed under the umbrella of the TFS since 2005, but since 2025, this responsibility shifted to a separate subcommittee and was now grouped under the Mobility Analytics Program (MAP). Ian also noted that the goals of the MAS included advising TPB staff on the present and future development of the MAP, as well as collaborating on and integrating the Congestion Management Process (CMP) and MAP. He concluded his presentation by announcing that the inaugural meeting of the MAS will be held on December 11th on COG premises and provided details on the agency representatives in the MAS.

10. ADJOURN

The meeting was adjourned at about 12:00 PM.

Attribution: This meeting summary was developed using a variety of sources, including notes from participants, a recording of the meeting, presentation slides, and a meeting summary generated by artificial intelligence (AI), via Webex and ChatGPT. Any sections of the meeting summary based on AI-generated content were reviewed and edited for accuracy by humans. The primary authors of the meeting summary were the meeting presenters, Glenn Lang, and Mark Moran.