



## TPB TRAVEL FORECASTING SUBCOMMITTEE

### HIGHLIGHTS OF THE JULY 17, 2026 MEETING, 9:30 AM TO 12:00 PM

The meeting was held at the Metropolitan Washington Council of Governments and offered a virtual option via web conferencing software.

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### MEETING ATTENDEES

#### MEMBERS, ALTERNATES, AND PARTICIPANTS

- Ashkan Alam (NVTA) \*
- Vince Bernardin (Caliper) \*
- Jim Bunch (Mead & Hunt) \*
- Kevin Chai (Fairfax Co. DOT) \*
- Jilan Chen (SEMCOG) \*
- Ali Etezady (RSG, Inc.) \*
- Joel Freedman (RSG, Inc.) \*
- Dan Goldfarb (VDOT) \*
- Tony Hofmann (Michael Baker, Inc.) \*
- Gladys Hurwitz (Loudoun Co.) \*
- Li Li (Whitman, Requardt & Assoc.) \*
- Tom Li (ASRI)
- Feng Liu (Cambridge Systematics) \*
- Jiaqi Ma (UCLA) \*
- Vahid Moshtagh (VDOT) \*
- Chaitanya Paleti (RK&K) \*
- Krishna Patnam (AECOM) \*
- Mark Radovic (Gannet Fleming) \*
- Md. Mokhlesur Rahman (BMC) \*
- Charmelis Reyes Cruz (Fehr & Peers) \*
- Andrew Rohne (Caliper) \*
- Thomas Rossi (Cambridge Systematics) \*
- Brian Ryder (BMC) \*
- Rana Shams (MDOT) \*
- Elham Shayanfar (MDOT) \*
- Lisa Shemer (MDOT-SHA) \*
- Howard Slavin (Caliper) \*
- Steve Weller (Atlas Arteria) \*
- Chris Wichman (Geotab)
- Jinghua Xu (SCAG) \*
- Jun Yang (M-NCPPC, Montgomery Co.) \*
- Ximon Zhu (Numobility) \*

#### COG STAFF

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|---------------------|---------------------|--------------------|
| • Deven Barth       | • Pierre Gaunaud *  | • Bahar Shahverdi  |
| • Timothy Canan *   | • Kenneth (Ken) Joh | • Kanti Srikanth * |
| • Anant Choudhary   | • Glenn Lang        | • Dusan Vuksan *   |
| • Robert d'Abadie * | • Ray Ngo           | • Feng Xie         |
| • Nazneen Ferdous * | • Jinchul (JC) Park | • Jim Yin          |

\* An asterisk indicates that the person attended the meeting remotely via WebEx.

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

Ray Ngo opened the meeting and invited new attendees to introduce themselves, before thanking the meeting presenters, and going over standard housekeeping rules. This meeting of the TFS was chaired by Jun Yang.

## **2. APPROVAL OF MEETING HIGHLIGHTS FROM THE PREVIOUS MEETING, HELD ON JANUARY 23, 2026**

The highlights of the May 15, 2026, TFS meeting were approved without any changes.

## **3. BALTIMORE METROPOLITAN COUNCIL (BMC) ACTIVITY BASED MODEL: MODEL OVERVIEW AND APPLICATION**

This item was presented by Brian Ryder and Md. Mokhlesur Rahman who spoke from a set of presentation slides. Brian started by providing an overview of the Activity Based Model (ABM) maintained and used by BMC called InSITE, giving details on why they developed this new model, as well as a brief overview of the modeled area and projects. Rahman continued by explaining at a high level how ABMs function and their advantages over Trip-Based models, before going over the implementation and components of the InSITE model.

After the presentation, Dr. Feng Xie asked whether BMC is still maintaining their Trip-Based model and how the reception of the InSITE model has been across member jurisdictions and partner agencies. Brian responded that they are no longer maintaining the Trip-Based model and explained that except for Maryland State Highway Administration (MD SHA), no other party runs the model themselves.

Jim Bunch inquired about how work from home is handled. Brian explained that it is based on a 2018/19 household travel survey, reflecting pre-pandemic patterns, though they are looking to do a minor update to get it more in line with current patterns.

Andrew Rohne asked what the runtime of the model is. Rahman answered that a single run takes 4-5 days. Brian added that they can currently only do a single run at a time.

Krishna Patnam commented that he heard that the Maryland Statewide Transportation Model<sup>1</sup> (MSTM) will take to Activity-Based modeling and enhance their network resolution. He then asked whether there would be any collaboration between BMC and MDOT. Brian explained that the MSTM network was initially created using the BMC network as the base, but that their current versions differ significantly. In recent months, there have been discussions on how to get these two models to talk to each other and share the transportation projects within the networks. However, no concrete solution has been found yet, besides having one of the two agencies adopt the other's network. Rana Shams added that MDOT and BMC work closely together, but that both models are used in slightly different ways, which is part of the conversation to improve the system for both networks.

Jim Bunch inquired about how project alternatives can be done for a corridor study and whether there were established post-processing methods which started with the ABM output. Brian explained that typically, BMC will do candidate projects and screen those to narrow it down to the preferred alternative. However, he cautions against the use of any regional model to code small regional projects, as they often don't have a significant effect on regional patterns.

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<sup>1</sup> Maryland Statewide Transportation Model, MDOT SHA.  
<https://www.roads.maryland.gov/mdotsha/pages/Index.aspx?PageId=254>

Ashkan Alam asked about when jurisdictions started using the ABM and completely transferred to using this model instead of the Trip-Based model. Rahman answered that, at BMC, the model has been used since its development in 2017 and that they run the model for the jurisdictions.

Ray Ngo followed up by inquiring about whether BMC is transmitting the model output or a written memo. Rahman answered that the jurisdictions usually ask for some data or model output, so they prepare this output and share it with them.

#### **4. PRELIMINARY RESULTS AND FINDINGS FROM TPB'S MODEL STAKEHOLDER SURVEY**

Tom Rossi presented this item from a set of presentation slides. As part of the strategic plan that COG is developing with consultant assistance, a stakeholder survey was created and sent out. Recipients of the survey included COG staff, TFS members and meeting attendees, and recent model requesters, yielding 121 invitations, 43 respondents, and 29 complete responses (8 from COG staff and 21 from other parties). Results covered the usage and satisfaction with the currently adopted Gen2 Model and expectations for the Gen3 Model, spanning use of inputs and outputs, projects and studies, modes, geographic levels, satisfaction, concerns, and desired refinements.

Kanti Srikanth inquired about the extent the responses to the types of analyses that users see as important are influenced by their experience with the Trip-Based model and its inherent limitations as opposed to the Gen3 Model, which will have additional capabilities. Tom responded that they did ask those questions, explaining that there were individual slides that had lists of types of analyses. One for analyses performed using the Gen2 Model and one for analyses that the respondents expect to use the Gen3 Model for. Tom further noted that there were many similarities between the two sets of responses, which reflect the types of analyses people need to do. However, he mentions that they will have to look at the two sets of responses side by side to see which analyses showed up for the Gen3 Model but did not show up for the Gen2 Model.

Joel Freedman asked whether there was anything surprising in the results and if there were any questions which, after reviewing the answers, they wished they would have asked. Tom answered that, personally, he was not greatly surprised by any of the results. One response he found surprising though, is how low non-motorized travel was rated, noting that he is aware that the model is predominantly used by the respondents for highway analyses and that analyzing non-motorized travel may not necessarily be part of their jobs. Tom noted that he did not have any questions in mind he wished they had asked, though he mentioned that they realized that recipients of the survey may not have had the full knowledge required to answer the questions pertaining to the Gen3 Model, which had just been released. Finally, he concluded by saying that one of the responses urged for regular updates to the strategic plan.

Ashkan Alam asked whether the Gen3 Model was the production model for any county or agency. Dr. Feng Xie replied that the Gen3 Model was released for production use in April and that multiple agencies have requested and tested it. However, he stated that he was unsure about whether they had started using the Gen3 Model as their production model.

Ray Ngo noted that COG staff reviewed the comments made by the survey respondents and are trying their best to improve the model and implement requested features, such as the GUI or the visualization, to address some of those comments.

Jilan Chen inquired whether COG considered both the Gen2 and Gen3 models as current production models and whether they had a recommendation on when to use which. Feng responded that both models are currently called TPB's production-use models, though only the Gen2 Model has been adopted by the board as it has been used in the latest Long-Range Transportation Plan (LRTP) update. The current recommendation is for member jurisdictions to test the Gen3 Model, though the Gen2 Model will continue to be maintained as it is still used by most of the members. Ray Ngo noted that,

in the future, the Gen3 Model will be used in parallel to the Gen2 Model for Air Quality Conformity, and Feng added that the Gen3 Model will be used for the next LRTP.

## **5. STATUS REPORT ON CONSULTANT ASSISTANCE WITH TRAVEL DEMAND FORECASTING METHODS USED BY COG/TPB STAFF**

Dr. Feng Xie, Tom Rossi, and Ali Etezady verbally presented this item. Feng briefly explained that COG has Cambridge Systematics and RSG under contract for consultant assistance with travel forecasting methods and that during fiscal year 2026, which ended in June, three tasks had been activated. RSG is providing administrative and ad-hoc model support under task one and are conducting a software evaluation under task three, while Cambridge Systematics is developing the strategic plan under task two. Feng highlighted how in July, a new task was activated for RSG to recalibrate the Gen2 Model to 2017/18 regional travel survey data and revalidate it to 2025 post-Covid conditions.

Tom Rossi highlighted how both surveys have been completed and that work on the strengths, weaknesses, opportunities, and threats (SWOT) analysis has started. He explained that evaluation of the existing model documentation and the GitHub issues has started. Tom concluded by outlining a timeline for the conclusion of the SWOT and when work on the strategic plan will start.

Ali Etezady explained that RSG is currently occupied with the three tasks, as outlined by Feng. For the second task, the software evaluation, Ali explained that they have gotten in contact with the vendors and found that all three, Caliper<sup>2</sup>, PTV<sup>3</sup>, and Bentley<sup>4</sup>, are interested in participating. RSG is currently developing a test package to provide the vendors with.

Jim Bunch asked whether open-source platforms, such as AequilibraE<sup>5</sup> or POLARIS<sup>6</sup>, were considered. Ali responded that, as part of this task, only the mentioned commercial platforms were considered.

## **6. TOWARDS NEXTGEN TRAVEL DEMAND MODELS WITH AI DIGITAL TWINS**

This item featured three speakers, Jinghua Xu, Ximon Zhu, and Jiaqi Ma, who spoke from different sets of presentation slides. Jinghua Xu opened by providing an overview of the Southern California Association of Governments (SCAG) region and describing the agency's modeling program, including its ABM, heavy-duty truck model, and scenario planning model (SPM). She outlined key challenges facing the field, including evolving travel patterns and data requirements, and opportunities, such as AI and Big Data. Jinghua concluded her presentation by describing how, currently, SCAG uses AI primarily as a productivity aid tool (for research, coding, etc.) but is planning to pilot AI in up- and downstream data processing and visualization tasks, as well as in select model components. She notes that maintaining model transparency will be key during this work.

Ximon Zhu then presented the work they do at Numobility helping public agencies leverage AI, demonstrating a scenario-planning tool for the California Department of Transportation (Caltrans), where they upgraded the original Excel-based tool to use a more modern and interactive interface, and a modeling-visualization tool built for the Hawaii MPO. He concluded his presentation with an early-stage demonstration of a simulation/visualization tool which combines GPS trajectory data, land-use

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<sup>2</sup> TransCAD Transportation Planning Software, Caliper. <https://www.caliper.com/transcad/default.htm>

<sup>3</sup> PTV Visum, PTV. <https://www.ptvgroup.com/en/products/ptv-visum>

<sup>4</sup> Bentley OpenPaths, Bentley. <https://www.bentley.com/software/openpaths/>

<sup>5</sup> AequilibraE, AequilibraE. <https://aequilibrae.com/latest/home.html>

<sup>6</sup> POLARIS Transportation System Simulation Tool, Argonne National Laboratory. <https://www.anl.gov/taps/polaris-transportation-system-simulation-tool>

data, TAZ zones, as well as other data sources by fusing them together using Generative AI and other techniques to create a synthetic agent population.

Jiaqi Ma closed the segment by describing a research effort, originally developed for an Intelligence Community project, into the use of AI to model travel demand and activity patterns and trajectories. This is done using transformer-based “deep activity” models trained on National Household Travel Survey data, fused with Time Use survey and GPS data. He discussed testing this approach across several cities, including LA, Tokyo, and Mexico City, noting that model transferability across regions required only local travel survey data for fine-tuning, and that outputs were validated against traffic counts and time-use patterns. Jiaqi concluded his presentation by demonstrating a software tool they are working on intended to make this approach more usable by agencies.

Due to time restrictions, no questions were raised. Instead, meeting attendees were encouraged to reach out to the presenters directly.

## **7. ROUNDTABLE DISCUSSION OF CURRENT MODELING EFFORTS AROUND THE REGION**

Due to time restrictions, this item was skipped.

## **8. NEXT MEETING AND OTHER BUSINESS**

Feng first announced the dates for the next TFS meetings. He noted that the meeting on September 18 will be a virtual-only meeting and that the final meeting of the year on November 20 will be held in a hybrid format. Both him and Ray encourage participants to attend in person if they are able to. Ray proceeded to inform the subcommittee that the TFS is seeking external presenters and urged interested parties to contact Feng.

Ken Joh gave an update on the ongoing 2026 Regional Travel Survey. He explained that the spring wave has been completed and that they are working closely with their consultant, RSG, to prepare the fall wave, which is slated to start in September. Due to the challenges faced during the spring wave, they are examining multiple suitable approaches to take for the fall wave with the hope to increase the response rate.

## **9. 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 author of the meeting summary was Glenn Lang.