



TPB TRAVEL FORECASTING SUBCOMMITTEE

HIGHLIGHTS OF THE SEPTEMBER 20, 2024 MEETING, 9:30 AM TO 11:05 AM

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.)
- Xiao Cui (VDOT)
- Manfredo Davila (M-NCPPC, Prince George's Co.)
- Daniel Evans (AECOM)
- Adrita Islam (Fehr & Peers)
- Li Li (Whitman, Requardt & Assoc.)
- Yuanjun Li (M-NCPPC, Montgomery Co.)
- Feng Liu (Cambridge Systematics, Inc.)
- Srikanth Neelisetty (Transurban)
- Chaitanya Paleti (RK&K)
- Krishna Patnam (AECOM)
- Maggie Qi (Fairfax Co. DOT)
- Mark Radovic (MDOT)
- Harun Rashid (NVTA)
- Andrew Rohne (RSG, Inc.)
- Rich Roisman (Arlington Co. DES)
- Elham Shayanfar (MDOT)
- Avinash Sinha (Michael Baker)
- Malcolm Watson (Fairfax Co. DOT)
- Jun (Jim) Yang (M-NCPPC, Montgomery Co.)

COG STAFF

- Tim Canan
- Anant Choudhary
- Robert d'Abadie
- Nazneen Ferdous
- Yu Gao
- Ken Joh
- Mark Moran
- Ray Ngo
- Wanda Owens
- Jinchul (JC) Park
- Meseret Seifu
- Bahar Shahverdi
- Jessica Storck
- Dusan Vuksan
- Feng Xie
- Zhuo Yang

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

Mark Moran discussed roles of the meeting participants (e.g., chair, host, technical host, and note taking), meeting rules, and then performed a roll call of participants. This meeting of the Travel Forecasting Subcommittee (TFS) was chaired by Harun Rashid.

2. APPROVAL OF MEETING HIGHLIGHTS FROM THE PREVIOUS MEETING

The highlights of the July 12, 2024 meeting of the TFS were approved without any changes.

3. COG/TPB GEN3 TRAVEL MODEL: STATUS REPORT

This item was presented by Feng Xie, who spoke from a set of presentation slides. Feng provided a status report on the third and final phase development of the Gen3 Travel Model. He indicated that his presentation is designed to verify that the Gen3 Model is ready for production use. Feng discussed recent model enhancements and bugfixes, particularly the testing of the random seed generation function in ActivitySim and the implementation of the Subarea Trip Extraction (STE) function in Cube. He also discussed the recent preparation of the modeling directory and input files for the upcoming model usability testing. He concluded his presentation with immediate next steps.

Harun and Krishna Patnam asked the timeline for the Gen3 Model. Feng said that COG/TPB staff will start the Gen3 Model usability testing in the near future. Staff will compare the Gen3 Model base-year (2025) model results with those from the Gen2/Ver. 2.4.6 Travel Model, which is being used for the ongoing Air Quality Conformity analysis of Visualize 2050. Feng hopes to be able to report his findings at the next TFS meeting.

4. ORIGIN-DESTINATION ANALYSIS OF TWO BIG DATA PROVIDERS: REPLICA AND STREETLIGHT DATA

This item was presented by Zhuo Yang, who spoke from a set of presentation slides. Zhuo introduced the two big data vendors: StreetLight and Replica. He reported that he performed origin and destination (O-D) analysis of the output data from StreetLight and Replica platforms. He presented an analysis of jurisdiction-level O-D trips. Zhuo shared his insights into applying big data carefully at the end of his presentation.

Adrita Islam asked if COG staff performed any post processing to make sure Replica and StreetLight have the same denominator for comparing trips and trip ends. Zhuo replied that Replica has the exact latitude and longitude for origin and destination, as well as census block group ID. The block group ID was used to determine the jurisdiction names. As for StreetLight, the platform can be used only to assess the O-D trips. There is no way to access the raw data. Therefore, no such investigation can be conducted to validate the method of using trips or trip ends.

Mark asked Adrita whether she could share an internal memo documenting the difference between trips and trip ends, and how one encounter the double counting that she had described. Adrita said she that she does not have a memo but she would email some graphics after the meeting.

Harun Rashid asked if this analysis is an extension of the previous big data vendor evaluation that was conducted several years ago Kimley Horn for Tim Canan's team.¹ Zhuo replied that this analysis is a deeper dive into these datasets which involves running specific analyses and producing tabulations to assess the efficacy of these big data products for COG's programmatic purposes. Tim Canan confirmed it is an extension of the previous work and shared the difference between the previous work and current work. Harun also asked if the third vendor for ground-truth data could be shared now or later. Zhuo responded that it will be shared later.

¹ Kimley-Horn, "Independent Evaluation of Big Data For Regional Travel and Mobility Analyses" (Washington, D.C.: National Capital Region Transportation Planning Board, Metropolitan Washington Council of Governments, May 2021), <https://www.mwcog.org/documents/2021/09/24/big-data-for-regional-travel-and-mobility-analyses-big-data/>.

5. EVALUATION OF BIG DATA FOR MODEL DEVELOPMENT

This item was presented by Ray Ngo who spoke from a set of presentation slides. He presented preliminary findings on the validity of Big Data from StreetLight, OpenPaths Patterns (formerly Teralytics), and Replica for model development purposes, focusing on traffic volumes by screenline and Vehicle Miles Traveled (VMT) by jurisdiction. Ray indicated that the validation of Annual Average Daily Traffic (AADT) data by screenline showed variable accuracy, while AADT link validation demonstrated significant variation. He said that the VMT validation revealed that the regional total aligns well with observed data, although the total VMT for some jurisdictions exhibited discrepancies. Ray also noted that some Big Data data sets may change depending on when one downloads the data.

Daniel Evans asked the source of the observed VMT data by jurisdiction. Ray responded that it is derived from the Highway Performance Monitoring System (HPMS) data obtained from State DOT websites.

6. ROUNDTABLE DISCUSSION OF CURRENT MODELING EFFORTS AROUND THE REGION

Harun asked if any agencies had any planning studies or modeling updates to provide to the subcommittee, but no updates were offered.

7. OTHER BUSINESS

Mark noted that the next planned TFS meeting is scheduled for Friday, November 22, 2024, from 9:30 AM to 12:00 noon.

Mark mentioned that the Association of Metropolitan Planning Organizations (AMPO) Annual Conference will be held in Salt Lake City, Utah from September 24-26, 2024. He indicated that some TPB staff will be in attendance. Mark will be doing a presentation on September 26, along with three other MPOs – the San Diego Association of Governments (SANDAG, in San Diego), the Atlanta Regional Commission (ARC, in Atlanta), and the Metropolitan Council (MetCouncil, the MPO for the Twin Cities of Minneapolis and St. Paul). He indicated that his portion of the presentation would discuss COG's use of ActivitySim, which is an open-source software package and the key component of the demand side model for the Gen3 Model.²

Regarding planned presentations at upcoming TFS meetings, Mark noted the following:

- Nov. 22
 - COG/TPB Gen3 Travel Model: Status report (Feng Xie)
 - Comparison of observed traffic counts and StreetLight Data traffic counts using the AADT metric updates since July (Yu Gao)
 - (The planned presentation on Prince George's County modeling work, has been deferred to the May meeting.)

Mark encouraged anyone who is interested in making a presentation to contact him.

² Mark S. Moran et al., "ActivitySim: Open-Source Modeling Updates and Implementations (Breakout Session 8-C: Activity-Based Travel Demand Modeling)," <https://ampo.org/news-events/ampo-annual-conference/2024-ampo-annual-conference/>.

Harun asked whether Mark would want to share his presentation at the AMPO conference with the subcommittee? Mark replied yes, he would be happy to share his presentation with the group.

8. Adjourn

The meeting was adjourned at about 10:45 AM.

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, Meseret Seifu, and Mark Moran.