



TPB TRAVEL FORECASTING SUBCOMMITTEE

HIGHLIGHTS OF THE MAY 15, 2020 MEETING

9:30 AM to 12:00 noon, **Web conferencing ONLY, due to COVID-19 precautions. No on-site meeting.**

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MEETING ATTENDEES

MEMBERS, ALTERNATES, AND PARTICIPANTS

- Charles Baber (BMC)
- Christine Sherman Baker (Arlington Co. DES)
- Jim Bunch (Sabra & Associates)
- Kevin Chai (Fairfax Co. DOT)
- Oliver Charlesworth (Bentley Systems Inc)
- Zuxuan Deng (DDOT)
- Michael Eichler (WMATA)
- Nazneen Ferdous (Jacobs)
- Joel Freedman (RSG Inc)
- Dan Goldfarb (NVTC)
- Eric Graye (M-NCPPC, Montgomery Co.)
- Adam Groves (PTV Group)
- Manish Jain (Transurban)
- Chetan Joshi (PTV Group)
- Kyeongsu Kim (Connetics Transportation Group)
- David Kline (Fairfax County DOT)
- Jim Lam (Caliper)
- Jaesup Lee (M-NCPPC, Montgomery Co.)
- Yuanjun Li (M-NCPPC, Montgomery Co.)
- Xuemei Liu (Cambridge Systematics)
- Vahid Moshtagh (AECOM)
- Srikanth Neelisetty (Transurban)
- Tim Padgett (Kimley-Horn & Assoc.)
- Krishna Patnam (AECOM)
- Marie Pham (Loudoun Co.)
- Harun Rashid (NVTA)
- David Roden (AECOM)
- Amir Shahpar (VDOT)
- Tasnim Siddika (Baseline Mobility Group)
- Howard Slavin (Caliper)
- Aichong Sun (AECOM)
- Jiaxin Tong (Kimley-Horn & Assoc.)
- Lihe Wang (AECOM)
- Malcolm Watson (Fairfax County DOT)
- Steve Weller (Kimley-Horn & Assoc.)

COG STAFF

- William Bacon
- Tim Canan
- Anant Choudhary
- Stacy Cook
- Joe Davis
- Paul DesJardin
- Charlene Howard
- Ken Joh
- Sanghyeon Ko
- James Li
- Nicole McCall
- Andrew Meese
- Jessica Mirr
- Abdurahman (Abdul) Mohammed
- Mark Moran
- Wanda Owens
- Jinchul (JC) Park
- Jane Posey
- Meseret Seifu

- Dusan Vuksan
- Feng Xie
- Jim Yin
- C. Patrick Zilliacus

* All meeting participants attended the meeting remotely via WebEx.

This meeting of the Travel Forecasting Subcommittee (TFS) was chaired by Mr. Amir Shahpar.

1. INTRODUCTIONS AND APPROVAL OF MEETING HIGHLIGHTS FROM THE PREVIOUS MEETING

The highlights of the March 20, 2020 meeting of the TFS were approved without changes.

2. TPB'S PRODUCTION-USE TRAVEL DEMAND FORECASTING MODEL

This item was presented by Mr. Xie, who spoke from a set of presentation slides (slides were uploaded to the TFS webpage prior to the meeting). In this presentation, Mr. Xie provided the TFS a status update on TPB's current and next production-use travel demand models. Mr. Xie provided background information for TPB's current, adopted production-use model, namely, the Ver. 2.3.78 Model, and walked through the network/model transmittal package that staff had prepared for data requests. Mr. Xie went on to introduce staff's ongoing efforts to perform final QC/QA and to prepare the transmittal package for the next production-use model, the Ver. 2.4 Model. He also briefly talked about the new features that will become available in the Ver. 2.4 Model transmittal package, as well as the alternative release plans for the Ver. 2.4 Model that could occur depending on whether there will be an off-cycle air quality conformity analysis.

During the question-answer session, Mr. Shahpar asked if the updates in Round 9.1A Cooperative Land Use Forecasts affected the employment data in Arlington County. Mr. Xie answered that he believed the updates affected only non-TPB-member jurisdictions. Mr. Canan, Director of the Planning Data and Research Team, confirmed that the adjustments made to the employment data in Round 9.1A land use forecasts were applied only to BMC and Fredericksburg Area Metropolitan Planning Organization (FAMPO) jurisdictions outside the TPB Planning Area (but within the modeled area), and that the employment data in Arlington was not affected.

3. BIG DATA EVALUATION: PRELIMINARY RESULTS

This item was presented by Mr. Canan, who spoke from a set of presentation slides. In this presentation, Mr. Canan updated the subcommittee on the Big Data Evaluation project, an independent evaluation of Big Data and its use and limitations in regional travel and mobility analysis and modeling. The presentation highlighted the project background, scope, methodology, recent activities, and high-level preliminary findings. Mr. Canan reviewed the project background and scope with the subcommittee, and Mr. Tong, the consultant project manager representing the Kimley-Horn team, the consultant selected for this effort, presented the methodology, activities, and findings. This included a discussion of key research considerations, results from a survey on the state of the practice among peer MPOs and transportation agencies, high-level findings from the team's analysis, and a review of known challenges and limitations with Big Data. Mr. Canan concluded the presentation by advising the subcommittee that once the final report is received, TPB staff will engage with key agency stakeholders, including some members of the subcommittee, to develop appropriate implementation and procurement strategies. The presentation concluded without further discussion.

4. TPB'S DEVELOPMENTAL TRAVEL DEMAND FORECASTING MODELS: GEN3

This item was presented by Mr. Freedman, who spoke from a set of presentation slides. Mr. Freedman provided a status report on current RSG task orders 1 and 2. Task Order 1 covers project administration and activity-based model training for COG staff, which was held May 12-14. Task Order 2 covers assessment of current COG modeling practices and design of the Gen3 Model. Mr. Freedman described the contents of the Gen3 Model Design Plan draft report, noting that a draft copy was delivered to COG on May 4 and provided an overview of the review schedule. Mr. Graye asked if COG is planning on offering activity-based model training as part of the Gen3 project. Mr. Moran answered that the plan is to offer training after a production version model is delivered in about two years. Mr. Moran also suggested that interested parties should review the Travel Model Improvement Program (TMIP) webinars on activity-based modeling.¹ A participant asked whether the slides from RSG's activity-based model training would be available to interested parties. Mr. Moran answered that he would make the slides available. [As of June 25, COG staff have sent the training slides to three individuals who requested them.]

5. 2019 WASHINGTON-BALTIMORE REGIONAL AIR PASSENGER SURVEY: GENERAL FINDINGS

This item was presented by Ms. Koudounas, who spoke from a set of presentation slides. Ms. Koudounas briefed the subcommittee on the general findings of the 2019 Washington-Baltimore Regional Air Passenger Survey, which took place in October 2019 at the region's three major commercial service airports: Baltimore/Washington International Thurgood Marshall Airport (BWI), Ronald Reagan Washington National Airport (DCA), and Washington Dulles International Airport (IAD). Key takeaways included: a survey response of 28.6%; an increase in local originating enplanements at all three airports; each airport had a dominant travel purpose (BWI: personal and vacation; DCA: business; IAD: school-related); transportation network companies (TNCs e.g., Uber and Lyft) were the dominant mode for those spending \$10-\$99 on their trip to the airport; and most air passengers spent \$1-\$24 at the airport (excluding parking). Ms. Koudounas also highlighted the changes made to the 2019 survey instrument, ranging from the addition of short-term rental as a new origin option, to biking and walking as new mode options, to asking air passengers about: the cost of their trip to the airport, whether they carpooled, how much they spent while at the airport, and how they ranked the region's three airports (1-3).

Given that 35% of air passengers reported spending \$0 on their trip to the airport, Mr. Moran asked if fuel or maintenance of private vehicle use was factored into the survey responses. Ms. Koudounas indicated that while parking was not included in the cost estimate, no clarifications were made in the question phrasing regarding fuel cost or maintenance-related expenses for private vehicles. She indicated that going into the 2021 Air Passenger Survey, more consideration will be given to whether any changes should be made to the question phrasing to possibly account for these travel cost-related factors. Ms. Li asked whether survey results for airport travel cost were separated out by those who were dropped off versus those who parked at the airport. Ms. Koudounas confirmed that this information was gathered and sorted in this way, as there was a survey question regarding whether air passengers are dropped off at the airport. Mr. Patnam mentioned recently completing a COVID-19-related survey at Dulles, which was conducted by the Metropolitan Washington Airports Authority (MWAA). He asked if COG/TPB is coordinating with MWAA on that survey. Ms. Koudounas indicated that MWAA is a key partner on the biennial Washington-Baltimore Regional Air Passenger Survey, but that the COVID-19 survey was not conducted in coordination with COG. Mr. Moran asked if the survey results can estimate the percentage of air passengers who are "day trippers" i.e., traveling only for the day/returning to the region that evening. Ms. Koudounas indicated that the

¹ For example, Maren Outwater and Joel Freedman, "Activity-Based Modeling, Session 1: Executive Perspective," <https://tmip.org/webinars>.

survey does ask all air passengers how many nights they will be away, as well as to indicate whether they are a local originating air passenger or a visitor from outside of the region.

6. A TOUR OF ELTOD4 MODEL

This item was presented by Mr. Wang. He introduced the Express-Lanes, Time-of-Day Model, version 4 (ELToD4) built by AECOM for the Florida's Turnpike Enterprise. He explained that ELToD4 is a Dynamic Traffic Assignment (DTA) model that can forecast traffic and revenue for a complex, express-lanes network in large metropolitan areas. He gave an example of the complex express lanes network by showing the existing and planned express lane facilities in the metropolitan Washington region. He then showed why higher temporal time resolution is important for the express toll rate forecasting. He explained the two important techniques in the ELToD4 model, which are the time-dependent, shortest-path and the en-route, toll-choice model. He also showed the multinomial toll choice model and the distributed Value of Time (VOT) method used to represent the heterogeneity of people's choice on the toll lanes. Mr. Wang concluded the presentation by showing an example of the model's output for an express-lane toll segment.

Mr. Vuksan asked if ELToD4 has been used outside of Florida and also mentioned the challenges of obtaining traffic counts and toll rates from private operators. Mr. Wang responded that the model has been used for projects in the Southern Florida (Miami) area and the Orlando area. But, it has not been used outside of Florida. Because the Florida Department of Transportation (FDOT) is the operator of the express lanes in Miami, AECOM was able to obtain the traffic counts and toll rates from FDOT. Mr. Wang suggested that Transurban and the Virginia Department of Transportation (VDOT) may have an agreement on data sharing, such that traffic counts and toll rate data may be available from VDOT.

7. ACCESSIBILITY APPLICATION TO SUPPORT VDOT'S SMART SCALE PROJECT PRIORITIZATION PROCESS

This item was presented by Mr. Lam, who presented Caliper's accessibility tool developed for VDOT as part of their Smart Scale evaluation process. The tool computes Census block- and block-group-level auto, transit door-to-door, walk, and bike accessibilities from and to employment and points of interest for the entire State of Virginia and its surrounding areas. The tool includes a visualization sidebar that lets users visualize accessibility changes due to transportation projects. Mr. Lam described the datasets acquired and developed for the tool, the accessibility models, the visualization tools, and the results. At the end of the presentation, a live demonstration of the tool, highlighting the visualization capabilities, was given.

In response to a question about whether the tool is available to others and how difficult it is to transfer to other regions, Mr. Lam said that the tool was developed specifically for VDOT, but it could also be applied to other regions. The tool has specifically been applied to Palm Beach, Florida for their Transportation Planning Organization (TPO). Caliper is currently generalizing the tool. The datasets used by the tool are available for the entire U.S., thus the tool can be transferred to other regions.

Mr. Vuksan asked 1) How the tool measures the impact on highway accessibility when there is a major Metrorail project in the region; and 2) Does the tool work for a future year or just a base year? Mr. Lam said that, when you define transit improvements, you can specify variables such as route frequencies and run speeds/run times. Also, one can define stop-to-stop run times and speeds. Additionally, users can define speeds on the highway links, which, in turn, influence those transit routes operating on those links. If you know that there are highway improvements that improve link running times, that can be transferred to improve transit run times. On the second question, the

HERE network has congested hourly speeds for the current year. For the future year, users would need to make assumptions on future congested speeds. One of the inputs to the model are base-year speeds before project improvements and future-year speeds after the project is implemented. Those estimates of base and future speeds may come from a travel demand model.

Mr. Shahpar asked how the tool compares to Citilabs' accessibility tool, SUGAR. Mr. Lam answered that VDOT wanted Caliper to develop the tool to replicate many of the outputs and features from SUGAR. Although Caliper is not sure of all the features of SUGAR, Caliper believes its accessibility tool replicates all the important features sought by VDOT.

8. OTHER BUSINESS

A. 2017-2018 Regional Travel Survey: Status report

Dr. Joh provided a brief status update on the Regional Travel Survey (RTS). Since the last TFS briefing, TPB staff has been working on the data processing and editing of the RTS trip file collected from the Part 2 survey (travel diary). The processing of the trip file should be completed by June 2020. Staff will begin to run tabulations on the RTS trip file and will share initial results over the next few months.

B. Roundtable discussion on traffic counts in the time of COVID-19

Mr. Shahpar started this open discussion focusing on traffic count data availability amidst the COVID-19 pandemic. He commented that the most recent available traffic count data in VDOT is as of 2019. Mr. Kline said that no data is available in Fairfax County considering COVID-19, though there are three ongoing major traffic analysis projects. Ms. Li mentioned that there are no plans for new data collection yet in Montgomery County and added that the most recent traffic count data is based on 2019.

C. Scheduling non-COG TFS presentations for CY 2020

Mr. Moran noted that TPB staff try to schedule at least one external/non-COG presentation at each TFS meeting. More than one non-COG presentation can be scheduled at a given meeting, time permitting, but long-term scheduling assumes only one per meeting. He noted that there are scheduled non-COG presentations for all the upcoming TFS meetings, from July 2020 through March 2021. He encouraged anyone who would like to propose a presentation for an upcoming TFS meeting to contact him so their item can be added to the list of potential future presentations.

9. ADJOURN

The meeting adjourned around 12:00 noon. The next meeting is scheduled for Friday, July 17, 2020 at 9:30 A.M.