National Capital Region
Transportation Planning Board

Approved
on 5/18/18

TPB TRAVEL FORECASTING SUBCOMMITTEE

HIGHLIGHTS OF THE MARCH 23, 2018 MEETING

Meeting time & location: 9:30 AM to 12:00 noon, Metropolitan Washington Council of Governments

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MEETING ATTENDEES

MEMBERS, ALTERNATES, AND PARTICIPANTS

- Bill Allen (Citilabs) *
- Kevin Bragg (INRO Software) *
- Jim Bunch (Sabra, Wang & Assoc.)
- Zuxuan Deng (DDOT)
- Charles Freeman (Frederick County)
- Eric Graye (M-NCPPC, Montgomery Co.)
- Kyeongsu Kim (Connetics Transportation Group)
- David Kline (Fairfax DOT)
- Jaesup Lee (M-NCPPC, Montgomery Co.)
- Li Li (Whitman, Requardt & Assoc.) *
- Yuanjun Li (M-NCPPC, Montgomery Co.)
- Feng Liu (Cambridge Systematics)
- Harun Rashid (NVTA)
- Amir Shahpar (VDOT)
- Christine Sherman (Arlington Co. DES)
- Jiaxin Tong (Kimley-Horn)
- Catherine Vanderwaart (WMATA)

COG STAFF

- William Bacon
- Tim Canan
- Joe Davis
- Charlene Howard
- Ken Joh
- James Li *
- Ron Milone
- Jessica Mirr
- Mark Moran
- Erin Morrow *
- Ray Ngo
- Wanda Owens
- Jane Posey
- Meseret Seifu
- Daniel Son
- Dusan Vuksan
- Feng Xie
- Lori Zeller *

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

This meeting of the Travel Forecasting Subcommittee (TFS) was chaired by Ms. Yuanjun Li.

1. INTRODUCTIONS AND APPROVAL OF MEETING HIGHLIGHTS FROM THE JAN. 19 MEETING

The highlights of the January 19, 2018 meeting of the TFS were approved without change.

2. STATUS REPORT ON VER 2.3 MODEL UPDATES AND VER 2.5 MODEL DEVELOPMENT

The subcommittee was informed that the Version 2.3 travel demand model will be used in the upcoming air quality conformity analysis of the latest regional transportation Plan, Visualize 2045. The currently adopted 2.3 travel model will include several technical updates. One notable update envisioned will be the removal of the so-called "HOV-3 skim replacement" procedure that has been a part of TPB's travel forecasting practice for many years. The procedure is used to reflect VDOT's operational HOT lane policy (to toll SOVs and to allow HOVs to use HOT lanes for free) and related policy objectives (to guarantee a minimum service speed and to ensure that HOV's maintain the same level of service that would be experienced if the HOT facility operated as a preferential HOV facility). The procedure currently requires two model executions for any scenario involving HOT lanes in Virginia. Staff has determined that one model execution, reflecting a normal HOT-lane operation that allows HOV's to operate free of charge, results in a solution that is not substantially different from the dual-execution approach. Removing the HOV-3 skim replacement procedure simplifies the process and reduces computing time. The revised practice will also enable staff to more easily accommodate new toll lane plans in Maryland which will involve pricing all traffic (both HOV and SOV). Mr. Milone also stated that the preparation of updated inputs (Round 9.1 land activity for example) is nearing completion. The updated model is called Ver. 2.3.75.

Staff activities on the Version 2.5 model development has included enhanced reporting of mode choice modeling outputs and transit assignment outputs. Staff has also tested alternate approaches for reducing the computing time.

Mr. Milone also stated that staff is currently investigating the trip distribution patterns of external-to-internal trips with respect to available observed (AirSage) data. It is likely that the external trip distribution process will be adjusted because of this investigation. He stressed that the AirSage data would be used at a very high level of aggregation to adjust trip lengths. Mr. Bunch commented that it would be difficult to calibrate the model's external trips to the observed data when Baltimore is not included within the TPB-modeled study area. He suggested that staff could consider extracting external-to-internal trips from Maryland Statewide Travel Model and Virginia Travel Model as a possible alternative. Staff will consider the idea.

3. DEVELOPMENT PLANS FOR THE GENERATION 3/NEXTGEN TPB TRAVEL DEMAND FORECASTING MODEL

This item was presented by Mr. Moran, who distributed paper copies of his presentation slides. Mr. Moran presented the current TPB staff plans for developing the TPB's Generation-3/next-generation (NextGen) regional travel demand forecasting model. He discussed the three-phase, eight-year strategic plan for model development, noting that Phase 2 covered the development of the Gen. 3/NextGen model. He discussed the long-term vision for the regional model (i.e., disaggregate travel demand and disaggregate travel supply), noting that the NextGen model would likely be only one step along the path toward the long-term vision. He spoke about possible model forms for the NextGen model (trip-based, tour-based, activity-based, or a hybrid of these). He discussed the proposed contracting approach: First use a request for information (RFI). Then, use a request for proposals (RFP). He discussed some of the differences between the RFI phase and the RFP phase. The goal of the RFI, which would include a product requirements document (PRD), is to solicit ideas from vendors/consultants on the best modeling solution to meet the needs of the PRD. The goal of the RFP is to select the best vendor to proceed with model development.

Regarding the RFI process, Mr. Moran described the proposed review process:

- Before issuing RFI: Share PRD with TFS and get feedback
- After issuing RFI: Consultants submit proposed solutions. Consultants are free to provide feedback on the PRD that may be incorporated into a revised PRD, which may be referenced in the upcoming RFP

Regarding the first item, soliciting feedback from the TFS, Mr. Moran asked the subcommittee whether the draft (pre-RFI) PRD should be shared with the entire TFS mailing list, which includes individuals from both public agencies (such as regional agencies and state/local government) and private firms (such as software vendors and consultants). Mr. Kline. said that he thought it would be a good idea to send the PRD to the entire TFS mailing list, including any consultants on the list. Ms. Yuanjun Li concurred, saying that many consultants have been active participants with the TFS for many years and they are a good source of information about modeling approaches. Mr. Moran noted that, before sharing the PRD with the TFS, he would consult with COG's contracts and purchasing office (CPO), to ensure that the CPO had no issues with any of the plans. Also, as noted in Mr. Moran's presentation, the current plan regarding consultant responses submitted in response to RFI/PRD is that these would be reviewed by TPB staff, but would not be shared with other parties, such as the TFS or consultants.

[***** Editor's note**: TPB staff met with staff from COG's CPO on April 24 to discuss the proposed plans for sharing the draft PRD with the TFS. The COG contracting officer expressed concern that sharing the PRD with the entire TFS could lead to a situation where one vendor could claim that another vendor had an unfair advantage during the RFP. By not allowing any vendor to see the PRD until the formal RFI advertisement period, this ensures that all vendors have access to the same information at the same time.

Consequently, the PRD (and its associated model checklist) will be shared with only a subset of the TFS mailing list. Specifically, the subset will be limited to individuals who are unlikely to respond to the RFI and/or make proposals in response to the RFP. TPB staff will use a two-part process to share the PRD with public-sector members of the TFS. First, TPB staff will send an email to the entire TFS informing them of the planned protocol for sharing the PRD. Second, TPB staff will send a second email, but only to public-sector members of the TFS (about 55 of the 92 people on the TFS mailing list). In this second email, we will ask public-sector TFS members to vote for one of two options:

- **Yes**: I would like to get a copy of the Gen. 3/NextGen, travel-model product requirements document (PRD) **AND I promise not to share the PRD with any parties who are likely to respond to the RFI or submit a proposal in response to the subsequent RFP**. If you select this option, you are not required to provide comment on the PRD, but you are forbidden to share the PRD with others. Vendors and consultants will see the final PRD during the RFI advertisement period. The **blank vendor checklist** is considered part of the draft PRD. It is being shared with the PRD and has the same restriction (i.e., **no sharing with others who may respond to the RFI or subsequent RFP**).
- **No**: I am not interested in reviewing the material and/or I cannot agree to the terms listed above.

Only those members who vote "Yes," will be eligible to get a copy of the draft PRD. If someone was not offered the opportunity to review the draft PRD, but they think that they should have, they can contact Mark Moran via email.

End of editor's note ***]

Mr. Moran discussed the current timeline and some of the types of model requirements that might be included in the PRD. Next steps included:

- Finish writing the PRD and RFI.
- Conduct internal COG/TPB staff review of the draft PRD.
- Conduct TFS review of the draft PRD.
- Advertise the RFI
- Collect vendor/consultant responses to the RFI

There were no questions or further comments for Mr. Moran.

4. OVERVIEW OF THE AIR QUALITY CONFORMITY ANALYSIS OF THE VISUALIZE 2045 PLAN AND FY 2019-2024 TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

Ms. Posey used a slide presentation to give a status report on the air quality conformity analysis of Visualize 2045. She listed the pollutants and analysis years, and briefly discussed changes to technical inputs since the previous conformity analysis. The changes included: Round 9.1 Cooperative Forecasts, updated transportation project inputs, the new travel demand model version, and updated vehicle registration data. She reviewed the schedule, noting that the TPB is being asked to approve the air quality conformity analysis in October 2018, and that a model transmittal package should be available in December 2018.

In response to the question of whether the project inputs were still being reviewed, Ms. Posey replied that they were not, since the TPB had approved project inputs in January.

Ms. Yuanjun Li pointed out that Montgomery County BRT routes run both on exclusive right-of-way and in mixed traffic, and asked how that was modeled. Ms. Posey responded that there is only an overall run-time for each route in the model.

In response to a question about whether the project input table is on the COG website, Ms. Posey indicated that it is, and that it can be found by searching for air quality conformity on the website.

Ms. Yuanjun Li asked if buses are included on the highway network in the model. Mr. Moran indicated that buses are a part of the network system, and in the Version 2.3 model, there is a degradation factor for local buses to reflect future congestion on the roadways. Mr. Milone noted that it is a global factor, and that he feels it is reasonable for the regional model. It was noted that, with the Version 2.5 model, the new path-building software, Public Transport (PT), allows feedback of congested speeds into the bus routes. Mr. Moran noted that two main reasons from moving to PT is that 1) the user can do onscreen transit path tracing, and 2) the user can do transit crowding affects, which could be used, for example, to reflect the Metrorail capacity constraint through the regional core. Nonetheless, at this point, the Ver. 2.5 model does not include the Metrorail capacity constraint.

Ms. Yuanjun Li mentioned the simplification of the representation of highway interchanges in the TPB travel model. She noted that Montgomery County has updated some interchanges to more accurately reflect all movements in the county model. Mr. Moran suggested that this might be a good topic for a future TFS discussion. He noted that we do like to have one external speaker at each TFS meeting. He listed a couple of future presenters, and noted that there are openings for speakers in May and November. Ms. Posey noted that, at some point we had turn penalties in the model that helped more accurately portray interchange movements, but that those are no longer in the model.

5. STATUS REPORT ON THE 2017-2018 COG/TPB REGIONAL TRAVEL SURVEY

Dr. Joh provided an update on the 2017-2018 Regional Travel Survey, a once-in-a-decade household travel survey for the National Capital Region that launched on October 3, 2017. He provided an update on the recruitment and completion rates to date. Dr. Joh also gave a review of the sampling plan for the third quarter of the survey and described plans to conduct targeted Hispanic outreach to improve survey responses in Hispanic and Latino communities.

Mr. Milone asked how many completed samples have been obtained. Dr. Joh responded that close to 9,000 households have completed the travel survey.

Ms. Yuanjun Li asked about responses by jurisdiction and how far they are from the target response rate. Dr. Joh responded that response rates varied by jurisdiction, and stated that Arlington County has the highest response rate while Prince George's County has the lowest response rate so far among jurisdictions in the region.

Mr. Lee asked whether external trips (i.e., trips with origins and/or destinations outside of the TPB model region) are captured in the survey. Dr. Joh responded that the survey asks respondents to log trips outside of the region.

Mr. Milone stated that household travel surveys are not the best source for capturing external travel. He then asked whether internal-to-external trips will be geocoded to an external station, or not be part of the geocoding process. Dr. Joh replied there is not an easy answer, and there would need to be a judgment made on what trips would be captured for modeling purposes. Ms. Yuanjun Li added that household travel surveys are aimed at residents living in the region, and are supposed to report all their travel activity on their travel dates. However, external trips would be better captured in another type of survey.

Ms. Sherman asked whether there is any consideration for shifting to a rolling survey that incorporates big data after the current survey is completed. Mr. Milone responded that there are no immediate plans to shift to a rolling survey partly due to cost implications, although COG has conducted smaller geographically focused surveys based on activity centers. Mr. Moran stated that a longitudinal survey was conducted previously but was not used in model development. Mr. Kim added that more MPOs are using data fusion to integrate big data sources with data from household travel surveys.

6. PHASE 2 LONG-RANGE PLAN TASK FORCE STUDY: PROCESS AND FINDINGS

Mr. Milone provided an overview of a recent TPB-sponsored scenario study that examined ways in which the performance of the region's future transportation system might be improved. The TPB has long recognized that an expected increase in development over the next twenty-five years, along with limitations in funding for needed system expansions, will yield worsening congestion. The study objective was to identify 6 to 10 initiatives (projects, policies or programs) that would materially improve the Plan's performance. The study was overseen by a TPB-appointed task force and was supported by TPB staff and a consultant team headed by ICF International. The study team was asked to approach this objective creatively, without regard to financial limitations or implementation challenges. Consequently, the initiatives were developed and analyzed more as conceptual ideas than as highly detailed initiatives. Most initiatives included supportive land use and bicycle/pedestrian elements. As the duration of the study was limited (eight months), the study team applied simplified sketch-planning techniques and a combination of full or partial travel model executions to evaluate the scenarios. The Task Force distilled numerous initiative ideas into 10

thematic initiatives. The study of initiatives was completed in December 2017 and the Task Force decided on five recommended initiatives for advancement to the TPB:

- Initiative 1: Express Travel Network
- Initiative 4: Regionwide Bus Rapid Transit and Transitways
- Initiative 6: Metrorail Regional Core Capacity Improvements
- Initiative 8: Optimize Land-Use Balance
- Initiative 10: Amplified Employer-based Travel Demand Management

Since December, two bicycle/pedestrian initiatives have been added to the five LRP Task Force initiatives. These seven initiatives will be included as an unfunded element of the latest transportation plan (Visualize 2045). TPB staff will work with TPB members to promote the initiatives for further study and implementation as emerging funding becomes available.

Ms. Yuanjun Li asked about how the bicycle/pedestrian elements were analyzed given that the COG/TPB model is limited in its ability to address those travel modes. Mr. Bunch said that the analyses were conducted using a sketch method outside of the COG/TPB model. The method estimated the bike and pedestrian trips around the transit stations. The trip estimates were then inserted to the mode split step and assigned to the network.

7. NEXT MEETING DATE AND OTHER BUSINESS

The next scheduled meeting of the TFS is Friday, May 18, 2018 from 9:30 AM to 12:00 noon. Ms. Yuanjun Li mentioned the Makeover Montgomery 4 Conference that will be held on May 9-11 (http://montgomeryplanning.org/event/makeover-montgomery-4/). Mr. Moran mentioned that Hamid Humeida was going to be retiring from COG in April, after 30 years of service to COG. Ms. Yuanjun Li mentioned that the Census Transportation Planning Products (CTPP) Oversight Board is proposing that it will no longer include Transportation Analysis Zone (TAZ) and Transportation Analysis District (TAD) geographies in future requests for special tabulations of the U.S. Census Bureau's American Community Survey (ACS) data. Instead, future CTPP special tabulation requests would include the standard census block group geography.[1] The meeting adjourned around noon.

*** The meeting highlights were prepared by Jim Yin, Mark Moran, Ray Ngo, and Ron Milone ***

[1] "AASHTO - CTPP - Policy Change on Small Geography," American Association of State Highway and Transportation Officials, February 22, 2018, http://ctpp.transportation.org/Pages/Policy-Change-on-Small-Geography.aspx.