



TPB TRAVEL FORECASTING SUBCOMMITTEE

HIGHLIGHTS OF THE JULY 19, 2019 MEETING

Meeting time & location: 09:30 AM to 11:30 AM, Metropolitan Washington Council of Governments

tfs_highlights_2019-07-19_final

MEETING ATTENDEES

MEMBERS, ALTERNATES, AND PARTICIPANTS

- Sam Burns (Prince William Co. DOT)
- Kevin Chai (Fairfax County DOT)
- Zuxuan Deng (DDOT)
- Nazneen Ferdous (Jacobs)
- Eric Graye (M-NCPPC, Montgomery Co.)
- Adam Groves (PTV)
- Naveen Juvva (StreetLight Data) *
- Kyeongsu Kim (Connetics Transportation)
- David Kline (Fairfax County DOT)
- Betsy LaRue (PTV)
- Qiang Li (Daniel Consultants, Inc.)
- Yuanjun Li (M-NCPPC, Montgomery Co.)
- Feng Liu (Cambridge Systematics) *
- Krishna Patnam (AECOM) *
- George Phillips (Prince William Co. DOT)
- Mark Radovic (Consultant for MD-SHA) *
- Harun Rashid (NVTa)
- Amir Shahpar (VDOT)
- Monika Shepard (StreetLight Data)
- Chris Simons (Citilabs) *
- Sonali Soneji (VRE) *
- Aichong Sun (AECOM)
- Jiaxin Tong (Kimley-Horn & Assoc.)
- Jongsun Won (PTV) *

COG STAFF

- William Bacon
- Sanghyeon Ko
- Jinchul (JC) Park
- Tim Canan
- James Li *
- Jane Posey
- Anant Choudhary
- Nicole McCall
- Meseret Seifu
- Joe Davis
- Mark Moran
- Daniel Son
- Greg Grant
- Ray Ngo
- Dusan Vuksan
- Ken Joh
- Wanda Owens
- Jim Yin

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

This meeting of the Travel Forecasting Subcommittee (TFS) was chaired by Dr. Zuxuan Deng.

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

The highlights of the May 17, 2019 meeting of the TFS were approved without changes.

2. STATUS REPORT ON TPB'S TRAVEL DEMAND FORECASTING MODEL DEVELOPMENT ACTIVITIES

A. GEN2/VER. 2.3 MODEL UPDATES

This item was presented by Mr. Ngo and Ms. Seifu, who discussed updates to the TPB's adopted, production-use, travel demand forecasting model, the Ver. 2.3.75 Model. Mr. Ngo discussed minor updates to the model and Ms. Seifu discussed more extensive refinements to the model. Both presenters spoke from presentation slides that were distributed to the subcommittee.

Mr. Ngo reported on three minor updates that were made to the Ver. 2.3.75 Model. The new version of the COG/TPB model would be named Ver. 2.3.78. The three updates were essentially bug fixes, which do not result in changes to model output. Slide #3 of his presentation shows both the updates that were considered and those that were implemented. The three implemented updates are listed below:

- Updated the model to work with newer versions of Cube (6.4.5 beta).
- Fixed an issue related to the potential misuse of a variable (<ITER>_HWY.NET) when a model run stops and is re-started.
- Revised the naming convention for computing nodes used in distributed processing in the highway assignment phase.

There were no questions for Mr. Ngo.

Ms. Seifu reminded the subcommittee that the Ver. 2.3.75 Model had recently been re-validated to year-2014 conditions. In the recent re-validation, the model performance was found to be comparable to that of the previous model validation (to year-2010 conditions). In both validations, the model was found to be acceptable for regional planning purposes. Ms. Seifu indicated that staff has begun work on two principal refinements to the Ver. 2.3.75 Model. First, refinements to the trip distribution of external travel have been implemented using observed, passively collected origin-destination data (year-2014) from AirSage. Results are currently under evaluation. Second, staff also plans to recalibrate the regional mode choice model with updated Virginia commuter rail trip targets. The goal is to combine both revisions into an updated production model.

Ms. Ferdous asked about the timelines of the Ver. 2.3 Model. Mr. Moran stated that an updated version of the production model (Ver. 2.3.78) should be available by December 2019. However, currently, there is no planned release date for a version of the model including the updated trip distribution of external travel, since testing is ongoing.

B. GEN2/VER. 2.5 MODEL STATUS REPORT

This item was presented by Mr. Moran, who spoke from a set of presentation slides, which were distributed to the subcommittee. Mr. Moran noted that, in consultation with the Department of Transportation Planning (DTP) Director, it was decided that development activities of the Ver. 2.5 Model should be put on hold, for the time being, so that staff could focus on enhancements to the Ver. 2.3 Model. At a later point, work may resume on the Ver. 2.5 Model.

C. GEN3 MODEL STATUS REPORT

This item was presented by Mr. Moran, who spoke from a set of presentation slides, which were distributed to the subcommittee and posted on the TFS website after the meeting. Mr. Moran noted that this model development project is planned to be a three-year, \$900,000 project. The Request

for Proposals (RFP) advertisement period ran from May 15 through June 26, 2019. COG received proposals from multiple qualified vendors and formed a Technical Selection Committee (TSC) to review and score vendor proposals. The TSC membership includes representatives from COG, the District of Columbia, Maryland, Virginia, and the Washington Metropolitan Area Transit Authority (WMATA). Final firm selection was expected by the end of August, provided there were no delays.

3. STATUS ON THE AIR QUALITY CONFORMITY ANALYSIS OF THE FY 2021-2024 TIP AND 2020 AMENDMENT TO THE VISUALIZE 2045 PLAN

This item was presented by Ms. Posey, who spoke from a set of presentation slides, which were distributed to the subcommittee. Ms. Posey discussed the upcoming air quality conformity analysis of the FY 2021-2024 TIP and 2020 Amendment to the Visualize 2045 Plan. She told the group that this is a minor update to the plan, with no financial analysis and no performance analysis. She noted the pollutants that will be analyzed, and she listed the analysis years. She shared the major project changes and mentioned that the air quality conformity project input table, which is included in the posted meeting materials, shows all changes to projects since the Visualize 2045 Plan conformity analysis. She mentioned that the Round 9.1a Cooperative Forecasts include changes to the Baltimore Metropolitan Council (BMC) and Fredericksburg Area Metropolitan Planning Organization (FAMPO) jurisdictions, and that there are adjustments to the employment factors. She reviewed technical methods and noted other travel model inputs that will be used for the conformity analysis. She went over the schedule and indicated that the new networks and travel demand files should be ready for request in late April or early May 2020.

Mr. Shahpar asked if Amazon is included in the Round 9.1a Cooperative Forecasts. Mr. Canan responded, saying that Arlington must inform COG whether Amazon is specifically in the forecasts, but that the county recently updated the Crystal City sector plan, which already included employment assumptions on the scale of Amazon. He noted that Arlington is currently engaged in a region-wide effort to identify opportunities to locate more households in the area, which is a COG Board of Director's initiative.

4. MONTGOMERY CO. PLANNING DEPARTMENT'S MODEL NETWORK DATABASE TOOL, MCTOOL

This item was presented by Ms. Yuanjun Li from M-NCPPC and Mr. Qiang Li from Daniel Consultants, Inc. Ms. Li began by discussing an overview of the project. She noted that MCTool is a network database management GIS tool for editing and maintaining the transportation networks used by the Montgomery County Travel Demand Model. The tool is based on and adopted from a similar tool used by COG/TPB staff for network coding: COGTools. Many data sets can be used with MCTool, including transit routes stored in General Transit Feed Specification (GTFS) format.

Mr. Moran asked what type of geodatabase is used by MCTool. Mr. Li said that it uses Esri Personal Geodatabases, but in the future, we could move to Enterprise Geodatabases/ArcSDE. Regarding the use of GTFS files, Mr. Moran noted that one advantage is the standardization of transit route data. However, he noted that various transit agencies have different interpretations of the GTFS standard, which can cause inconsistent data. Mr. Moran asked whether Montgomery Co. has also experienced similar issues with inconsistent GTFS data. Mr. Qiang said they have experienced similar problems.

Mr. Moran asked whether MCTool can export to both Cube TRNBUILD format and Cube Public Transport format. Mr. Li said that, right now, it could export to only Cube TRNBUILD format. Mr. Moran asked what the major differences were between MCTool and COGTools. Mr. Qiang said there is no big difference between the two tools. They had to customize some functions, but they are basically the same.

Mr. Graye said Montgomery Co. had wanted to develop a tool to manage the networks and after COG had developed COGTools. He stated that his staff have been working on MCTool for the last two years and that it is still a work in progress. Ms. Li gave a great deal of credit to COG staff for assisting them in developing MCTool.

Mr. Moran asked whether the Montgomery Co. transportation networks made use of “true shape,” which would allow links to have curvature. Ms. Li said they do have true shape network, but they must turn off some layers like walk links.

Mr. Kline asked how many staff hours and dollars were used to develop MCTool. Mr. Graye said that it would be difficult to estimate such a number. He noted that the planning agency has had a limited budget and so they have tried to be very frugal with their funds on the project. They used their own staff for labor-intensive work rather than hiring a consultant.

5. LESSONS LEARNED FROM THE TRB’S 17TH NATIONAL TRANSPORTATION PLANNING APPLICATIONS CONFERENCE

Mr. Vuksan opened the discussion on lessons learned from the TRB’s 17th National Transportation Planning Applications Conference. He discussed his impressions from the sessions and workshops related to sketch planning tools that TPB staff may explore in the future (e.g., VisionEval), challenges related to implementing dynamic traffic assignment for large areas, new developments related to FTA’s Simplified Trips-on-Project Software (STOPS), transportation network companies, and autonomous vehicles.

Mr. Canan noted that he was particularly interested in topics focused on planning for uncertainty, and how to set up a construct for analysis in scenario planning to address that. He stated that it, in some cases, he would have appreciated more detail in some presentations, to better understand methodologies that were being used.

Mr. Joh attended several sessions related to surveys and discussed the developments related to the next generation of the National Household Travel Survey (NHTS), which will likely be based on a continuous, multi-year data-collection model, rather than collecting the data once every seven to eight years. He was excited to learn more about some of the innovative survey methods, which included a transportation network company survey in San Francisco and a long-distance travel survey in Ohio, both conducted by RSG. Mr. Joh noted that some preliminary results from TPB’s own Household Travel Survey would be shared in September.

Mr. Ngo discussed his impressions regarding collaboration and open source, more specifically, the ActivitySim Python-based software used for some activity-based models (ABMs). Namely, Metropolitan Planning Organizations in San Diego, Atlanta, Detroit and San Francisco were mentioned as users/future users. He also discussed using newer R-based platforms to visualize ABM output. In response to a question by Mr. Moran, Mr. Ngo noted that there was not much discussion on how sustainable open source software is in terms of being able to maintain the software code. Mr. Kim stated that his agency shares open-source scripts with clients, which are typically integrated with other platforms like Cube. Mr. Kim added that he was impressed by the conference format tailored toward planners/modelers and the opportunities that are provided to easily exchange ideas with peers.

All who attended noted that this was an excellent conference.

6. ROUNDTABLE DISCUSSION OF CURRENT MODELING EFFORTS AROUND THE REGION

DDOT is planning two major studies. First, there is a study of transit on K Street. This could include extending streetcar service from Union Station to Georgetown. Second, on Connecticut Ave., there is

a study to determine the benefits of removing a reversible lane. Mr. Moran asked if there were any plans to start charging a fare on the DC streetcar. Mr. Deng was not aware of any such plans.

Mr. Shahpar stated that VDOT central office is currently in the process of drafting internal guidelines for conducting Travel Demand Model studies. Mr. Moran noted that VDOT had written a similar report in 2014.¹ Mr. Shahpar announced that VDOT gets frequent requests for traffic growth rates and that VDOT is currently working on updated guidance on traffic growth rates.

7. OTHER BUSINESS

Ms. Kile stated that the COG is hosting training on using Census Transportation Planning Products (CTPP). The training, conducted by the American Association of State Highway and Transportation Officials (AASHTO), is chiefly aimed at data users at MPOs, states and local governments. She highlighted that this training is designed for anyone who works on long-range planning, congestion management, travel forecasting, air quality analysis, demographics, or GIS. According to Ms. Kile, this training session will run for two full days (August 5 and 6) and will include hands-on work in a computer-based setting.

8. ADJOURN

The meeting adjourned around 11:10 A.M. The next meeting is scheduled for Friday, September 20, 2019 at 9:30 A.M.

¹ Cambridge Systematics, Inc., "Travel Demand Modeling Policies and Procedures, Ver. 2.00" (Virginia Department of Transportation, June 2014), http://www.virginiadot.org/projects/resources/vtm/vtm_policy_manual.pdf.