National Capital Region
Transportation Planning Board

Approved
As of 05/21/2021

TPB TRAVEL FORECASTING SUBCOMMITTEE

HIGHLIGHTS OF THE MARCH 26, 2021 MEETING

Meeting time & location: 9:30 AM to 11:30 AM, Web conferencing ONLY, due to COVID-19 precautions. There was no on-site meeting.

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MEETING ATTENDEES

MEMBERS, ALTERNATES, AND PARTICIPANTS

- Bill Allen (Bentley Systems Inc)
- Jonathan Avner (Whitman, Requardt & Assoc.)
- Charles Baber (BMC)
- Keith Belcher (MDOT-SHA - TFAD)
- Jim Bunch (Sabra & Associates)
- Kevin Chai (Fairfax Co. DOT)
- Oliver Charlesworth (Bentley Systems Inc)
- Filippo Contiero (Bentley Systems Inc)
- Raul Cortez (Bentley Systems Inc)
- Zuxuan Deng (DDOT)
- Michael Eichler (WMATA)
- Dan Goldfarb (NVTC)
- Scott Holcomb (Gannet Fleming)
- Kyeongsu Kim (Connetics Transportation Group)
- Shawn Kimberly (BMC)
- David Kline (Fairfax County DOT)
- Jaesup Lee (M-NCPPC, Montgomery Co.)
- Li Li (Whitman, Requardt & Assoc.)
- Yuanjun Li (M-NCPPC, Montgomery Co.)
- Feng Liu (Cambridge Systematics)
- Krishna Patnam (AECOM)
- Binny Paul (RSG Inc)
- Marie Pham (Loudoun Co.)
- Hongtu (Maggie) Qi (Fairfax Co. DOT)
- Mark Radovic (Gannet Fleming)
- Mushtaqur (Mushtaq) Rahman (Baseline Mobility Group)
- Harun Rashid (NVTA)
- Amir Shahpar (VDOT)
- Elham Shayanfar (MDOT)
- Lisa Shemer (MDOT-SHA)
- Aichong Sun (AECOM)
- Jiaxin Tong (WSP)
- Malcolm Watson (Fairfax Co. DOT)

COG STAFF

- William Bacon
- Tim Canan
- Anant Choudhary
- Joe Davis
- Nazneen Ferdous
- Greg Goodwin
- Ken Joh
- Martha Kile
- Sanghyeon Ko

- James Li
- Mark Moran
- Ray Ngo
- Wanda Owens
- Jinchul (JC) Park
- Meseret Seifu
- Dusan Vuksan
- Feng Xie

* All meeting participants attended the meeting remotely via WebEx.

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

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

First, a roll call was conducted. Next, the highlights of the January 15, 2020 meeting of the TFS were approved without changes.

2. CUBE ACCESS – BENTLEY'S ACCESSIBILITY TOOL

This item was presented by Dr. Charlesworth, who spoke from a set of presentation slides. Dr. Charlesworth discussed four aspects of the accessibility tool CUBE Access: Applications, Data, Testing/Editing, and Analysis. Several examples of accessibility maps were provided either in slide format or video before Dr. Charlesworth went into the details of what data is required for such analysis and how it is supplied with the tool. After discussing how the data can be modified for scenario testing, Dr. Charlesworth went through the analysis options available to users and how they can be used for common (and some not so common) accessibility studies.

Mr. Eichler asked if current users of other CUBE products, such as CUBE Base (which tend to use more aggregate transportation networks), can reuse those same networks in CUBE Access. Dr. Charlesworth noted that the networks are, in fact, compatible, but also noted that CUBE Access needs detailed networks, which are often not what is used by a regional travel demand forecasting model. Compared to strategic transport models, which rely on aggregate transport networks, CUBE Access provides a better way to represent the details needed to reflect walk and bike access to activities and transit service. Regarding transportation network travel times, Mr. Rashid asked, via the chat window, whether the tool relies on a regional travel demand model or uses its own network optimization algorithms. Dr. Charlesworth said that Access uses CUBE Voyager path-building algorithms in the background. Mr. Eichler asked if CUBE Access is included the licenses of existing users of CUBE. Dr. Charlesworth said that one must pay an additional fee to get CUBE Access, since there are third-party royalties to pay, such as to digital map companies.

3. DRAFT ROUND 9.2 COOPERATIVE FORECASTS

This item was presented by Mr. Goodwin, COG's Department of Community Planning and Services (DCPS), who spoke from a set of presentation slides. Mr. Goodwin introduced the background of MWCOG's new Round 9.2 Cooperative Forecasts. He reminded the committee members that the Cooperative Forecasts are the land use inputs for the regional travel demand forecasting model, which is used to conduct the TPB's Air Quality Conformity (AQC) analysis.

Round 9.2 is the first incremental update to the previous forecasts (Round 9.1, 2018) conducted by the COG jurisdictions. Most revisions are geographically focused, so changes to regional projections are very limited. Updated forecasts for the Baltimore region (BMC Round 9A) were included.

The COG Cooperative Forecasting Program was established in 1975 with the first round approved in 1976. There are both major rounds and intermediate rounds. Examples of major rounds, which are developed approximately every five years, include Round 7.0, Round 8.0, and Round 9.0.

Because the Round 9.2 Cooperative Forecasts was not a major round, only 10 jurisdictions (Frederick Co., City of Frederick, Montgomery Co., Arlington Co., City of Alexandria, Fairfax Co., the City of Falls Church, Loudoun Co., Prince William Co., and the City of Manassas) updated their Cooperative Forecasts. Most of the updates were geographically focused (e.g., Marriot Headquarters in Montgomery Co., Amazon HQ2 Headquarters in Arlington Co., and employment changes in the Reston area of Fairfax Co.). Some jurisdictions (Loudoun Co., the City of Falls Church, and the City of Manassas) adopted new Comprehensive Plans.

The Round 9.2 Cooperative Forecasts are prepared by the local governments through the COG Cooperative Forecasting and Data Subcommittee. The forecasts are prepared independently from the COG Regional Econometric Model Projection. The two sets of numbers are then reconciled and should be within three percent of each other. Based the on the draft Round 9.2 Summary Tables, between 2020 and 2045, the region is expected to add approximately 881,000 jobs (+26%), 1.3 million people (+23%), and 546,000 households (+26%). In terms of magnitude, differences between Round 9.1a (9.1 COG jurisdictions) and the Round 9.2 forecast for year 2045 were "marginal." About 30,000 fewer jobs (-0.7%), 81,000 more people (+1.2%), and about 17,000 more households (+0.6%) between the two rounds.

Mr. Goodwin commented on the next steps of the Round 9.2 Cooperative Forecasts. The draft Round 9.2 Cooperative Forecasts "Control Totals"/"Benchmark Totals" were approved by the COG Board of Directors at their February 2021 Board Meeting. COG staff will continue with Q/C analysis of the TAZ-level data and will transmit to the TPB staff for the Air Quality Conformity Analysis in April. COG staff will continue to analyze the data. Final approval by the COG Board will be concurrent with the TPB approval of the results of the air quality conformity analysis scheduled for some time in late spring/early summer 2022.

Mr. Rashid asked, via the chat window, about Fairfax County's Accessory Dwelling Units Ordinance and its relationship with the Round 9.2 update provided by Fairfax County. Mr. Goodwin responded that the initial Round 9.2 "Control Totals"/"Benchmark Totals" were prepared by the different local governments and were submitted in September 2020 with the TAZ-level data submitted by mid-December 2020. Fairfax County provided an update including the TAZ-level data in June 2020. The ordinance could possibly impact the Cooperative Forecast depending on the timing of the passage of the Ordinance. [As it turned out – the ordinance was approved by the Board of Supervisors in March 2021 and therefore, assumptions are not included in Round 9.2. Ms. Fatima Khaja with the Department of Management and Budget will coordinate with the Department of Planning and Development and other county officials in determining the impact of the ordinance on the Cooperative Forecasts and will be integrated into the future Round 10 Cooperative Forecasts.]

4. RELEASE OF COG/TPB GEN2/VER. 2.4 TRAVEL MODEL

This item was presented by Mr. Xie, who spoke from a set of presentation slides. Mr. Xie announced the release of the COG/TPB Gen2/Ver. 2.4 Travel Demand Forecasting Model. Starting with a background introduction, Mr. Xie pointed out that the Gen2/Ver. 2.4 Model, developed mainly in 2020 during the off cycle of the long-range transportation plan, had not yet been used for an Air Quality Conformity (AQC) analysis and thus had not been adopted by the TPB. This model, however, had been deemed to be production ready by TPB staff after a thorough review and was thus released for production use. Mr. Xie then went over the five major enhancements included in the Ver. 2.4 Model as well as its validation performance. Next, Mr. Xie discussed the Ver. 2.4 Model transmittal package that TPB staff had prepared in the past few months and noted that the current COG policy on data requests can be found on the COG Data Requests webpage. Mr. Xie concluded his

presentation with the next steps, including a plan to use the Gen2/Ver. 2.4 Model in the upcoming AQC analysis of the 2022 Update of Visualize 2045. Upon the TPB adoption of this AQC analysis, possibly in Spring 2022, TPB staff also plan to prepare a new Ver. 2.4 Model transmittal package with the updated network and land use inputs that are to be used for the upcoming analysis.

Mr. Rashid asked if the Ver. 2.4 Model incorporated enhancements related to the Cube Public Transport (PT) module, which TPB staff presented in prior TFS meetings. Mr. Xie responded that the Ver. 2.4 Model with PT is still under development. He pointed out that the developments associated with the PT module were in a separate model development line and that the Ver. 2.4 Model being released continues to use the TRNBUILD module for transit modeling. Mr. Bunch asked if TPB staff could provide examples of data requests that would require additional funding. Mr. Moran responded that each data request is evaluated on a case-by-case basis. The full policy can be found on the COG Data Requests webpage.

5. COG/TPB GEN3 TRAVEL MODEL: STATUS REPORT

This item was presented by Mr. Paul, who spoke from a set of presentation slides. Mr. Paul provided an update on Gen3 Phase 1 Model development activities, including data development and ActivitySim deployment. Mr. Paul described the steps involved in ActivitySim deployment. He described the assumptions and data processing steps for the transit on-board survey analysis. Then, he presented key results from the analysis of MARC, VRE, and Metrorail on-board surveys. Finally, Mr. Paul identified the next steps concerning data development for Gen3 Model development.

Mr. Eichler asked how the external-internal commuter rail trips will be represented in the model. Mr. Paul responded that external commuter rail trips will be assumed to start from a nearby external traffic station. A dummy transit stop will be added to the commuter rail lines to represent boardings at stops outside the model boundary.

6. COG 2017/2018 REGIONAL TRAVEL SURVEY (RTS) RESOURCES

This item was presented by Dr. Joh, who spoke from a set of presentation slides. Dr. Joh provided an overview of recently released RTS resources, focusing on the Technical Documentation, Public Files, and the Regional Transportation Data Clearinghouse (RTDC) RTS Tabulations. Dr. Joh also noted that TPB staff is continuing to analyze data from the RTS based on questions from regional stakeholders, which will be posted on the RTS website in the coming months.

Ms. Yuanjun Li asked if there is an index list for the RTDC RTS Tabulations. Dr. Joh responded that a tabulation matrix, which provides a list of all tabulations, is contained in the files.

7. ROUNDTABLE DISCUSSION OF CURRENT MODELING EFFORTS AROUND THE REGION

Mr. Eichler announced that WMATA is looking at customer segmentation by merging smartcard data with passenger ridership survey data. WMATA is also working on a relatively simple fare and service model, which will be conducted in parallel to the customer segmentation study.

Mr. Goldfarb said that NVTC has started doing short-term transit service planning forecasts using its implementation of its Transit Boardings Estimation and Simulation Tool (TBEST).

Mr. Rashid said that NVTA has chosen Cambridge Systematics to develop a travel model incorporating Dynamic Traffic Assignment (DTA, using DTALite) to support the Northern Virginia regional long-range plan update. NVTA plans to resume its effort to get input from COG and other agencies about the modeling plans.

Mr. Avner, representing the Travel Forecasting and Analysis Division (TFAD) of the Maryland Department of Transportation (MDOT), announced that WRA is working with MDOT staff on the Maryland Statewide Transportation Model (MSTM). They are finishing a revalidation of the model and

have transitioned the model to a Cube-catalog environment. The new modeling package will come with new data inputs. WRA is also conducting a study of the long-term impacts of COVID-19 on the forecasts that the travel model predicts.

8. OTHER BUSINESS

A. Monthly Snapshots of Effects of COVID-19 on Travel is now Available on COG Website

Ms. Kile reported that COG/TPB staff has developed the third in a series of snapshots to illustrate how the COVID-19 pandemic is impacting travel in the metropolitan Washington region. The charts show changes in roadway traffic and air passenger enplanements as compared to 2019 levels. The intention is to update this report on a regular basis, adding additional travel modes as data become available. The snapshot is available on the COG website using this link (https://www.mwcog.org/documents/2020/12/18/covid-19-travel-monitoring-snapshot-covid19-traffic-monitoring/). The charts in the next snapshot will be revised to include data from 2021, while still using 2019 as the comparison year. The next snapshot will be available in the coming weeks.

B. Upcoming Guest Presenters at TFS Meetings in 2021

Mr. Moran discussed the planned guest presentation topics at upcoming TFS meetings:

- May 21: Using location-based services (LBS) data to prepare for COVID-19 transit operational and modeling support, by Cambridge Systematics, Inc.
- July 16: Arlington County's new tour-based travel model (follow-up to an earlier presentation), by Arlington Co. and/or Bentley Systems, Inc.
- September 21: Overview of recent transportation modeling activities at the Prince George's County Planning Department at M-NCPPC (follow-up to an earlier presentation), by AECOM
- November 19: Implementing ActivitySim with a travel model in Ohio that uses dynamic traffic simulation (DTA), Caliper Corp.

9. ADJOURN

The meeting adjourned at 11:55 A.M. The next meeting is scheduled for Friday, May 21, 2021 at 9:30 A.M.