



TPB TRAVEL FORECASTING SUBCOMMITTEE

HIGHLIGHTS OF THE SEPTEMBER 22, 2017 MEETING

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

MEETING ATTENDEES

MEMBERS, ALTERNATES, AND PARTICIPANTS

- Bill Allen (Citilabs)*
- Kevin Chai (Fairfax DOT)
- Melissa Chow (WMATA)
- Jay Evans (Cambridge Systematics)
- Dan Goldfarb (NVTC)
- Eric Gray (M-NCPPC, Montgomery Co.)
- Robert Griffiths (COG staff consultant) *
- David Kline (Fairfax County)
- Jaesup Lee (M-NCPPC, Montgomery Co.)
- Yuanjun Li (M-NCPPC, Montgomery Co.)
- Krishna Patnam (AECOM) *
- Patrick Patterson (M-NCPPC, Montgomery Co.)
- Harun Rashid (NVTA)
- Rahul Trivedi (VDOT) *

COG STAFF

- Anant Choudhary
- Willian Bacon
- Joe Davis
- Wanda Hamlin
- Charlene Howard
- Ken Joh
- Arianna Koudounas
- James Li
- Ron Milone
- Jessica Mirr
- Mark Moran
- Ray Ngo
- Jane Posey
- Dusan Vuksan

* Attended the meeting remotely via WebEx/teleconference

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

1. INTRODUCTIONS AND APPROVAL OF MEETING HIGHLIGHTS FROM THE JULY 21 MEETING

Following introductions, the highlights from the July 21, 2017 meeting of the TFS were approved without change.

2. STATUS REPORT ON THE AIR QUALITY CONFORMITY ANALYSIS AND LONG-RANGE PLANNING MILESTONES

Mr. Vuksan presented this item and distributed copies of his presentation slides. He provided a brief status report on the 2016 CLRP out-of-cycle amendment and Visualize 2045, the quadrennial update of the region's long-range transportation plan. He indicated that the 2016 CLRP out-of-cycle amendment analysis was being undertaken to incorporate updated assumptions for some of the regionally significant projects. He noted that the technical analysis had been completed, and that the findings had been shared with the TPB, with TPB approval scheduled for October 2017. He indicated that the out-of-cycle conformity data transmittal package, which will include the Version 2.3.70 travel model and inputs, was expected to be available by the end of the calendar year.

Mr. Vuksan provided a brief status report on Visualize 2045, which consists of both a financially constrained and a financially unconstrained element. The constrained element was formerly referred to as the CLRP. He noted that the update will incorporate several updates in model inputs and tools, including land use, transportation projects, travel demand model, and vehicle registration data. He indicated that the work is ongoing, and that the TPB approval date is set for October 2018, with the new model available for release by December 2018. There were no questions asked.

3. STATUS REPORT ON CONSULTANT-ASSISTED PROJECT TO IMPROVE THE COG/TPB TRAVEL DEMAND FORECASTING MODEL

Mr. Milone presented this item and distributed copies of his presentation slides. Cambridge Systematics, Inc. (CS) had been under contract to COG for the past three years to develop and implement improvements to the TPB's travel forecasting practice. The three-year contracting period with CS ended on June 30. Consultant activities during FY 2017 were principally focused on compiling existing travel survey and GIS data, and the calibration and validation of specific modeling components within the existing trip-based travel model (Ver. 2.3.66). The updated modeling components will serve to improve the existing model's treatment of specific markets: non-motorized trips, transit (sub-modal) travel and managed lane travel. In June, CS delivered a year-end report, documenting the development of the refined models. CS also delivered a proposed/updated model application process that integrated the enhanced model components within the framework of the currently adopted travel model (Version 2.3.66). The updated travel model is known as Version 2.5. Since the July TFS meeting, staff has examined the new models and has executed the Ver. 2.5 travel model for the year 2014. Staff has also compared selected results of the year-2014 modeling outputs from both the existing and proposed model. Staff felt that a such a global comparison would be a reasonable first step towards assessing the reasonableness of the Version 2.5 model performance. Staff has made the following key observations:

- Global totals of non-motorized travel produced by the 2.3 and 2.5 models are reasonably consistent. Furthermore, zonal plots produced by each model, showing the share on non-motorized trips by purpose, are reasonably consistent.

- Relative to the currently adopted model, the Version 2.5 model produces nearly the same regional number of person trips (within 2%), but yields 8% fewer transit trips relative to the 2.3 model. The transit trips are notably different by trip purpose. The V2.5 model yields about 20% less HBW transit trips than the current travel model, and about 20% more transit trips for the non-HBW purposes. Staff speculates that these differences exist because of differences/inconsistencies in the observed data supporting each model.
- The Version 2.5 model yields VMT that is 10% higher than observed VMT for the modeled region. In contrast, the existing 2.3 model produces VMT that is about 2% higher than observed.

Staff will continue to evaluate the Ver. 2.5 process and results. Mr. Milone reminded the subcommittee that the Ver. 2.5 model includes a new transit network module known as Public Transport or PT (replacing the TRNBUILD module used currently). There are notable differences in PT's transit network coding conventions compared from those used in the existing TRNBUILD module. Staff has begun compiling PT network documentation to communicate those differences. He also added that processing time of the Ver. 2.5 model is almost double that of the current model. Staff is considering ways in which the long running times can be reduced. There were no substantive questions asked.

4. 2017-2018 REGIONAL HOUSEHOLD TRAVEL SURVEY: STATUS REPORT

Dr. Joh presented this item and distributed copies of his presentation slides. He provided a brief review of the pre-test survey results, and discussed the modifications for the main survey, revisions to survey questions, and the main survey schedule. The survey was split into two segments: Segment 1 households included web survey (rSurvey) and smartphone app (rMove) households and Segment 2 households included only rSurvey households. The overall survey response rate was 3.3%; the response rate for Segment 1 was only 2.6% while the response rate for Segment 2 was 4.1%. Given the low response rate for rMove, the main survey would only include rSurvey. Dr. Joh then described the modifications for the main survey including mail recruitment protocol, sampling plan, and revisions to survey questions. He concluded his presentation with the main survey schedule, noting that the survey will be launched on October 3, 2017, and will cover 12 months of travel dates.

Mr. Moran asked if the pre-test results were consistent with other household travel surveys in terms of response rates. Dr. Joh responded that response rates vary across surveys, but that the response rate for the smartphone app was lower in the greater Washington, DC region due to several factors such as the long duration of the rMove survey and problems with the app such as GPS signal loss and increased burden of manually correcting trips recorded on the app. Overall, the app worked better for driving trips than transit, walk, and bike trips, and therefore COG survey staff made the decision to not include rMove in the main survey. Dr. Joh also stated that improving the mail recruitment protocol and increasing the incentive for participation would likely increase response rates.

Mr. Moran asked whether the first bullet on Slide 5 meant that the percentage of households using a GPS device to respond to the survey would be 0%. Dr. Joh confirmed that the main survey will not include a GPS sample. Mr. Moran asked if there was a GPS add-on in the 2007 HTS. Mr. Milone stated that there was a small GPS component, which Dr. Joh confirmed. Mr. Moran asked whether not including a GPS sample in the main survey would be going counter to the prevailing trend in household travel surveys. Dr. Joh responded that a small GPS component was requested, but the contractor did not think it would be economically efficient to include this in the main survey.

Mr. Griffiths stated that the 2007/2008 HTS had a vehicle GPS add-on for a small number of households, but that yielded an underestimation in the travel diary-based survey and in the GPS add-on. Both methods estimated the same number of trips per household but there was underreporting in the diary survey. He stated that a detailed analysis of the pre-test results showed a large selection bias in terms of who were downloading and completing the survey. One-half of households with qualifying households did not download the app. Over the 7-day travel period for rMove, another 1/3 of households was lost because not all household members completed their trips on the same weekday. COG survey staff proposed including a 5% smartphone GPS app sample to the contractor but they did not feel that it was worthwhile to do a small add-on, therefore, the main survey will be a web-only survey.

Mr. Milone asked if the increased incentive and changes in the call center staffing could be done within the budget to accommodate the changes. Dr. Joh responded that budget negotiations with the contractor are still pending.

Ms. Li asked if there are differences in smartphone response rates across age groups, and whether not using a smartphone survey would lose the younger generation. She also asked whether advertisement of the survey has been considered. Dr. Joh responded that there is a generational gap in smartphone use, with younger generations gravitating more to the smartphone app. However, he said that the pre-test survey results showed that younger groups are also receptive to taking the web survey. Dr. Joh also added that COG survey staff is exploring and having discussions on how to publicize the surveys.

Mr. Patterson asked whether advertising campaigns could be used for the survey. Dr. Joh responded that those types of campaigns can be effective, but since the survey is not open to all households but rather a sample of households, some caution should be exercised in publicizing the survey.

1. REGIONAL TRANSPORTATION DATA CLEARINGHOUSE (RTDC): RECENT UPDATES

Ms. Howard presented this item and distributed copies of her presentation slides. She discussed some new updates to the Regional Transportation Data Clearinghouse (RTDC). She mentioned that the Traffic Counts map service now includes all types of vehicle count data: hourly, annualized, and classification, with the 2014 average weekday classification count data being the most recently added. Ms. Howard also showed the repackaged Census Transportation Planning Products (CTPP) data. Mr. Milone asked the level of geography for the CTPP data, and Ms. Howard responded that it was the CTPP zones, which are similar to TPB's TAZ, but not an exact match. Mr. Milone also asked about the number of zones, to which Ms. Howard did not know the exact number. He then asked about the vintage of CTPP data, to which Ms. Howard responded that this would be covered later in the presentation.

Ms. Howard also mentioned that the National Highway System (NHS) and National Highway Planning Network (NHPN) are two datasets that have recently been added to the RTDC. Ms. Howard also demonstrated two new applications. The CTPP application is a story map with all available CTPP data. The 2014 weekday classification data by time of day shows passenger cars, pickup trucks/panel vans, and all trucks by percent of all volume by time of day. Mr. Milone asked how the locations shown for classification data correspond to the overall count stations. Ms. Howard responded that the count stations were the same – the ones shown were those with count data available for 2014.

Ms. Howard then discussed the upcoming additions and changes to the RTDC. Mr. Goldfarb asked if TPB would be interested in the stop-level data that NVTC is collecting for one of their projects and Ms. Howard indicated that we would be interested. Mr. Patnam (on the phone) asked if the RTDC

platform could lend itself to editing and maintaining common networks. Ms. Howard replied that the technology exists in ArcGIS overall, but added that the RTDC does not currently allow that type of functionality and staff has no immediate plans to pursue it. Mr. Xie asked whether we had considered adding GTFS to the RTDC and if there are any good tools to work with GTFS data. Ms. Howard replied that we would like to have GTFS in the RTDC and that she will discuss the possibility with TPB network staff.

6. BRIEFING ON LONG-RANGE PLAN TASK FORCE STUDY

Mr. Milone presented this item and distributed copies of his presentation slides. He briefed the subcommittee on a TPB-directed study that is charged with identifying a limited number of initiatives (i.e., policies, programs or projects) that will “make significantly better progress towards achieving goals laid out in the TPB and COG governing documents.” The TPB has recognized for many years that capital improvements assumed in the current CLRP are insufficient for accommodating the expected future demand. The Long-Range Plan Task Force (LRP TF) study is now being undertaken to examine alternative futures that are not subject to the required financial constraints of the existing Plan. Mr. Milone reviewed 10 regional initiatives that are being studied, each of which are focused on themes such as a regional system of managed lanes, regional transit plans, and special land use scenarios. The study is a fast-moving analysis that began in April and is anticipated to be completed by December 31. Consequently, the underlying analysis of alternatives will be rather coarse, involving sketch-level planning techniques and abbreviated applications of the regional travel demand model. A consultant team led by ICF International is currently supporting the LRP TF study with facilitation assistance and technical modeling of most initiatives (TPB staff is modeling two of the 10 initiatives). Mr. Milone said he would brief the TFS on the findings of the study after its completion, at the end of the calendar year.

One meeting participant asked if the specific sketch-planning techniques for the study could be identified. Mr. Milone mentioned that one initiative involved regional Transportation Demand Management (TDM) initiatives, which lends itself nicely to the use of a sketch-planning model, but he did not know which specific model the consultant team will use. Sketch-planning techniques used in the LRP TF will involve a combination of creative approaches involving analogy techniques, the adjustment of model parameters based on professional judgement, preprocessing of modeling inputs and post-processing of outputs, and very minimal network coding. The tight schedule precludes the use of more detailed and rigorous modeling approaches. As such, the study is viewed more as a high-level screening exercise that will lead to more detailed analysis in the future.

The end-result of the analysis will be the identification of a limited set of initiatives which the TPB can consider for inclusion as an “unfunded element” to Visualize 2045, the TPB's long-range transportation plan for the National Capital Region.

7. ROUNDTABLE DISCUSSION OF CURRENT MODELING EFFORTS AROUND THE REGION

Mr. Goldfarb stated that the Northern Virginia Transportation Commission (NVTC) had just completed the first study that quantifies the value of Metrorail and VRE in Northern Virginia. Preliminary results indicated that these two rail systems generated \$600 million in annual benefits to the region.

Mr. Rashid noted that NVTA has finished all the modeling work to support the Northern Virginia long-range transportation plan. AECOM was the consultant used for the work, and AECOM used the TPB travel demand model as the starting point for their work. It is expected that the plan will be adopted on October 12.

8. NEXT MEETING DATE AND OTHER BUSINESS

The next meeting of the TFS is scheduled for Friday, November 17, 2017 from 9:30 AM to 12:00 noon. There was no other business. The meeting adjourned around noon.

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