

Travel Forecasting Subcommittee Meeting Highlights

Friday, January 22, 2010, 9:30 AM to 12:00 noon

Meeting attendees

- Arpita Chatterjee (Fairfax Co. DOT)
- Erik Dahlberg (WMATA)
- John (Jay) Evans (Cambridge Systematics)
- Elizabeth Harper (Parsons Brinckerhoff)
- Bahram Jamei (Virginia DOT)
- Eric Jenkins (M-NCPPC, Prince George's Co.)
- Dial J. Keju (Frederick Co.)
- David Kline (Fairfax County DOT)
- Yuanjun Li (M-NCPPC, Montgomery Co.)
- Xuemei Liu (Cambridge Systematics)
- Subrat Mahapatra (MD SHA)
- Bill Mann (Virginia DOT)
- Joe Mehra (MCV Associates, Inc.)
- Mark Rawlings (DDOT)
- Lisa Shemer (MD SHA)
- Dan Stevens (Fairfax County DOT)
- Gregg Steverson (Prince William Co.)

COG/TPB staff in attendance

- William Bacon
- Mike Clifford
- Joe Davis
- Charles Grier
- Bob Griffiths
- Wanda Hamlin
- Charlene Howard
- Hamid Humeida
- Mary Martchouk
- Ron Milone
- Abdul Mohammed
- Mark Moran
- Jane Posey
- Wenjing Pu
- Clara Reschovsky
- Meseret Seifu
- Daivamani Sivasailam (Siva)
- Robert Snead
- Dusan Vuksan
- Feng Xie
- C. Patrick Zilliacus

The meeting was chaired by Subrat Mahapatra of the Maryland State Highway Administration (MD SHA).

1. Introductions and approval of meeting highlights from the previous meeting

The highlights from the November 20, 2009 meeting of the Travel Forecasting Subcommittee (TFS) were approved with one minor change: In the draft version of the highlights, Eric Graye's first name was mistakenly misspelled with a "k" instead of a "c".

2. Preliminary budget for the FY 2011 Unified Planning Work Program (UPWP)

The Travel Forecasting Subcommittee (TFS) has oversight of five work activities in two major areas: 1) development of networks and models; and 2) travel monitoring. This item was presented by the following individuals, who are responsible for the five work activities: Ron Milone, Bob Griffiths, and Daivamani Sivasailam (Siva). The presentation included an 11-page hand-out entitled, "Preliminary budget for the FY 2011 Unified Planning Work Program (UPWP)." Mr. Milone discussed network

development and models development. Mr. Griffiths discussed cordon counts and travel surveys. Mr. Sivasailam discussed congestion monitoring and analysis. The TPB's current expectation is that the total FY 2011 budget for the department will be reduced by \$666,100 (5.5%), compared to FY 2010. In terms of the five areas overseen by the TFS, the budget for four of the areas will remain unchanged from FY 2010, but the budget of one of the areas – cordon counts – will be reduced by \$210,000 (46%). Mr. Griffiths explained that, although this is a fairly sizeable reduction, it is actually part of the normal work/funding cycle for the cordon program, which, every third year, has a year in which no new data is collected, so costs are lower for that third year than for the other two years in the cycle when data is collected. Mr. Griffiths added that he hopes that the Feds do get the re-authorization of the surface transportation act done soon, because we will need that money restored in FY 2012 for a new round of data collection. Other details about proposed FY 2011 work activities in the five areas overseen by the TFS can be found in the handout.

Concerning the observed travel speed data supplied by INRIX, which was mentioned in Mr. Milone's presentation, Mr. Subrat asked whether there has been any coordination between COG and the I-95 Corridor Coalition and/or the Maryland SHA CHART (Coordinated Highways Action Response Team), which also uses this data. TPB staff responded that COG/TPB is coordinating with the I-95 Corridor Coalition and that it is getting INRIX data from the Coalition, but also added that there were parts of the region that were not covered by the Coalition, such as the I-270 corridor and parts of Virginia. TPB staff has discussed the possibility of purchasing additional INRIX data above that which was being supplied for free to COG/TPB. Mr. Subrat added that SHA CHART had also recognized that I-270 data was missing, so it is thinking about procuring the data. TPB staff plans to coordinate with SHA to make sure that there is no duplication of effort. TPB staff will also coordinate with VDOT regarding this issue.

3. Transportation analysis zones and land use forecasts, Round 7.2a vs. 8.0

This item was presented by Meseret Seifu and Clara Reschovsky, both of TPB staff. Ms. Seifu's presentation, entitled "Review of New Zone System: 3,722 Transportation Analysis Zones (TAZs)," was first. She described some cases where some of the new TAZs would need to be modified, or marked as "unused," to make them more consistent with assumptions used in the travel demand model and the transportation networks used by the model, such as the placement of centroid connectors. There were three major categories addressed: 1) Unused TAZs; 2) TAZs with redefined boundaries; and 3) TAZs that were merged together. This affected less than 1% of the TAZs (about 20 out of the 3,675 internal TAZs). The end result is there will be two sets of new TAZs: one for land activity forecasts (known as "COG TAZ 3,722") and one for travel demand modeling (known as "TPB TAZ 3,722"). In the future, COG's Cooperative Forecasting program will develop land activity forecasts on the COG TAZ 3,722 system (such as Round 8.0), and, prior to use in the travel model, the land activity forecasts will be post-processed by TPB staff, so that the forecasts conform to the TPB TAZ 3,722 system.

Ms. Reschovsky's presentation was entitled "Estimates of Employment for New TAZs." The TAZ-level Round 8.0 Cooperative Forecasts of land activity will not be available until the spring of 2010. However, the TPB models development staff will need year-2007, zone-level land activity estimates (for both employment and households) by mid to late February to begin model calibration work. There are multiple approaches that could be taken that would use the existing TAZ-level Round 7.2a Cooperative

Forecasts, which are at the 2,191-TAZ system level. One would be to use linear interpolation to get the year-2007 estimates (based on the 2005 and 2010 TAZ-level estimates), and then use a simple area-based proration scheme to convert from 2,191 to 3,722 TAZs. However, there are two disadvantages to using this approach. First, it assumes that land activity is equally distributed across each TAZ. Second, the year-2007 data from the Round 7.2a Cooperative Forecasts (available via interpolation of 2005 and 2010 data), would likely be overly optimistic, due to the recent economic recession. A second approach -- the one described by Ms. Reschovsky in her presentation -- would be 1) to use Dun & Bradstreet (DB) employment data, which is geocoded to X/Y coordinates, to enhance the area-based proration, and 2) to use ES-202 wage and salary employment data at the jurisdictional level for 2005 and 2007. It was decided that the DB data was not a sufficient substitute for the Cooperative Forecast TAZ-level employment totals. Instead, DB data was used to determine the percentage splits (proration) between the current and new TAZ systems. Next, TPB staff applied these percentages to the Round 7.2a 2005 employment data to obtain 2005 employment estimates for the new TAZs. Lastly, staff calculated 2005-2007 employment growth factors using the ES-202 data at the jurisdictional level and applied the growth factor to the TAZs within each jurisdiction.

A meeting attendee asked whether Dun & Bradstreet differentiates between large employers at one site and large employers at multiple sites. TPB staff indicated that, theoretically, it does, but there are errors, too.

4. 2007 Household Travel Survey

This item was presented by Ron Milone and Bob Griffiths, both of TPB staff.

Various Tabulations

Mr. Milone distributed a presentation entitled, "2007/08 Household Travel Survey Preliminary Trip Generation Analysis for the Region and at Activity Centers." Mr. Milone's presentation was based on the December 17, 2009 version of the Household Travel Survey. Mr. Milone had the following conclusions:

- Regional trip rates by size, income, and vehicles owned are generally logical and reasonable
- Trip production rates at activity centers meet expectations and are reasonable
- The trip generation model will rely heavily on accurate estimate of HHs in socio economic groups
- HTS should provide a good basis for developing a motorized-non-motorized "split" model using density and transit accessibility measures at minimum

Jay Evans commented that the results just presented seem to indicate that there is a great deal of variability in the activity centers, which would indicate that using a simple activity center dummy variable in trip generation, a non-motorized model, or mode choice model might not be as effective as using some other measure, such as density or transit accessibility. The TPB staff concurred. Mr. Mahapatra asked whether TPB staff had any plans to compare trip rates with those from the Baltimore Metropolitan Council (BMC) region of the HTS. TPB staff indicated that it has been holding coordination meetings with staff from the BMC and plans to continue to do so.

Release of Draft Documentation

Mr. Griffiths distributed two hand-outs, entitled "2007/2008 Household Travel Survey Data Files and Documentation" and "Analysis of ACS Household Population Estimate by Household Size Distribution." Mr. Griffiths described the four survey data files (household, vehicle, person, and trip). Since the last meeting, he indicated that there had been some changes to the data files and made some updates to the weighting factors for jurisdictions in the BMC area, some of which are also in the TPB modeled area. The HTS data files are now ready for release. As for the technical documentation, Mr. Griffiths indicated that he still has a few edits to make, before the documentation will be ready. Consequently, instead of releasing the documentation itself, he presented an outline of what would be in the technical documentation. Mr. Griffiths added that the technical documentation should be completed within two weeks.

A meeting attendee wanted to know when the global positioning system (GPS) sample from the HTS will be analyzed. Mr. Griffiths said that that is one of the next tasks for TPB staff.

5. Network development: Status of both TPBMAN and the year-2007 networks needed for model calibration

This item was presented by Bobby Snead of TPB staff, who distributed a hand-out entitled, "Network Development: Status Report." In the presentation, Mr. Snead discussed 1) the editing capabilities of the TPBMAN application, the new geodatabase and ArcGIS application for editing and managing multi-year networks; 2) the status of the effort to develop year-2007 highway and transit networks on the new zone system (3,722 TAZ) for use with the Version 2.3 travel model; and 3) next steps. As for the year-2007 networks, the main steps that have been undertaken so far for the highway network are adding new road links to ensure consistency with the new finer-grained TAZ system, creating new TAZ centroids, and connecting the TAZ centroids to the highway network. In terms of the aforementioned work, Mr. Snead indicated that only some jurisdictions had been completed. The following were ready for review by the state and local authorities: Alexandria; Montgomery Co.; Prince William Co.; Anne Arundel Co.; Charles Co.; Carroll Co.; Calvert Co.; King George Co.; Stafford Co.; Fauquier Co.; Clarke Co.; and Jefferson Co., WVa. PDF copies of these maps will be posted on the TFS webpage in the next day or two. Other jurisdictions should be available in the next few weeks. TPB staff requested that reviewers submit their comments to TPB by the end of February.

Bahram Jamei (Virginia DOT) indicated that he was glad to see more than one centroid connector per TAZ. He asked how similar the new TAZ system for Prince William Co. is to the system used by Prince William Co. for its own studies. Mr. Snead indicated that he was unsure, since he did not have access to the Prince William Co. zone system, adding that, if he can get a copy of the maps and can find the time to review them, he would try to compare the two systems. Mr. Jamei mentioned that his modeling group was going to perform that comparison, but the group has been recently disbanded, due to budget cuts. Mr. Mann asked what the COG/TPB schedule was for network development. Mr. Snead that the goal was to finish the year-2007, 3,622-TAZ networks by early February, since the models development staff needs the networks for model calibration work and the network coding staff will need to move over to supporting the air quality conformity process in March. Gregg Steverson indicated that he could

provide information about the zone system used in Prince William Co., if that would be of help to TPB staff. On the issue of centroid connectors, Yuanjun Li suggested that TPB staff may want to look at two issues that have been found in the past: 1) centroid connectors that connect to intersections, instead of the midpoint of a link and 2) centroid connectors that connect to the wrong type of road. Mr. Snead indicated that he has been reviewing all the centroid connector work done by the staff. He said that TPB staff is starting from scratch, so all of the centroid connectors that were in 2,191-TAZ networks will be redone in these new networks with these issues kept in mind. TPB staff distributed paper copies of the available maps for review by the state and local officials. In addition to the PDF copies of the maps that would be posted on the TFS webpage, Mr. Mahapatra suggested that perhaps TPB staff could send ESRI shapefiles of the highway networks to interested jurisdictions who request it. The suggestion was taken under advisement by TPB staff. TPB staff will e-mail the other jurisdictions when their maps are available.

6. Updating airport trip tables in the travel model using the 2007 Air Passenger Survey

This item was deferred to the next meeting due to time constraints.

7. Revised monitoring plan for regional HOV facilities in spring 2010

This item was presented by C. Patrick Zilliagus, who distributed a memo, dated January 22, 2010, entitled "Regional HOV Facilities Monitoring – Field Data Collection Work for Spring 2010." Mr. Zilliagus asked for the subcommittee's approval to make the following changes to the spring 2010 HOV monitoring work: 1) monitor fewer locations in each corridor, but record traffic and vehicle occupancy counts at least twice at each counting station, so some degree of traffic variability can be assessed; 2) omit counts from nearby or parallel rail lines, since they have not drawn much interest and impose data collection costs on the operators of those services (e.g., WMATA, VRE, and MARC).

None of the subcommittee members objected to the proposed revision. Additionally, Mr. Mahapatra mentioned that MDOT and MD SHA collect vehicle occupancy data on I-270 and U.S. Route 50 every spring, so there may be the possibility of collaboration with COG. He offered to e-mail Mr. Zilliagus more information.

8. VDOT's highway ranking model and its proposed multi-modal ranking model

Bill Mann of VDOT presented this item and distributed a copy of his presentation slides entitled, "Highway and Transit Ranking Model: Based on modeling synergistic improvements for system-wide congestion reductions per \$ cost". There were several questions from the meeting attendees and a lively discussion of the ranking model.

9. Other business

There was no other business. The next proposed meeting of the TFS is Friday, March 19, 2010 from 9:30 AM to 12:00 noon. The meeting adjourned at about noon.

The highlights were written by Mark Moran.