

**Highlights of the TPB Travel Forecasting Subcommittee Meeting
Held on May 19, 2006**

Item 1: Approval of the March 17, 2006 Meeting Highlights

The highlights were amended and approved to reflect changes to Item 2: Overview of the M-NCPPC Prince George's County Traffic Model. The updated version of the meeting highlights can be found on www.mwcog.org.

Item 2: Subregional Modeling for the Anacostia Waterfront Initiative Transportation Improvements

The presenters of this agenda item were not able to attend the meeting. Therefore, this item will be rescheduled for a future meeting.

Item 3: Adaptation of MWCOG Model for Fairfax County Planning Application

David Kline began the presentation with a brief overview of the project. Three years ago the County allocated funding to update its Transportation Plan. The last such undertaking occurred in 1990. The need for developing a county-based modeling capability was identified as a critical part of the plan update process in order to effectively analyze and evaluating system options. Consequently, Cambridge Systematics was retained to develop and to apply the model for Fairfax County in support of the plan update process.

Don Vary of Cambridge Systematics provided additional details regarding the model development. He distributed a handout entitled, "Adaptation of MWCOG Model for Fairfax County Planning Applications." He explained that model development work essentially involved modifying the regional TPB model to achieve a higher level of forecasting detail and accuracy within Fairfax County. The first step in the development process was a review of the modeling parameters and adjustments currently used in the TPB model to check for general reasonability. He noted that the trip generation adjustments employed by the TPB increases trip generation in the county by 47%. The modeled work trip distribution pattern compared reasonably well with that of the 2000 CTPP. Overall, the review generally indicated that no changes to the trip generation, trip distribution, and mode choice models were warranted.

In adapting the model to more accurately reflect Fairfax County, several steps were taken. First, the TPB's 356 transportation analysis zone (TAZ) system used in Fairfax County was replaced with VDOT's 1,438 TAZ system. Accordingly, land use files were reconstructed to reflect the updated TAZ system. The revised zone system also required a thorough review of the highway network. The finer zone system required the coding of additional collectors and local road links (which are not considered in the regional TPB network). The network modifications also focused on reviewing link attributes, including speeds and capacities. State and local weekday traffic counts were compiled to validate the model.

The network refinements included greater coding detail in order to achieve a more accurate rendition of the highway system and to arrive at more accurate traffic assignment results. The facility types and area type classifications (used to estimate free-flow speeds and capacities) were ultimately expanded to enable more detailed modeling accuracy. Another variable named *CDEV* was added as a link attribute. The *CDEV* attribute was coded on highway links *heading into* arterial intersections and was used essentially to identify the type of control device used at the intersection and the physical configuration of the intersection. The *CDEV* attribute was used to more carefully represent the approach capacity of arterial links using Highway Capacity Manual-based techniques. The use of finer facility type and area type gradations coupled with the use of the *CDEV* attribute resulted in

substantial gains in the traffic assignment performance measures relative to those produced by the TPB travel model. Specifically the RMSE values initially measured at 43% were ultimately reduced to 29%.

Questions and Comments

In response to Mr. Vary's observation that TPB adjustments increased trip generation rates by 47%, Mr. Milone commented that such adjustments are typical because of underreporting that occurs in traditional household travel surveys particularly with regard to short non-work trips. If adjustments aren't made then the simulated links volumes will not match observed volumes. Mr. Griffiths added that some underreporting may be due to the fact that commercial trips are not well addressed in the model. (Commercial Vehicle modeling work is currently in development at this time).

Mr. Milone asked for more detail regarding the use of transit assignments in the modeling process. Mr. Vary replied that transit assignments are produced as part of the modeling process. The TRNBUILD module is applied using scripts that were developed originally by TPB staff.

Ms. Sutton asked if the updated traffic counts used to validate the Fairfax County model could be shared with COG staff. Mr. Vary agreed to provide this information to COG staff. He also stated that 2005 count data is available as well.

Mr. Moore observed that a great deal of refinement was made to the highway network. He inferred that minimal refinement was made to the transit network. He asked for more detail about how transit modeling was undertaken. Mr. Vary replied transit trips resulting from the TPB mode choice model are currently assigned directly (i.e., there was no sub-mode or mode of access modeling procedures).

Mr. Mann asked for greater detail regarding how HOV trips are assigned. Mr. Vary replied that the Fairfax model adopts the TPB modeling procedure in modeling HOV travel.

Mr. Griffiths asked if the area type codes in the COG/TPB model were updated. Mr. Vary stated that the area type codes were completely updated, although the original COG/TPB area type codes were used at the beginning of the Fairfax County Sub-area modeling process. Those codes were reclassified due to smaller zones and different densities. Mr. Shapiro asked how area types were forecast for year 2030. Mr. Vary replied that density calculations were done based on land use forecasts. In some cases, the assigned area type is manually overridden.

Mr. Mann asked who would be running the model in two years. Mr. Kline replied that the model will be run by in-house staff using documentation provided by the consultant.

Item 4: Update on Household Travel Survey

Mr. Griffiths handed out a hardcopy of the Request for Proposals (RFP) issued in mid-April for the consultant proposals to conduct the 2006/2007 Household Travel Survey. He explained that four consultants had responded and a selection panel, chaired by Mona Sutton, had made a recommendation to the Executive Director. The contract award was forthcoming.

He explained that the Household Travel Survey (HTS) interviews will be conducted in every jurisdiction in the TPB modeled region and will be a very expansive survey. The survey sample will be stratified such that the areas of higher densities will be over sampled. Doing so will insure enough samples for various transit modes. Suburban jurisdictions will also be over sampled to make sure potential transit and HOV users are collected.

The new HTS will be a methodologically enhanced activity-based survey which will include (1) development of an address-based sample frame, (2) a multi-modal data collection process that will permit household recruitment and diary retrieval by mail, telephone, Internet, and in-person contacts, (3) a GPS vehicle tracking add-on sub-sample, and (4) a follow-up survey on non-responding households and household members.

The current schedule calls for the contractor to conduct the HTS pretest in July with an evaluation in late August, early September. The full HTS survey will start in October. He stressed that conducting the pretest during July may not be a good idea because of summer vacations. He suggested that he talk with the contractor to see what the impact would be if the pretest was moved to late August in order to capture school trips. Mr. Griffiths then discussed the survey questionnaire. These proposed items are consistent with the data that was collected in prior household travel surveys. He noted that flexible working hours, alternative work schedules, telecommuting, transportation benefits, bicycle information and disability limitations would be included in the survey instrument.

Mr. Griffiths explained that WMATA plans to conduct a Metrorail Survey and Metrobus Survey during the same time period as the HTS. Mr. Harrington interjected that the surveys will be conducted in the spring of 2007 (FY07) and the fall of 2007 (FY08). Mr. Griffiths added that having the HTS data plus a major transit survey is ideal. He explained that another survey will coordinate with the HTS, the Commuter Connections 3-year State of the Commute Survey, which is scheduled for 2007. This survey will interview 7200 households throughout the region and will ask detailed questions about various programs offered by Commuter Connections. Mr. Griffiths suggested that there be a concerted effort not to interview the same households for fear of respondent fatigue.

Question and Comments

Ms. Sutton asked if BMC would participate in the HTS. Mr. Griffiths replied that BMC had completed an add-on to the NHTS and felt that they had enough data at this time. He also added that if local jurisdictions wanted to conduct more samples (in their particular jurisdictions), an add-on fee was included in the contract. The rough estimate is \$200 per additional household surveyed.

The next meeting of the TFS is scheduled for July 21, 2006.