Highlights of the TPB Travel Forecasting Subcommittee Meeting
Held on Friday, January 21, 2005

Item 1. Approval of November 19, 2004 Meeting Highlights

The highlights were not approved as written, additional time is needed.

Item 2. Tracking Traffic Congestion and Travel Times in Montgomery County

Rich Roisman distributed a hard copy of his presentation slides entitled "Tracking Travel Times and Congestion in Montgomery County." He began his presentation with a brief overview of the background and purpose of the Annual Development Approval and Congestion (ADAC) report. The report establishes a basis for ongoing congestion tracking and monitoring program. The Planning Board must submit to the County Council by September 1 each year an updated report listing describing significant developments approved by that date or expected to be approved by the following July 1 that would impact road and school capacity.

Mr. Roisman explained that the observed data congestion in the 2004 ADAC report included:

- Critical Lane Volumes (CLVs);
- Intensity of Arterial Use;
- Average Freeway Speeds and Travel Times;
- Route-Specific Arterial Speeds and Travel Times; and
- Monitored Freeway Speeds and Travel Times.

He also discussed critical lane volumes (CLVs) at signalized intersections. He spatially displayed the ten most congested intersections in Montgomery County, the worst being Rockville Pike (MD 355) at West Cedar Lane. Approximately 20% of the intersections sampled had CLVs exceeding their congestion standard. He explained that the data acquisition software and hardware (DASH) can be used to analyze:

- Intensity of arterial use,
- Difference between peak and off-peak traffic,
- Peak spreading, and
- Difference in peaks by county location.

Issues that will be addressed in the 2005 ADAC report are:

- Enhancing data collection,
- Measures for non-auto modes,
- Safety component, and
- Increased use of user-based measures.

Bob Winick discussed tools (probes equipped with GPS tracking devices, coordinated highway action response team (CHART), and SkyComp Inc.) used to measure congestion. He displayed graphics depicting 2002 freeway congestion data in and near Montgomery County. Mr. Winick stated that MWCOG travel monitoring studies can help in the tracking of local congestion levels. Monitoring freeway and arterial operations has the potential to further expand data resources. He also stated that congestion tracking by local jurisdictions can enrich the regional travel monitoring efforts.

In conclusion, he stated that congestion varies across areas and over time as well as from day to day. User oriented measures appear to be better understood by officials and the public and can

also be used analytically; more refined user oriented measures need to be collected from a variety of sources.

Questions and Comments

Ms. Sutton requested a copy of the ten most congested intersections in Montgomery County. Mr. Roisman stated that copies of the report are available upon request.

Mr. Kirby questioned whether the development issues were raised in the policy debate. Mr. Roisman responded that development issues were discussed in the beginning of the policy debate when the requirement for the report was put into place.

Mr. Shapiro commented that this is a tremendous opportunity to evaluate the traffic impact of different land use developments (i.e. pre-downtown Silver Spring, Route 29 and Georgia Avenue).

Item 3. Commercial Vehicle Count Sample Plan

Ron Milone distributed a memorandum entitled, "Proposed Truck and Commercial Vehicle Survey Sampling Plan." He explained that the TPB has contracted with Bill Allen to assist in the development of truck and commercial vehicle models for the Washington, D.C. region. Planning for a spring/summer data collection effort is now underway. TPB staff is preparing to count commercial vehicles and trucks (medium and heavy) at 177 locations which are representative of facility and area classifications coded in the highway network. Directional traffic counts will be recorded among one of four general categories: passenger vehicle, commercial vehicle, medium truck, or heavy truck. Each location will be surveyed over a six hour duration (10:00AM – 4:00PM), which is presumed adequate for developing daily commercial vehicle and truck percentages. The sampled percentages will enable the development of system-wide commercial vehicle and truck counts throughout the highway network, which is a necessary prerequisite for the model estimation. Staff is currently reviewing the sampling plan to determine resource requirements that will be needed. Mr. Milone asked the TFS to review the proposed survey locations for reasonability as the sample plan is still subject to revision. It is envisioned that a commercial vehicle model will be first estimated during the next fiscal year (FY-2006). Medium and heavy truck models will be separately estimated after the commercial vehicle model is completed.

Bill Allen distributed a hand out describing his modeling approach and example photographs of commercial vehicles. His approach is unlike the traditional method of developing models based on O-D survey data. Since truck O-D surveys are generally subject to low response rates and poor data quality, Mr. Allen has suggested that the TPB consider an alternative modeling approach. It involves the use of a 'seed' generation/distribution model which is used to generate an initial trip table. The initial trip table is adjusted on the basis of an observed trip table that is derived from commercial traffic counts that are synthetically generated throughout the highway network. Thus, the 'final' model to be used in application consists of both the 'seed' model and an adjustment trip table that is assumed to remain constant over time. This particular technique has been successfully implemented in the Baltimore region and in Ohio, and Mr. Allen is confident that it can be similarly implemented in the Washington region.

He also pointed out that commercial vehicles are defined as light duty, four-wheel cars, trucks, or vans that are *visually* distinguished by: 1) text/logos on the vehicle and/or by 2) cargo/equipment that indicates the vehicle is engaged in commercial activity (e.g., ladders, mulch, cable wiring,

etc.). While this subjective definition does not cover all commercial vehicles and is subject to error, it is believed sufficient for addressing the development of a commercial vehicle model. Furthermore, it is important that this visual definition of commercial vehicles is clearly understood by all surveyors so that commercial traffic is recorded consistently across all survey stations.

Questions and Comments

Ms. Sutton asked if there was a method in which these locations were chosen and will jurisdictions have an opportunity to provide input on where the counts should be located. Mr. Milone responded that the network links were manually selected from network plots showing the various facility types and area types. The selection process also involved a desire for geographic balance through out the modeled region. Mr. Milone invited TFS members to comment on specific survey locations, ideally within 30 days.

Mr. Noble asked how the sampled locations overlap with various permanent count locations. Mr. Milone stated that the selected locations are associated with either permanent count stations or program count stations (where counts are taken on a three-year cycle).

Mr. Shapiro commented that he has had past success using a video camera system to collect vehicle classification data. He encouraged TPB staff to consider this type of data collection technology. Mr. Milone commented that the use of video cameras is an interesting suggestion. It is a suggestion that the TPB could consider. Mr. Allen commented that discerning commercial vehicles may prove difficult using a video camera. Logos are not always readily visible. Mr. Shapiro added that multiple cameras could be mounted at various vantage points simultaneously. Mr. Zilliacus commented that video cameras could be viable at certain survey sites. However, more research should be done.

Mr. Luo questioned whether research was done to determine if any of the pre-selected locations prohibit through trucks. He pointed out that site #148 (Olley Lane between Shari Drive and Briar Patch Lane) in Fairfax County may prohibit through trucks. Mr. Allen replied that this had not been considered. Robert Griffiths cautioned that the omission of locations that prohibit trucks could introduce sampling bias.

Item 4. 2000 CTPP

Nanda Srinivasan from Federal Highway Administration presented this item. He distributed a copy of his presentation slides entitled “United States Census 2000”. The Census Transportation Planning Package (CTPP) is a set of special tabulations from the long form of the decennial census designed by transportation planners. The CTPP main products are tabulations at residence (Part 1), tabulations at workplace (Part 2), and flows between home and work (Part 3). Mr. Srinivasan discussed the CTPP production process and timeline. There is a special workshop being held at the Silver Hill Executive Plaza (SHEP), Suitland Census Bureau on March 9-10, 2005 for anyone interesting in learning more about the CTPP.

Questions and Comments

Mr. Griffiths strongly recommended that members attend the CTPP workshop if they use the CTPP for planning activities.

Mr. Allen asked if the CTPP include county level and state level files. Mr. Srinivasan replied that state and MPO files have been joined into one package.

Item 5. Proposed FY 2006 UPWP Elements in Models Development. Networks Development, Travel Surveys, and other Data Collection

Jim Hogan, Bob Griffiths and Divamani Sivasailam distributed a copy of the *Preliminary Budget and Outline for FY 2006 Unified Planning Work Program (UPWP)*. Mr. Hogan began the presentation with a brief outline of the proposed network development, models development and cordon counts work programs. The proposed network program activities are:

- Development of TP+ highway and transit networks in Version 2.1 model format on the expanded cordon using information gathered electronically and/or in paper format;
- Compilation of the latest available transit route and schedule information in the peak and off-peak formats required for the travel demand models. A set of TP+ networks for highway and transit will be coded from this information depicting current year conditions; and
- Build FY2007-2012 TIP and Plan Conformity networks for analysis years 2010, 2020, and 2030 and other years as specified in upcoming federal guidance.

Having begun the development of both the commercial vehicle model and a nested logit mode choice model, the proposed models development work program activities are:

- Complete the commercial vehicle model;
- Complete the nested logit mode choice model;
- Continue testing of the FTA SUMMIT model;
- Provide continued training in the use of the currently adopted models;
- Continue participation on a national MPO panel established to recommend practices in travel demand modeling;
- Continue development of a more format airport access demand model, incorporating mode choice;
- Continue exploration of tour-based and/or activity-based models;
- Continue to review best practice in travel demand modeling through participation in the Travel Model Improvement Program (TMIP), TRB, and literature reviews; and
- Provide documentation for all products from the models development program.

The proposed cordon counts work program activities are:

- In the summer of FY2006, staff will complete data collection for the regional classification counts of commercial vehicles, trucks, and buses. The task includes processing and checking of all data collected in spring and summer of 2005, and the preparation of a technical memorandum documenting the methodology; and
- In spring of 2006, for the Central Employment Area Cordon Count, staff will collect all traffic data and will coordinate transit data collection among various transit providers in the region. Data collected will include vehicle volumes by time of day, vehicle classification and auto occupancy, and transit passenger volumes. Data will be edited, checked for reasonableness, and keyed for processing. The end product for this task will be data files ready to process in FY2007.

Bob Griffiths briefly discussed the travel surveys work program that will consist of:

1. Household Travel Survey
    - Provide data, documentation, and technical support to users of 1998-2003 Longitudinal Household Travel Survey data files. Update user documentation as required.
    - Continue planning and seek funding for a large sample methodologically enhanced activity-based regional household travel survey.
    - *It is currently estimated that between $1.8 and $2.0 million in additional funding will be needed for the data collection for the methodologically enhanced regional household travel survey of approximately 10,000 households.*

2. Regional Travel Trends Report
    - Prepare a policy report summarizing changing travel trends in the metropolitan region using existing sources of data collected in prior years (Regional Transportation Data Clearinghouse, Cordon Counts, Household Travel Surveys, Aerial Surveillance data, etc.).

Daiavamani Sivasailam discussed the congestion monitoring and analysis work program that will:

- Analyze a.m. and p.m. peak period aerial survey data collected in FY2005, and prepare level of service information; compare with historical data and identify trends through time.
- Conduct aerial survey of the region's freeway system during the off-peak and weekend periods, consistent with previous data collection efforts.
- Perform travel time runs on the region's arterial highway system during off-peak and p.m. peak periods, consistent with past years' data collection but with additional routes and moving from a three-year to five-year cycle.
- Explore new technologies/data collection methods in congestion monitoring to support efforts to meet congestion management system requirements and to provide additional data for the travel model development program.

<u>Questions and Comments</u>

Ms. Sutton asked if the jobs in this region are higher than the households. Bob Griffiths replied yes.

Rick Canizales asked when will the Planning Directors begin work on the new TAZs. Bob Griffiths replied in July assuming this budget will be approved.

Mr. Jamei commented that VDOT has added about 3,000 additional zones to the COG model and would be interested in presenting this at a future TFS meeting.

The next TFS meeting will be held on March 18, 2005.

COG/TPB Travel Forecasting Subcommittee
Sign-In Sheet
Meeting of January 21, 2005

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