

**TRANSPORTATION PLANNING BOARD
TECHNICAL COMMITTEE MINUTES**

1. Welcome and Approval of Minutes from the October 7 Technical Committee Meeting

Minutes were approved as written.

2. Report on Fine Particles (PM2.5) Conformity Analysis of the 2005 CLRP and FY 2006-2011 TIP

Mr. Clifford spoke to the handout item; dated November 4, 2005, entitled "Air Quality Conformity Assessment, 2005 CLRP / FY2006-2011 TIP, Fine Particles (PM2.5) Standards". He noted that in December 2004, EPA ruled that we had one year (deadline occurring 4/5/06) to demonstrate conformity for PM 2.5. In April 2005, a second set of regulations was issued, and in August, 2005, EPA released guidance for creating PM 2.5 emission inventories.

The technical approach includes emissions calculations for the years 2002, 2010, 2020, and 2030. In the past, average weekday traffic was estimated and used to calculate emissions by ozone season and by winter season for carbon monoxide. However, we are now estimating average daily traffic (includes weekends) and calculating emissions by season for the PM2.5 analysis.

Mr. Clifford then proceeded by summarizing the draft results of the PM2.5 conformity assessment analysis. He concluded that the new analysis produced dramatic reductions for mobile source emissions and that the plan and program continues to meet conformity requirements. He noted that next steps include continuing a quality assurance review of the calculations, filling in missing values in the tables, drafting the report and presenting it to TPB at their meeting on November 16.

The Committee then discussed the topic including: Do you expect any major changes in results after finishing outstanding analysis? (No, the remaining refinements will have minimal effects); Are we double counting school buses? (No, efforts were taken to accurately represent school buses in the off-line calculations); Why do we break out school and transit buses, but not heavy duty vehicles? (Because our travel demand model does not assign transit vehicle trips); On page 6 of the handout, are we saying there is no significant difference between seasons? (The graph shows winter rates are noticeably higher); Is vehicle technology effecting results? (Yes, cleaner vehicles and fuels result in fewer emissions); On page 8 of the handout, why are seasonal NOX precursors higher in the winter? (The curves are lowest around 70 degrees, and colder temperatures have higher NOX rates. Also, RVP values offset emissions rates); What is auto access? (Transit trips that include a automobile vehicle trip component to arrive at park and ride lots or rail stations).

Ms. Posey then announced that staff are preparing to conduct a 2009 network analysis for the upcoming SIP. She distributed a background memo and requested all Committee

members to review project completion lists for 2010 and inform her of what projects in the CLRP will be complete by 2009.

3. Status Report on 2006 CLRP Financial Plan Update

Mr. Bhatt, representing Cambridge Systematics Inc., gave a progress report on the financial plan update for the 2006 CLRP. He distributed a memorandum to the Committee and reported on the November 1 meeting of the financial analysis working group. He summarized the status of the implementing agencies efforts to update their revenue forecasts through 2030.

Mr. Bhatt said that the DOTs are working to identify and incorporate the implications of SAFETEA-LU and other potential new sources of revenues (e.g., the proposed Davis Bill for WMATA capital funding, possible new toll/HOT Lane facilities in MD and VA, and other revenue sources under consideration at DDOT). While new capital funding for WMATA in the Davis Bill will be identified in the analysis, the Transportation Planning Board (TPB) will decide in March or April whether the additional \$3 billion would be "reasonably assumed to be available" for inclusion in the expected new revenues. He summarized the financial initiatives that have occurred since the 2003 update, including the "Metro Matters" rehabilitation and capacity funding through 2010. He noted that three major projects have been included in the plan with toll revenue financing since the 2003 update: the Inter County Connector, Dulles Rail, and the HOT lanes on the Beltway.

Mr. Bhatt reported that the basic input costs for highway and transit construction have been increasing rapidly due to world market forces. He said that the financial analysis "big picture" has not changed significantly since 2003 and the vast majority of future transportation revenues continue to be for the maintenance and operation of the current transit and highway systems. For this update no significant sources of new revenues are anticipated which means that if a new project is considered for inclusion in the CLRP, a project specific funding plan with identified revenue sources will be required.

Mr. Bhatt commented that the region has begun to examine new sources of possible future funding and to identify the critical steps needed to achieve more adequate funding for the unfunded maintenance, rehabilitation and expansion needs of the transportation system. However, the region must explore enhancements to existing sources or new funding sources, and should consider funding initiatives undertaken by other regions in the country. Although this region is in the process of implementing HOT and toll lanes, these are only appropriate in particular circumstances and for specific corridors.

He argued that the fuel taxes and other current user fees, which have been the backbone of funding for highways, will be the primary source for the short and mid-term, but that they may not be the best long-term solution. He said the U.S. Chamber of Commerce just released a report: "Future of Highway and Public Transportation Financing," which identifies possible new funding sources and issues surrounding their adoption. It recommends short-term increase in fuel taxes and the eventual long term implementation of new types of fees based on vehicle miles of travel.

Mr. Bhatt explained that a vehicle mile of travel or VMT fee is one alternative that deserves further consideration as a new long-term funding source for this region. He said that this region could benefit from a review of the findings and lessons from an Oregon DOT study and a recent study by a consortium of a dozen midwestern and western states. These studies examine issues relating to the technological, administrative, enforcement, institutional, and acceptability issues with adoption of VMT fees on a regional context as a supplement and/or substitute to fuel taxes.

Mr. Kirby commented that the U.S. Chamber of Commerce report recommendation for federal and state gas tax increases in the short-term are interesting given the current political situation. Mr. Bhatt noted that the political difficulties are well known, but that in the longer term with increasing fuel efficiencies and alternative fuels we need to begin to look at substitutes to fuel taxes.

4. Review of Draft Solicitation Document and Schedule for the Air Quality Conformity Assessment for the 2006 Constrained Long Range Plan (CLRP) and FY 2007-2012 Transportation Improvement Program (TIP)

Ms. Klancher reviewed the draft Call for Projects document and schedule for the air quality conformity assessment for the 2006 CLRP and FY 2007-2012 TIP. Mr. Austin reported on the status of the on-line project database. Mr. Sivasailam reported on the status of the TERM appendices. Comments on the Call for Projects document were asked to be provided by November 9 to Ms. Klancher. The TPB will review the draft Call for Projects document in November and be asked to approve the final document at the December 21 meeting.

5. Proposed Amendments to FY 2006 Unified Planning Work Program (UPWP) to Address Requirements in the Safe, Accountable, Flexible and Efficient Transportation Act – A Legacy for Users (SAFETEA-LU)

Mr. Kirby distributed a set of budget tables and materials describing the proposed amendments to the FY 2005 UPWP to address the new planning activities for metropolitan planning organizations (MPO) and increased MPO planning funding levels in SAFETEA-LU. He said that in March the TPB approved the UPWP for FY 2006 (July 1, 2005 to June 30, 2006). Since the passage of SAFETEA-LU on August 11, new planning activities and higher funding levels have been identified for metropolitan planning organizations (MPO).

He explained that overall, about \$3 million in new funding is available for the remainder of FY 2006 and that Table 1 indicated in bold the sources and amounts of the proposed increases in the total funding for the UPWP. Table 2 showed the proposed funding increases in bold for specific work activities. These tables were followed by bullets describing the proposed new tasks and changes for these work activities. He said that in December staff will prepare an amended version of the UPWP document incorporating the new budgets and including text with strike and bold to indicate the changes to these

work activities. The Board will be asked to approve this amended work program at its December 21, 2005 meeting.

Mr. Miller reviewed the proposed activity and budget changes in his program area. He described the changes in response to the new SAFETEA-LU planning requirements that expand work tasks: I.C Constrained Long-Range Transportation Plan, I.H Access to Jobs Planning, and I.I Public Participation. He explained that a new work activity, I.L Transportation Emergency Preparedness Planning, is proposed. This is separated and expanded from activity I.D Transportation Operations Coordination and Emergency Preparedness Planning to address increasing specialized needs for transportation sector support and involvement in Homeland Security directed preparedness activities. He said that a new work activity, I.M Freight Planning, is proposed to respond to the recommendation of the Federal Planning Certification Reviews. Mr. Rybeck commented that there is an on-going Homeland Security funded study of relocating the rail freight lines in the District of Columbia. Mr. Kirby said that there is a growing interface between security and transportation planning issues and that this new transportation emergency planning effort will be integrated with on-going transportation planning activities.

Mr. Clifford reviewed the proposed activity and budget modifications in his program area. He described the changes necessary to address the new fine particles (PM2.5) emissions analysis and conformity requirements that affect work tasks: II.A Air Quality Conformity, II.B Mobile Emissions Analysis, and III.D Software Support. He said under task IV.B Congestion Monitoring, the arterial highways monitoring project would be expanded to conduct a pilot test of new travel time monitoring technologies and data collection methods such as utilizing cell phone signals or volunteer drivers with GPS monitors. Mr. Kirby noted that the Baltimore region is doing a test using cell phones and that staff will report to the Committee on the results.

Mr. Hogan reviewed the proposed activity and budget changes in his program area. He described the modifications that affect work tasks: III.A Network Development, III.C Models Development, and IV.A Cordon Counts. He explained that the budget increase would help ensure timely completion of the models development efforts; support consultant assistance to provide technical support on a task order basis for an ongoing assessment of the performance of the TPB travel demand models; and purchase micro simulation software to aid in the development of more detailed simulation of travel patterns on major corridors such as the proposed HOT lane projects. Chair Mokhtari said that this could be a good education tool for the public. Mr. Kirby said that staff would provide a demonstration of it to the Committee in the future. In reply to Mr. Owolabi, Mr. Hogan said that the microsimulation software would cost \$25,000 and the consultant assistance is budgeted for \$150,000.

Mr. Griffiths reviewed the proposed activity and budget changes in his program area. He described the modifications that affect work tasks: II.C Regional Studies, II.D Coordination of Cooperative Forecasting and Transportation Planning Processes, and III.B GIS Technical Support. He provided comprehensive descriptions of the proposed

activities and budget increase to initiate the regional household travel survey under task IV.C and to work with the DOTs to design, develop and collect data for a regional Highway Performance Monitoring System (HPMS) under task IV.D. He explained that the travel survey will have a sample of 10,000 households and include several methodological enhancements to improve response rates. He said that the activity-based survey will be conducted over a 12 month period beginning in 2006 and the total cost could be about \$2 million. He said that staff will meet with staff at the Baltimore Regional Council to try to coordinate conducting surveys in Howard, Anne Arundel, and Frederick Counties.

Mr. Foster asked if the household survey will have the problems of not contacting under represented minority groups including persons who do not understand English. Mr. Griffiths replied that this will be examined during the pre-test. Better representation in the sample can be obtained by using an addressed-based sample methodology with follow-ups and working with community groups to try to increase cooperation by the survey recipients. Mr. Canizales and Mr. Biesiadny said that this survey is needed and asked if there would be funding committed to complete it in the FY 2007 UPWP. Mr. Kirby said that the funding should be available. Ms. Erickson said that MDOT will work with BMC staff to explore interest in the survey.

Mr. Kirby also noted that the TPB agreed in July that the share of the total VDOT PL funds attributable to the urbanized area portion of Stafford County be allocated to the Fredericksburg Area Metropolitan Planning Organization (FAMPO). The bold change in total VDOT funding shown in Table 1 reflects this slight reduction.

6. Briefing on Definition of the Regional Core and Regional Activity Centers and Clusters and Future Updates

Mr. DesJardin of the COG/HSPPS staff presented a PowerPoint show concerning the history of the Regional Activity Centers maps. He stated work on the Activity Centers maps was begun at the request of the TPB following approval of the TPB "Vision" in 1998. He said that the initial Activity Centers map was created in 6 months and that a COG Board/TPB joint working group was created to oversee refinements to the maps.

Mr. DesJardin distributed copies of the 2002 publication "Regional Activity Centers: A Tool for Linking Land Use and Transportation" and stated that, per the resolution approving the maps, COG staff and the Planning Directors Technical Advisory Committee were preparing to analyze the new Round 7.0 Cooperative Forecasts. Mr. Kirby said that TPB Chairman Mendelson had requested that the TPB be briefed on the Activity Centers and Clusters at their November 16 meeting.

7. Briefing on the Implementation of Traffic Signal Optimization in the Region

Mr. Meese presented this topic, referring to a handout. The 2002 Traffic Signal Optimization "Transportation Emissions Reduction Measure" (TERM) had pledged an

increase in traffic signal timing in the region for air quality credits. The Traffic Signals TERM was adopted by TPB July 31, 2002. By June 30, 2005 the number of optimized traffic signals in the region was to be increased over and above year 2002 base conditions, from 2,100 to 3,000 (out of an estimated 4,700 total regionwide signals when the TERM began in 2002). Conservative air quality benefits were assumed. Technical bases included a common optimization methodology, before-and-after field observations, and results reported by implementing agencies.

The region met and exceeded the optimization goals set out in the TERM. A reported 3,200 signals were optimized by the end of the TERM period, an increase of 1,100, exceeding the goal of 900 additional signals optimized. The reported percentage of optimized signals in the region rose from approximately 45% in 2002 to 68% in 2005.

The presentation examined what it means for signals to be optimized. Traffic signals allot time at intersections for safety, traffic flow, pedestrians, and other factors. An individual signal's timing has to be balanced for traffic loads, cross traffic, left and right turns, and pedestrians. Multiple nearby signals can be looked as a system to coordinate timings. Under certain conditions, a corridor with a predominating flow and direction can be timed for "progression", reducing delays for traffic in that flow.

However, it was stated that optimized does not mean without delay. The driver may still experience delays even after optimization, especially in places with high traffic volumes, places where cross-traffic or left and right turns are high, routes that cross or are in the opposite direction of predominant flow, or with competing demands, such as numbers of emergency vehicles or in places fortunate enough to have high pedestrian volumes. It is overall system delay, not necessarily the delay experienced by a given individual driver, which is minimized in optimization.

The process of optimization was described as several steps. First was identification of the corridor or area to be optimized. "Before" field observations are taken, including travel time runs, current signal timings, and traffic volumes (including cross traffic and left and right turns). Computer analysis with specialized software is undertaken, outputting suggested timings and estimated benefits. Traffic engineers interpret, adjust, implement, and fine-tune new timings, not just relying on the raw computer output, but also adding elements of professional judgment and common sense. "After" field observations/travel time measurements are taken, with readjustments if necessary. After optimization is completed, ongoing observations by engineers spot-check for problems or necessary adjustments, perhaps in response to a citizen complaint or inquiry. The signal should be reanalyzed when necessary, with an engineering rule of thumb to reoptimize at least once every three years.

Optimization is just one of many activities that signals engineers undertake for the proper function of signal systems. Other signals operations and activities include basic systems monitoring and maintenance; adjustment of signals by centralized control (available for many of the systems in the region); technical upgrades, including traffic detection and

adaptive systems; specialized timing plans (e.g., emergencies, holiday shopping), installation of pedestrian “countdown” signals (which have proven to be popular); transit bus signal priority test corridors in Arlington and Fairfax Counties (results will be analyzed and reported at a later time); installation of new signals (over 200 new regionally since July 2002); the use of alternatives to signals (e.g. roundabouts); and regional and interagency collaboration, notably through the Traffic Signals Working Group of the Management, Operations, and Intelligent Transportation Systems Task Forces.

In response to comments from Chairman Mokhtari, Mr. Meese noted that there would be uncertainties in reporting the optimization status of signals newly installed 2002-2005; it would be consistent with the adopted TERM to report only on signals in place when the TERM began in 2002.

Ms. Erickson suggested noting that signal optimization and maintenance activities are ongoing by the region’s transportation agencies, and were not solely because of this TERM.

In response to comments from Ms. Samarasinghe and Mr. Griffiths, it was agreed to add air quality impacts and other TERM results to the materials provided to the TPB. In response to a comment from Chairman Mokhtari, Mr. Meese suggested that it would be more feasible to report time savings on a sample corridor basis, rather than an averaged systemwide basis, because of “apples and oranges” data comparison issues. It was agreed to include example corridor results in the TPB materials.

In response to a comment from Mr. Rybeck, Mr. Meese noted there was a high level of interest in signal optimization in the District of Columbia, and that the DDOT representative at the TPB meeting should be prepared to answer detailed questions. In general, it was agreed that staff would refer detailed questions to the implementing agencies that performed the optimizations.

Mr. Griffiths suggested that, in the future, a before-and-after video could help show the results.

Mr. Smith noted reports in the media that Congressman Frank Wolf had been critical of the handling of technical problems encountered during VDOT’s installation of new traffic signal and detection equipment in the Virginia State Route 7 corridor.

In response to a question from Mr. Verzosa, Mr. Clifford stated that the air quality methodology used for the original signals TERM could be looked at again, using the actual final results on numbers of optimized signals, to report TERM impacts.

Chairman Mokhtari noted TPB Chairman Mendelson’s concerns on verifying results of optimization efforts. Mr. Kirby stated that the results available were those reported by the implementing agencies.

In response to a question from Mr. Todd, Mr. Kirby noted that the impact signal optimization has on roadway capacity was not a focus of the TERM analysis, and the Committee may discuss that issue at a later time.

8. Report on Current Activities from the Bicycle and Pedestrian Subcommittee

Mr. Sebastian discussed the activities of the Bicycle and Pedestrian Subcommittee. He referred to a letter from Mr. Sebastian to Mr. Mokhtari supporting an expanded household travel survey that was distributed to the Committee. The household travel survey has the best data for non-work trips in the Washington region. However, the last big survey was done in 1994. A new household travel survey is needed, with a large sample size that would enable bicycle and pedestrian mode share to be gauged accurately.

Mr. Sebastian also referred to a hand-out on the Street Smart Pedestrian and Bicycle Safety Campaign. The campaign has seen progress in coordination with law enforcement.

Chairman Mokhtari asked how much federal match was required for the state funds. Mr. Sebastian replied that while the Federal Motor Carrier Funds provided by the District did not require a match, the other federal funds required a 20% match.

Mr. Kirby added that the TPB chairman has sent a letter to TPB jurisdictions requesting funds for the 2006 campaign on a voluntary basis. There is quite a bit of support for the program, and some jurisdictions have already budgeted to support the 2006 campaign. The police chiefs of many jurisdictions have also been very supportive.

Mr. Sebastian announced that the 2006 campaign would likely take place in April. At the next Bicycle and Pedestrian Subcommittee meeting the subcommittee would review a draft regional bicycle and pedestrian plan and project database. He commented on the possibility of a pedestrian and bicycle coordinator staff position at WMATA, something the subcommittee members have long felt was needed.

The Committee discussed how the desirability of a pedestrian and bicycle coordinator position might best be raised with WMATA, and whether a letter from the Committee would be appropriate. Since a new planning director is expected soon at WMATA, it was suggested that it might be best to approach the new planning director first.

9. Other Business

Mr. Alex Hekiman of Montgomery County was recognized by the Committee for his 32 years of service. Chairman Mokhtari presented him with a certificate.

Mr. Rybeck told the Committee that the District of Columbia had started a new program called "DCarsharing". He said the new service was modeled after others in the region.

10. Adjourn

**TPB TECHNICAL COMMITTEE MEMBERS AND ALTERNATES
ATTENDANCE - November 4, 2005**

DISTRICT OF COLUMBIA

DDOT Rick Rybeck

MARYLAND

Frederick Co. Denis Superczynski
Gaithersburg -----
Montgomery Co. David Moss
Prince George's Co. Aaron Overman
Rockville -----
M-NCPPC
Montgomery Co. Alexander Hekimian
 Eric Graye
Prince George's Co. Faramarz Mokhtari
 Harold Foster
MDOT Lyn Erickson
 Glen Smith

VIRGINIA

Alexandria Maria White
Arlington Co. -----
City of Fairfax Alexis Verzosa
Fairfax Co. Tom Biesiadny
 Robert Owolabi
 Tom Biesiadny
Falls Church -----
Loudoun Co. Art Smith
Manassas -----
Prince William Co. Rick Canizales
NVTC -----
PRTC -----
VRE -----
VDOT -----
VDRPT Sharmilla Samarasinghe
NVPDC -----
VDOA -----

FEDERAL/OTHER

FHWA-DC -----
FHWA-VA -----

FTA -----

NCPC Michael Weil

NPS -----

MWAQC -----

COG Staff and Others

Ronald Kirby, COG/DTP
Mike Clifford, COG/DTP
Gerald Miller, COG/DTP
Mark Pfoutz, COG/DTP
Andrew Meese, COG/DTP
Andrew Austin, COG/DTP
Dusan Vuksan, COG/DTP
Daivamani Sivasailam, COG/DTP
Jim Hogan, COG/DTP
Jane Posey, COG/DTP
Bill Bacon, COG/DTP
Jinchul Park, COG/DTP
Jill Locantore, COG/DTP
Bob Griffiths, COG/DTP
Michael Freeman, COG/DTP
Ron Milone, COG/DTP
Eulalie Lucas, COG/DTP
Paul DesJardin, COG/HSPPS
Sunil Kumar, COG/DEP
Anant Choudhary, COG/DTP
Wendy Klancher, COG/DTP
Aaron Overman, Prince George's DPW&T
Kenneth Todd, NCBW

WMATA

WMATA Kristin Haldeman