



# NATIONAL CAPITAL REGION

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## TRANSPORTATION PLANNING BOARD

### MEETING NOTES

#### JOINT MEETING OF MANAGEMENT, OPERATIONS, AND INTELLIGENT TRANSPORTATION SYSTEMS (MOITS) TECHNICAL SUBCOMMITTEE AND MOITS TRAFFIC SIGNALS SUBCOMMITTEE

**DATE:** Tuesday, April 14, 2015

**TIME:** 12:30 PM – Lunch will be provided at 12:15 PM

**PLACE:** MWCOG  
First Floor Meeting Room 1  
777 North Capitol Street NE  
Washington, DC 20002

**CHAIRS:** Jean Yves Point-du-Jour, Maryland State Highway Administration  
Piotr Rachtan, Maryland State Highway Administration

**Attendance:**

Yeshitla Argaw – MDSHA  
Burak Cesme – AECOM  
Melissa Chow – WMATA (on the phone)  
Michael Farrell – COG/TPB  
Maha Gilini – City of Alexandria (on the phone)  
Taran Hutchinson – MATOC (on the phone)  
Greg Jones – Frederick County (on the phone)  
Jim Lampe – Control Technologies Inc.  
Ling Li – VDOT (on the phone)  
Curt McCullough – City of Fairfax (on the phone)  
Amy McElwain – VDOT  
Andrew Meese – COG/TPB  
Erin Morrow – COG/TPB  
Ben Myrick – MDSHA  
Liz Parrish – MCDOT (on the phone)  
Jean Yves Point-du-Jour – MDSHA  
Wenjing Pu – COG/TPB  
Piotr Rachtan – MDSHA  
Daivamani Sivasailam – COG/TPB  
Terri Tabesh – MDSHA  
Stephanie Taylor – City of Falls Church

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John Thomas – MCDOT (on the phone)

Diederick van Dillen – Jacobs Engineering (on the phone)

Zong Tian – University of Nevada

Yi Zhao – Beijing Jiatong University

### **1. Welcome, Introductions, and Review of Notes**

- a) **January 6, 2015 MOITS Technical Subcommittee Meeting**
- b) **February 2, 2015 Traffic Signals Subcommittee Meeting**
- c) **March 10, 2015 MOITS Technical Subcommittee Meeting**

Notes have been provided and posted online, any comments can be directed to Mr. Meese or Mr. Trigueros.

### **2. Presentation on Signal Timing Software under Development**

Zong Tian, Ph.D., PE, Center for Advanced Transportation Education and Research (CATER) University of Nevada, Reno

Dr. Tian presented on an innovative software package under development to manage and optimize signal timing plans. The package focuses on maximizing bandwidth and allows timing plans to be exported to a mobile app for field verification.

In response to a question regarding the optimization of partitioning, Dr. Tian noted that there is a distance factor in order to avoid unnecessary stops and queues. In response to a question regarding platoon dispersion, Dr. Tian noted that volumes are not taken into account – bandwidth is what is being maximized.

In response to a question regarding split and cycle adjustments, Dr. Tian noted that these characteristics can be changed, but delay is not calculated within the software. Synchro files can be imported to the software. Google's automatic geocoding is used in order to geocode the signal locations onto the display map.

In response to a question regarding oversaturated conditions, Dr. Tian noted that optimization is not possible under these conditions. The software, however, is capable of adjusting the travel speed to address real world conditions. Theoretically,  $v/c$  ratios over 0.9 may not be optimized as queues cannot be cleared. When only one intersection along a corridor is over capacity, as is often the case, this can be a good point to split the corridor into separate segments for optimization.

### **3. Presentation on Acyclica Road Trend System**

Jim Lampe, Control Technologies, Inc.

Mr. Lampe presented on the RoadTrend system from Acyclica, a complete solution for the collection, archiving and analysis of traffic information with the purpose of maintaining the highest quality and most current information. RoadTrend is used to provide real time congestion management, signal timing optimization, travel time and corridor usage (origin/destination) information.

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In response to a question regarding installation of permanent detectors, Mr. Lampe noted that Boulder, CO and Seattle, WA have installed permanent systems, it is not only pilot projects. Regarding privacy issues, Mr. Lampe noted that MAC addresses are masked to protect users. Regarding the counting of multiple devices in a single vehicle, Mr. Lampe noted that different algorithms are used to track transit vehicles, and he can provide more information on that at a later time. The data can be used and downloaded by the client as they wish, the installation cost is about \$3,500 to \$4,000, and there is no annual fee.

Ms. McElwain noted that they are using this technology to improve data quality on arterials for use in real-time applications. The pilot study has shown promising results, but they would have to figure out a business plan to fund the installation and maintenance of this product.

In response to a question regarding lane-by-lane differentiation, Mr. Lampe noted that additional detectors could be used to combine data to provide this granularity. Ms. McElwain noted that arterial lane-by-lane differentiation would be hard, but HOT lane versus general purpose lane distinction could be done – as in VDOT's Express Lanes. However, VDOT does not have the resources to move forward on that at the time.

In response to a question regarding the different applications of the technology, Mr. Lampe noted that it has been used for transit, bike, and pedestrian detection – he can follow up with more information on these.

### **4. Update on the Greenhouse Gas COG Multi-Sector Working Group (MSWG)** Daivamani Sivasailam and Erin Morrow, COG/TPB Staff

The Committees were briefed on the latest activities of the Transportation Sector Subgroup of the MSWG. Ms. Morrow gave a brief summary on the activities of the MSWG and the upcoming process to identify and evaluate greenhouse gas reduction strategies. Public comment on the draft strategies is open until April 22<sup>nd</sup> and should be channeled through the formal representatives. Participants are encouraged to share any studies that could inform the consultants on the effectiveness of strategies and can be directed to Ms. Morrow, Mr. Trigueros, or Mr. Meese.

### **5. Update on Regional Performance-Based Planning Activities under MAP-21 Requirements**

Andrew Meese, COG/TPB Staff

Mr. Meese gave an update on regional activities regarding the performance-based planning requirements of the federal Moving Ahead for Progress in the 21st Century (MAP-21) legislation and its ensuing federal regulations. The draft rule for congestion management is slated for release in June, so no details are available yet. A USDOT-led workshop to discuss these performance measures is going to be planned for the near future. Some discussion is going on in anticipation of this event to get the most out of the workshop.

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In response to a question regarding the role of local government in this process, Mr. Meese noted that there will be coordination among all levels of government, but so far the guidelines put most of the responsibilities on state agencies.

### **6. Update on Regional Emergency Support Function 1 – Emergency Transportation Committee (RESF-1) and Urban Area Security Initiative (UASI) Activities**

Daivamani Sivasailam, COG/TPB Staff

Mr. Sivasailam briefed the Committees on RESF-1 and UASI activities. RESF-1 will be meeting on Thursday and are working on identifying the projects to be funded under the FY 16 UASI grant program. Projects competing for funding include RITIS enhancements, RITIS training, and radio connectivity between DOT operations centers. Regarding the status of the FY 15 UASI grant on power signal backups, paperwork has been submitted and agencies are awaiting approval. DCHSEMA has contacted the City of Alexandria to coordinate on the process of spending the funds.

Mr. Meese added that Thursday's RESF-1 agenda will include a discussion on a Traffic Incident Management (TIM) event for the National Capital Region.

### **7. Update on the 2014 Freeway Congestion Monitoring Using Aerial Surveying Report**

Daivamani Sivasailam, COG/TPB Staff

Mr. Sivasailam gave an update on the status of the current draft aerial photography report, including the associated pilot study of one-second time-lapsed aerial photography (TLAP). The TLAP analysis is time consuming, but could be beneficial for the study of bottlenecks. The staff will document the lessons learned from this pilot study to be presented by the end of the fiscal year. The traditional aerial photography report will be presented to the TPB in July or August.

### **8. Jurisdictional Roundtable**

All

SHA – Coordination between WMATA and SHA on a pilot TSP project at 5 intersections between Hyattsville and Beltsville. They are expecting operations to begin in September.

City of Falls Church – Staff are starting a new procurement process to replace controllers needed for TSP to function along VA-7. There are challenges in following the federal procurement process and developing an MOU with WMATA to make sure they are reimbursed for these expenses.

VDOT – VDOT was awarded ICM funding for east-west corridor (I-66 and Dulles Corridor) planning. This process has become more challenging given the plans in process for the I-66 P3 project for express lane outside the Beltway and (not P3) conversion to toll road inside the Beltway. Projects have been put on hold awaiting prioritization – with exceptions being made for maintenance. Ms. Li is leading a study to evaluate adaptive signal system technology along different corridors.

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Frederick County – Has some questions regarding ASCII/III controllers, Mr. Myrick will follow up offline.

### **9. Other Business**

Next MOITS meeting is scheduled for Thursday May 14, 12:30 – 3:00 and will be a joint meeting with VPDUG.

Next Traffic Signals scheduled for June 16.

### **10. Adjourn**