



NATIONAL CAPITAL REGION

TRANSPORTATION PLANNING BOARD

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

DATE: Thursday, July 10, 2014

TIME: 10:30 AM

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

CHAIR: Ling Li, Virginia Department of Transportation

CALL-IN OPTION: A call-in option, with documents shared via WebEx, will be available for participants who are not able to attend in person.

Attendance:

Shahid Abbas – Arlington County
Harvey Alexander – DDOT
Vincent Fulks – Prince George’s County (by phone)
Maha Gilini – City of Alexandria
Mike Kinney – Montgomery County (by phone)
Ling Li – VDOT
Curt McCullough – City of Fairfax (by phone)
Andrew Meese – COG/TPB
Ben Myrick – MDSHA
Hadi Quaiyum – Prince George’s County
Eric Randall – COG/TPB
Daivamani Sivasailam – COG/TPB
Marco Trigueros – COG/TPB
Michael Weinberger – Foursquare Integrated Transportation Planning

1. **Welcome, Introductions, and Review of Notes from the May 6, 2014 Traffic Signals Subcommittee Meeting**

Participants introduced themselves. Any comments on the meeting notes can be sent to Mr. Trigueros.

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2. Update on Transit Signal Priority Components of Regional TIGER Grant

Eric Randall, COG/TPB Staff

Michael Weinberger, Foursquare Integrated Transportation Planning, Inc.

Mr. Randall and Mr. Weinberger provided an update on the regional TIGER funded transit signal priority project. It is anticipated there will be a technical discussion on this topic at a future meeting. MWCOG was awarded the grant in 2010 in partnership with WMATA, DDOT, City of Alexandria, PRTC, and MDOT. Of the \$58.8 million available, one third has been spent, and the rest has to be used in the next two years. Several corridors across the region have been identified for TSP implementation. WMATA has focused on preparing its fleet of buses for operations; the development of wayside equipment is still underway, and WMATA will work with partner agencies to test it once the pilot project along VA-7 is complete.

In response to a question regarding cellular service, Mr. Weinberger noted that WMATA will be handling and paying for the cellular service themselves.

The group discussed the challenges presented by the project. WMATA chose Clever Devices as its vendor because it operates the onboard equipment in all its buses; however, they do not have experience with TSP. Because of the complications associated with the development of the TSP equipment and software, the pilot project has been delayed. Mr. Abbas expressed concern over the TSP working with Arlington County traffic signals due to wireless interference with other systems already in place (emergency vehicle preemption, TMS...).

In response to a question regarding the need for optimization prior to TSP implementation, Mr. Alexander noted that DDOT felt it was important to start with optimization to ensure that clearance times were adequate in order to allow for TSP operations to truncate or extend phases.

In response to a question regarding maintenance of wayside equipment, Mr. Weinberger noted that a service agreement will have to be developed between WMATA and the operating agencies.

3. Discussion on Traffic Responsive and Adaptive Signal Technology

Maha Gilini, City of Alexandria

The committee discussed the needs, expectations, costs, and benefits associated with the implementation of traffic responsive and adaptive signal technology. Ms. Gilini talked about the recent experience of the City of Alexandria in evaluating different systems and implementing traffic responsive technology. Nineteen intersections along Duke Street were selected for this project to deal with congestion and irregular weekend traffic at the Landmark Mall. The project required installation of detectors, controller upgrades, and a switch to a new traffic control system, Tactics. The choice to go with the traffic responsive system was made due to cost considerations and uncertainty surrounding the effectiveness of adaptive signal systems. The project also improved pedestrian accessibility as the detection and push-buttons installed will benefit them. The consultant, T3, developed ten plans to be in use by the system with cycle lengths ranging from 90 to 120 seconds with inbound, outbound, and balanced traffic patterns. There has not been an official report on the outcomes, but the staff observed improvements given the investment in detection and have seen the system making good choices in timing plan selection. Some challenges include citizen complaints, side street delays, continued maintenance, and oversaturated conditions. A study from California concluded that the investment for a traffic responsive system is an average of \$4,000 per

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intersection compared to \$15,000 for adaptive control. Mr. Myrick added that the InSync system SHA looked into had estimated \$25,000 per intersection but that they were looking at a plug-in that would cost \$500.

In response to a question regarding detection for free operations, Ms. Gilini noted that there is detection on side streets and left turns. New detectors have been exclusively Sensys “pucks”. Mr. Alexander noted that DDOT has invested heavily in this technology as well, and that they have had some challenges with coordination with repaving projects. Mr. Abbas noted that Arlington County had some issues with the wireless connection so they have moved into FLIR thermal cameras – DDOT and Alexandria have begun to utilize these as well. Mr. Myrick added that SHA has started using “fisheye” type cameras that capture all approaches with a single unit. In response to a question regarding transition times between plans, Ms. Gilini noted that variations in cycle lengths were small to reduce this transition time. Mr. Myrick noted that they have discontinued traffic responsive systems during the peak period because they could not detect changes in traffic quickly enough to select the appropriate plans. Mr. Meese suggested that INRIX data be used to illustrate before and after conditions to see if there is an observable difference.

Mr. Alexander announced that DDOT will be installing a McCain/ACS Lite on New York, Rhode Island, and Pennsylvania Avenues. Ms. Ling noted that VDOT is testing an OPEC system along Little Rivers Turnpike (VA 236) from Guinea Rd to I-495, and so far it has been working fine. InSync was tested along Braddock Rd, but the result was not good and was removed. Mr. Abbas noted that Arlington has been using MaxView/IntelliLight for five years. Adaptive technology is in use along all major corridors in the county (Lynn St, Lee Highway, Wilson Blvd, Arlington Blvd...) – resulting in a time travel saving of 20% - 30% and savings of \$3 million a year. The entire system (almost 200 intersections) cost less than \$400,000, not including the detection. The optimization and parameters for adaptive operations are developed in-house.

4. Discussion on Upcoming Power Back-up Survey Marco Trigueros, COG/TPB Staff

In preparation for the annual traffic signal power back-up survey, the group will have a chance to review questions regarding evacuation route traffic control points and the availability of generators. Mr. Meese noted that staff have received questions from elected officials at the COG Emergency Preparedness Council regarding the number of generators that could be deployed during a power outage. Mr. Myrick noted that SHA implements other methods in their response to emergencies are more effective (e.g. blocking off turns at major intersections). Mr. Quaiyum noted that Prince George’s County has used light towers powered by generators to power traffic signals. The group discussed the challenges with the reliance on generators – delivering them to intersections when traffic is backed up, theft.

5. Discussion on Regional Traffic Signal Forum Andrew Meese, COG/TPB Staff

Mr. Meese discussed the staff interactions with the Greater Washington Board of Trade and their interest in traffic signals in the region. There is a growing interest in organizing a regional traffic signal conference to include technical and policy discussions. Recently, MWCOG has partnered with the Baltimore Metropolitan Council to host a joint signals conference. This forum would focus more specifically on topics related to the National Capital Region. Staff will start putting ideas

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together to put the conference together in spring 2015. Mr. Meese will work with the Board of Trade and VDOT to arrange a visit to the Virginia PSTOC early this fall. Mr. Kinney noted Montgomery County welcomes tour groups as well.

6. Jurisdictional Roundtable

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Mr. Myrick noted that there have been four fatal pedestrian crashes along US-1 in College Park. They have shortened cycle lengths, set pedestrian recall 24/7, signal timings have been changed to restrict speeds and force platoons to stop every few blocks. Mr. Alexander noted that mid-block crossings may be an issue with new housing developments along Route 1. They have planned a fence to discourage jaywalking.

7. Other Business

8. **Adjourn** – immediately followed by a meeting with UASI grant participants to discuss regional traffic signal power backups.

The next meeting is scheduled for October 2, 2014.