

National Capital Region Transportation Planning Board

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Meeting Notes

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

DATE: Tuesday, July 10, 2012
TIME: 10:00 AM to 12:00 Noon
PLACE: COG, First Floor, Meeting Room 1
CHAIR: Ling Li, Virginia Department of Transportation

Attendees:

Harvey Alexander, DDOT
Tad Borkowski, Fairfax County
Matthew Hansen, City of Falls Church
Bill Hicks, City of Falls Church
Ed Jones, PG County ATMS Section (called in)
Steve Kimble, Sensys Networks
Ling Li, VDOT
Curt McCullough, City of Fairfax (called in)
Ben Myrick, MD SHA (called in)
Bob Souza, VDOT

COG Staff:

Andrew Meese
Huijing Qiang
Eric Randall
Daivamani Sivasailam

Traffic Signals Subcommittee

Notes from the July 10, 2012 Meeting

Page 2 of 6

Actions:

1. Welcome & Introductions

Ms. Li began introductions and welcomed participants. Meeting notes from the May 15, 2012 Traffic Signals Subcommittee meeting were reviewed and approved.

2. Discussions of the Traffic Signals Power Backup System

a. Funding Opportunity Discussions

Mr. Meese briefed the committee on the background of the traffic signal power backup system survey. COG formed the Incident Management and Response (IMR) Steering Committee in the wake of the January 26, 2011 storm. The IMR Steering Committee met 6 times over 8 months and a successor IMR Steering Committee had started holding quarterly follow-up meetings since February 22, 2012. The most recent meeting was held on Thursday, May 31, 2012. The IMR Report, which is available on COG's website, contains findings and recommendations on several areas including transportation. One of the recommendations related to transportation was to conduct an assessment of and expeditiously install backup power for major traffic signals. As a result, COG/TPB staff has been tasked to conduct such a survey to gather relevant information. The survey results, which had been reviewed by the traffic signals subcommittee since last December, had been revised according to the feedback received since the March 14, 2012 meeting. The survey results had also been presented to the meetings of the Emergency Preparedness Council, Transportation Planning Board, Incident Management and Response (IMR) Steering Committee, and MOITS.

In order to focus on major intersections, the committee decided to use Traffic Control Points (TCPs), which were originally identified in the transportation evacuation plans of Virginia and Maryland, as a base on which it will track backup power. The committee had reviewed the TCPs and provided COG/TPB staff with their comments since the March 14 meeting.

The committee also discussed the possibility of applying UASI grants for installing traffic signals power backup systems for the entire region. However, due to multiple reasons, especially that maintenance cost could be huge and that no state agencies in this region are in a position to lead that effort, the committee agreed to have COG/TPB staff continue to report and track the status of traffic signals and associated power backup systems.

In response to a question from the IMR Steering Committee as if signal maintenance plans, including battery backup installations and maintenance, from state agencies and local agencies are the same, VDOT and MD SHA representatives responded that state agencies do not oversee local agencies in this region and localities have their

Traffic Signals Subcommittee

Notes from the July 10, 2012 Meeting

Page 3 of 6

own plans for either procuring or deploying power backup systems. Some participants noted that using Traffic Control Points from evacuation plans is trying to find some common criteria for local agencies to follow and that those criteria are advisory as opposed to mandatory. Mr. Alexander noted that DDOT is currently in the process of updating their transportation construction manual and therefore UPS would become a standard component of traffic signals in the future.

Mr. Meese and Mr. Qiang noted that COG/TPB staff would reach out to individual agencies/jurisdictions to obtain their general criteria/plans on acquiring, installing, maintaining and deploying power backup systems. COG/TPB staff would also report back to the IMR Steering Committee that agencies/jurisdictions are installing additional power backup systems under their regular work programs.

In the end, the committee decided to have COG/TPB staff conduct another round of survey of traffic signals power backup systems to reflect the updates as of June 30, 2012. And for the time being, this survey will be done as a regular work task semi-annually.

b. June 29 Derecho Storm and Its Impact on Traffic Signals

The committee discussed the June 29, 2012 derecho storm and its impact on traffic signals. Mr. Alexander noted that they deployed about 80 portable generators to traffic signals and all of their UPS power was depleted. There were about 100 signals out at the peak time. Their generators lasted about 6 hours after they were fully fueled. He noted that it took a significant amount of time and effort for DDOT to refill those generators in order to keep them running. DDOT also lost few signal poles due to tree going down. He noted that he would share their after-action review report once available.

Ms. Li noted that Fairfax County Police deployed about 20 generators during the storm. Mr. Myrick noted that MD SHA had not started collecting information yet and he would have more to report in the future. He also added that they had installed GPS units in signal cabinets in a number of locations to keep the signal timing accurate.

Mr. Jones noted that there were at most 12 signals without power in Prince George's County given that all their signals have battery backups. They found out that it took more time to recharge the batteries if they were charged more than once within 48 hours and that the battery capacity would reduce significantly after multiple charges. They put stop signs on side streets at T-intersections in order to keep the mainline traffic flowing. In the end, they started to use light towers to power their traffic signals at some intersections. They also discovered that the coordination between two adjacent signals would be drifted if one signal had power while the other one did not. They will be looking for UPS units which have Ethernet ports, which will be able to send real-time battery level back to the control center remotely in addition to sending only inverter status.

Traffic Signals Subcommittee

Notes from the July 10, 2012 Meeting

Page 4 of 6

Mr. Meese noted that the COG Board of Directors would discuss the June 29 derecho storm at its July meeting. COG will provide after-action reviews on behalf of the entire region. He also noted that COG/TPB staff would like to be ready for providing transportation-related information when needed.

3. Briefing on the Fourth of July Traffic Operations Plans

The committee discussed the Fourth of July traffic operations plans. Mr. Alexander noted that DDOT managed traffic for 4th of July as well as a baseball game on the same day. There were no major traffic problems at all on that day in DC. In response to Ms. Li's question as if there were more people on the Mall comparing to the past, Mr. Alexander responded that there were less traffic on corridors. Mr. McCullough stated that there were more people in the City of Fairfax watching fireworks but the traffic in the city was normal.

Ms. Li briefed the committee on VDOT's plan. As part of the VDOT Viper plan, they implemented special timings at approximately 119 signalized intersections along major arterial roads, including routes 1, 7, 29, 50, 123, 236 and 244, in an effort to accommodate travelers attending Fourth of July events in Washington, D.C. Signals were timed to help move traffic into the District during the day and then south and west from the city between 9:30 pm and midnight. About 5 portable cameras were also deployed at critical locations to monitor traffic before and after fireworks.

Mr. Jones pointed out that there might be some issues in this year's operations information sharing. Some stakeholders in this region did not get others' plans until the very end. Mr. Alexander agreed and suggested integrating information sharing for special events into the work scope of the traffic signals subcommittee.

The committee also decided to start discussing 2013 presidential inauguration from the next meeting.

4. Update on the Transit Signal Priority Procurement Process

Mr. Randall briefed on the Transit Signal Priority procurement process updates. There are five implementing agencies, which are City of Alexandria, DDOT, MDOT, PRTC, and WMATA, for TIGER Grant for Priority Bus Transit in the National Capital Region. The total grant is about \$58.8 million, which is 100% Federal. The purpose of bus priority is to provide travelers with quick and reliable transportation. About 60% of bus time is spent in motion, 20% is spent at bus stops, and 20% is spent at traffic signals, all of which can be improved upon with various types of bus priority treatments. Transit Signal Priority takes time from current signal cycles and the competing needs of parallel and intersecting vehicle traffic and pedestrian crossings. In this region, WMATA is conducting procurement, with input from regional stakeholders.

Traffic Signals Subcommittee

Notes from the July 10, 2012 Meeting

Page 5 of 6

The committee discussed various criteria for TSP operations, such as when the bus receives TSP, how often TSP should work, and when TSP should work. He noted that other TIGER improvements are queue jump lanes, bus only lanes, shelter improvements, emergency call boxes, signal power supplies, and curb extensions. The committee also reviewed TIGER expenditure schedule.

In response to a question as if the real-time ridership of a specific bus is known, Mr. Randall responded that real-time data is not available yet and the ridership is usually estimated based on historical data. In response to a question as if WMATA is planning on doing performance measures, Mr. Randall responded that they do have a plan to do performance measures. In response to a question as how much the minor streets are actuated, Mr. Randall responded that it would be studied by DDOT people. In the end, the committee agreed to keep exploring how to keep posted on traffic signal priority development and coordination between WMATA and signal agencies.

5. Jurisdictional Roundtable

Mr. Hicks briefed on the City of Falls Church's update. They are currently looking for contractors to install a closed loop signal system for them. They are also in the process of conducting LED signal heads conversions. 10 more new battery backup systems will be deployed in two months.

Mr. Alexander briefed on DC's update. They had installed 30 surveillance cameras at high crime bus shelters.

Mr. Souza briefed on VDOT's update. They are still in the process of replacing the traffic controllers from 170 to 2070.

Mr. Jones briefed on Prince George's County's update. There have been many signal construction activities as well as new CCTV camera installations in the county.

Mr. Myrick briefed on SHA's update. They are still doing after-storm repairs and will start conducting signal timing optimization soon. They will also have a new report on camera detection on signalized intersections out soon.

Mr. McCullough briefed on the City of Fairfax's update. They are still repairing signal damages from the storm. They are also in the process of changing their communication networks from copper-based to fiber optics-based and replacing their signal controllers to brand new controllers.

Mr. Meese announced that this year's Baltimore-Washington Regional Traffic Signals Forum will be held on Wednesday, November 7, 2012 at the Maritime Institute. He welcomed the signal subcommittee's attendance.

Traffic Signals Subcommittee

Notes from the July 10, 2012 Meeting

Page 6 of 6

6. Other Business

The committee decided to hold the next meeting on the morning of September 11.

Next Meeting: September 11, 2012