National Capital Region Transportation Planning Board
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TRAFFIC SIGNALS SUBCOMMITTEE OF THE MANAGEMENT, OPERATIONS, AND INTELLIGENT TRANSPORTATION SYSTEMS (MOITS) TECHNICAL SUBCOMMITTEE MEETING

DRAFT MEETING NOTES

DATE: Tuesday, May 6, 2014

TIME: 10:00 AM

PLACE: MWCOG
First Floor Meeting Room 4/5
777 North Capitol Street NE
Washington, DC 20002

CHAIR: Ling Li, Virginia Department of Transportation

Attendance:
Harvey Alexander – DDOT
Devon Hahn – City of Frederick
Corren Johnson – SHA-OOTS-TOD
Andrew Meese – COG/TPB
Ben Myrick – SHA-OOTS-TDSN
Shaneka Owens – SHA-OOTS-TOD
Kirsten Munz – City of Falls Church
Wasim Raja – DDOT
Daivamani Sivasailam – COG/TPB
Marco Trigueros – COG/TPB

1. **Welcome, Introductions, and Review of Notes from the February 4, 2014 Traffic Signals Subcommittee Meeting**

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

2. **Update on DDOT Signal Optimization Project**

Mr. Raja, traffic signals and ITS manager with DDOT, briefed the group on the ongoing project that will upgrade signals across the District. The project includes an update of controller software, retiming of all signals, and implementation of adaptive signal control along key corridors. A comprehensive retiming has not been undertaken since 2003, although localized issues have been addressed. The project splits the District into four network areas, and the unique interval based timing plans will be converted to phase based timing with upgraded controller software and updated clearance times.

Zone 3 (the Southeast/Southwest region) has been completed, and the results show overall improvements in travel times, emissions, and bus on-time arrivals. Mr. Meese suggested that INRIX

data be used to further explore the differences before and after the optimization. Mr. Raja suggested comparing 2013 April to 2014 April. Wisconsin Ave, Georgia Ave, and 16th St NW have been "quick optimized" – meaning it has not been a comprehensive retiming, but small adjustments have been made until these corridors can be revisited. New York Ave NE, Pennsylvania Ave SE, and Rhode Island Ave NE are being targeted for additional improvements for vehicular traffic – namely controller upgrades (to 2070) and adaptive technology. The project is scheduled to be completed in 2016 and is expected to continue in a 5-year cycle. The 5-year project has a cost of $6 million – not counting in-house work.

In response to a question from Mr. Sivasailam, Mr. Raja noted that the adaptive traffic signal system will be utilizing a McCain system called Quicknet. This can only be implemented along corridors with low pedestrian activity as pedestrians in the District are used to pre-timed signals that always show a pedestrian phase without the use of a push button. Controller upgrades and additional detectors are being installed along these corridors as part of another project. New detection for an actuated signal can be a costly project, estimated at $250,000 per intersection.

To a question regarding cycle lengths, Mr. Raja noted that the cycle lengths will be changing. They have generally been a standard of 100 seconds, and they will now vary between 80 and 120 seconds depending on the location.

Regarding boundary effects with neighboring jurisdictions, Mr. Raja noted that a discussion will have to happen with other DOTs to coordinate the retiming. So far, the quick optimization projects along major corridors left the cycle length and offsets intact so that the flow along the synchronization of traffic signals would not be disrupted. In the Southeast/Southwest zone that was recently completed, boundary effects are not considered critical because of the long distances between signals and the change in the nature of the roads from highway to city streets. The biggest coordination concern is across the boundary with Montgomery County.

3. **Update on RESF-1 Activities**

Mr. Sivasailam briefed the group on recent Regional Emergency Support Function (RESF-1) activity including the Urban Area Security Initiative (UASI) grant application for regional traffic signal power backups and an upcoming evacuation exercise using the transportation evacuation plans for the region.

DDOT is leading the UASI grant application with the following partners: City of Alexandria, Arlington County, Prince George's County, SHA in Montgomery County, and Town of Herndon. The grant is for over $1 million and the application looks promising so far. The final selection will be made by May 7th. Ms. Johnson noted that SHA has funding in place for UPS so they are not interested in pursuing this application. Mr. Sivasailam will verify with Cedric Ward to ensure that they want to pursue it and follow up with Ms. Johnson.

A $70,000 grant is being used to conduct a tabletop evacuation exercise. There are an estimated 100 people anticipated to participate. There will be a seminar in the morning and the exercise in the afternoon. It is scheduled for June 19th, but there may be some slippage.

4. Presentation of Induction Lighting Technology

Mr. Shanmugam presented on the benefits of induction lighting. This technology allows for energy efficient operations with a long life span of high quality lighting. The presentation included recent examples of how partnerships between municipalities and utility companies can finance the installation of these new lights at no cost – paid off by future energy savings.

To a question regarding why this technology is not as popular as LEDs, Mr. Shanmugam noted that it may have something to do with the marketing but that it is becoming more widespread.

5. Upcoming Surveys

In preparation for the annual traffic signal power back-up survey, the group was asked to discuss potential questions regarding the availability of generators. In presenting the results of last year's power backup survey to the Emergency Preparedness Council (EPC), the discussion among the participants centered around the availability of generators and ability to deploy them rather than just the number of intersections that are "generator-ready".

The participants suggested the question be:

- How many generators does a jurisdiction have dedicated to traffic signals? Or
- Based on experience how many signals could be run by generators?

6. Jurisdictional Roundtable

Mr. Myrick noted that during one of the last snowstorms, signal heads in Ocean City were covered with snow that would not melt. Cleaning was problematic due to the limited availability of bucket trucks and high winds during the snowstorm so the signals were set to flash. So far the snow accumulation has not been enough of an issue that it would require exploring alternative solutions.

The high speed communications Centrac system is still being tested. Communications along MD 100 and MD 175 around I-95 are being upgraded in order to implement adaptive control. After the pilot is completed, communications to other traffic signals could be pursued. The test locations are currently T1, but the plan is to go with 4G communications through Sprint and Verizon. Mr. Meese noted that the EPC has expressed concern over reliability of 4G during an emergency. Existing copper line will remain, but there have been issues with willingness of phone companies to repair these when they fail. They are also looking to install mainline stop bar detection – which is generally not currently set up. The firmware is an Econolite plug-in, and the operations are anticipated to begin at the end of the year.

Mr. Alexander gave a summary of DDOT's ongoing power back-up program. They have just installed 80 battery units and have acquired an additional 30 through a TIGER grant. Regional

agencies are still relatively inexperienced in the use of battery back-ups so maintenance and replacement procedures have not been tested or evaluated. The central system software will be upgraded so that battery units can be monitored remotely in a convenient way.

The entire DDOT signal system is migrating to IP communications; 400 have already switched with 1200 additional ones plus 150 bus CCTV locations migrating in the summer.

Ms. Munz noted that the City of Falls Church is implementing a traffic signals management system about a month away from being completed. A new signal is being constructed at the intersection of Route 7 and Pennsylvania Avenue.

7. **Other Business**

8. **Adjourn**