

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, May 14, 2013
TIME: 10:00 AM to 12:00 Noon
PLACE: COG, First Floor, Meeting Room 1
CHAIR: Ling Li, Virginia Department of Transportation

Attendees:

Rob Chestnut, AECOM
Eddie Curtis, FHWA Resource Center (called in)
Nestor Flores, Anne Arundel County
Maha Gilini, City of Alexandria (called in)
Warren Henry, Jacobs Engineering (representing MDSHA)
Taran Hutchinson, MATOC
Ling Li, VDOT
Curt McCullough, City of Fairfax (called in)
Bo Zhou, Anne Arundel County

COG Staff:
Andrew Meese
Daivamani Sivasailam

Actions:

- 1. Welcome & Introductions**
- 2. Review of Notes from the April 2, 2013 Meeting**

Participants introduced themselves. Meeting notes from the April 2, 2013 meeting were approved.

- 3. Adaptive Traffic Signal Control Systems**

Mr. Curtis from the Atlanta FHWA resources center gave a detailed presentation on Adaptive Traffic Control Systems. He emphasized the need for systems engineering during the planning phase and discussed the steps to undertake to implement an adaptive traffic signal control. He discussed the various software packages, hardware available,

and pointed out the regions, which have implemented adaptive systems in the country. Since he had to leave for another meeting, he requested questions be emailed to him and he will respond to the questions.

Mr. Flores and Mr. Zhou, traffic engineers from Anne Arundel County, presented the county's experience in implementing an adaptive traffic signal control. They implemented an "ACS Lite software and Siemens hardware" system using CMAQ funds three years ago. The system has been successful in reducing delay and improving travel time along the Riva Road corridor. They plan to implement adaptive traffic signal on Forest Drive a second corridor based on the positive experience from their first corridor. Members had a number of questions and the summaries of answers to those questions are listed below:

1. It is important to optimize the signal system and start with a good timing plan before implementing adaptive traffic signal controls.
2. The adaptive system reverts to the original plan and does not remember the offset and split changes it makes, therefore, it is important to collect and reanalyze the data periodically.
3. The improvements to the Riva Road corridor have been documented based on travel time studies and it has been collaborated by the reduction in the number of complaints the department has received since implementation.
4. The system has three timing plans AM peak, PM peak and off-peak.
5. The subcommittee is welcome to come on a field visit to Anne Arundel County.

4. Traffic Signal Retiming/Optimization Survey

Mr. Sivasailam briefed the committee on the latest results of the Traffic Signal Retiming/Optimization Survey. He presented the results and a draft presentation including comparisons with the 2005 and 2009 signal optimization surveys. Mr. Meese provided background on the subject, highlighted the changes to control technology, and how jurisdictions are managing signals actively from operations centers as well as field adjustment to timing plans using engineering judgement. He also pointed out that the EPA developed emissions model has changed and the emissions benefit estimated with the same operational improvements from signal optimization will yield a different result.

Ms. Li wanted the memorandum to point out that the total number of signals in the region has increased since the adoption of the TERM. She also explained how VDOT actively manages the signals from 5 AM to 9 PM by continually monitoring them and making changes to them to accommodate overflow traffic from incidents both on arterials as well as on the freeway system. Whenever complaints are received the signal plans are reviewed and tweaked if necessary. The memorandum to TPB should tell the breadth of activities undertaken to keep the signal system in good working condition. We should mention how all the jurisdictions are considering and implementing adaptive systems including the District of Columbia.

Members agreed that the survey results showing the percentage of signals that are optimized being lower than the 2009 survey is not entirely accurate since, for example, Alexandria has worked on 100% of their signals by tweaking them to accommodate pedestrian and bike plans. Mr. Sivasailam agreed to research this at a jurisdictional level and report back to the committee.

5. Regional Integrated Transportation Information System (RITIS)

Mr. Hutchinson demonstrated the RITIS program by showing the new additions, new features such as multiple layers. The numbers of users has been growing steadily and currently stands at 2500+. Transit information is being added to the system and it is new and not comprehensive. He also pointed out live weather information now available on RITIS. VDOT cameras are not yet available as they are working out the contractual issues. In the future, a signal system layer would be created and it is an item on the RITIS wish list. MATOC staff offer web training on a monthly basis and it is easy to join the web training. On-site training is provided when requested.

6. Other Business

The meeting adjourned as no other business was brought for discussion.