

## **IntelliDrive<sup>SM</sup> Pooled Fund Study**

### **Program to Support the Development and Deployment of Infrastructure IntelliDrive<sup>SM</sup> Applications**

University of Virginia Center for Transportation Studies

Progress Report  
October 2010

#### **Project Activities/Progress**

##### Project Management

1. Year 2 Program
  - a. Draft scopes of work prepared for the two selected projects:
    - i. Enabling Accelerated Installation of Multi-Configurable IntelliDrive<sup>SM</sup> On-Board Equipment
    - ii. Standards Compliance and Interoperability Certification for IntelliDrive<sup>SM</sup> Hardware and Software
  - b. Feedback/comments were gathered at the conference call on October 22<sup>nd</sup> 12:00-13:00PM
  - c. Revised scopes of work prepared and distributed
2. IntelliDrive PFS Dynamic Mobility Application (DMA) Program
  - a. A list of DMA applications prepared and distributed
    - i. Provided a list of potential applications that the pooled fund study members may consider for the upcoming Dynamic Mobility Applications (DMA) program made possible by funding from FHWA. The applications were selected from the following sources:
      1. Recommended applications in the AASHTO Deployment Plan Analysis Task 2 report (referred to as “AASHTO”),
      2. Project ideas suggested for the Pooled Fund Study Year 2 program (referred to as “PFS”),
      3. Use cases identified from the SPAT project of the PFS Year1 program (referred to as “SPAT”), and
      4. Candidate applications submitted through DMA templates to FHWA (referred to as “DMA”).
    - ii. The seven applications listed below are presented for consideration by PFS members.
      1. Generating Comprehensive Highway/Arterial Performance Measures
      2. Signalized Intersection – Traffic Data Collection Application
      3. Traffic Signal Control Optimization

4. Transit/Emergency Vehicle Signal Priority
  5. Eco-Driving
  6. Active Traffic Management – Variable Speed Limit
  7. Corridor Management / Load Balancing
3. Participated in related conference calls
    - a. Conference call on the AASHTO Deployment Analysis on October 14<sup>th</sup> 12:00-13:00PM
    - b. Conference call on the AASHTO Deployment Analysis on October 15<sup>th</sup> 12:00-13:00PM

### IntelliDrive<sup>SM</sup> Traffic Signal Algorithms

#### 1. *Task 3 Report*

- The project team completed the Task 3 report on signalized intersection performance measures with IntelliDrive.

#### 2. *Algorithm coding in VISSIM network*

- The rolling horizon algorithm was completely ported to a model of a four signal intersection, and showed significant reductions in delay over a detector-based system, but an increased number of stops. The algorithm is undergoing further refinement and testing.
- The vehicle clustering algorithm continued to undergo testing and refinement to improve signal coordination and number of stops.

#### 3. *Preliminary Results*

- For the oversaturation situation, results were analyzed from the experiments evaluating the effects of both the location and speed errors together, at 5 different IntelliDrive Market Penetration levels (20, 40, 60, 80 and 100%). This concludes the experiments. The next steps are to explore and identify the challenges of full scale deployment for the oversaturation algorithms; and to document all the findings.

#### 4. *SAE J2735 Standard Review*

- The project team continues to track development of the SAE J2735 standard, the primary standard governing IntelliDrive Message Set Dictionary.

### **Project Status**

The project is on schedule.

### **Invoice Notes**

None