Dave K

Session 1: Innovation & Emerging Technologies

Infrastructure Readiness for Connected Vehicles & Traffic Signal Performance Measure Applications

- Number of state sponsored/hosted pilot programs in the following areas:
  - Connected vehicles None
  - Automated vehicles None
  - Fully autonomous vehicles None
- Which wireless technologies does your agency currently use for infrastructure-based (I2I/V2I/I2V) communications?
  - 5.9 GHz DSRC Yes, but not for DSRC
  - Commercial Cellular Services Yes
  - WiMax No
  - Wi-Fi No
  - Bluetooth Yes, for travel time probe data
  - Fiber is our standard communication method
- Does your agency have a formal institutional structure for overseeing the deployment/management of strategies to support I2I/V2I/I2V communications? No, but in development

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- Number of signals currently broadcasting Signal Phase and Timing (SPaT) info: None
- Number of SPaT broadcast deployments currently planned by 2020: 20 – AASHTO Challenge
- Number of other roadside units (RSUs) broadcasting infrastructure information: None
- Approximate breakdown (%) of signal controller inventory by the following standards (intended to ensure compatibility with connected vehicle applications)?
  - ATC 5.2b:
  - Model 2070LX:
  - Model 2070E: 136 (Ramp Meters)
  - Model 2070L:
  - NEMA, Modern (e.g., Econolite ASC3, Ethernet port is present): 678 Total (350 Econolite ASC3, 328 Siemens M50/M60)
  - Type 170, Modern (Ethernet port is present):
  - Incompatible (e.g., NEMA Legacy, Electromechanical): 262 Siemens M34 series

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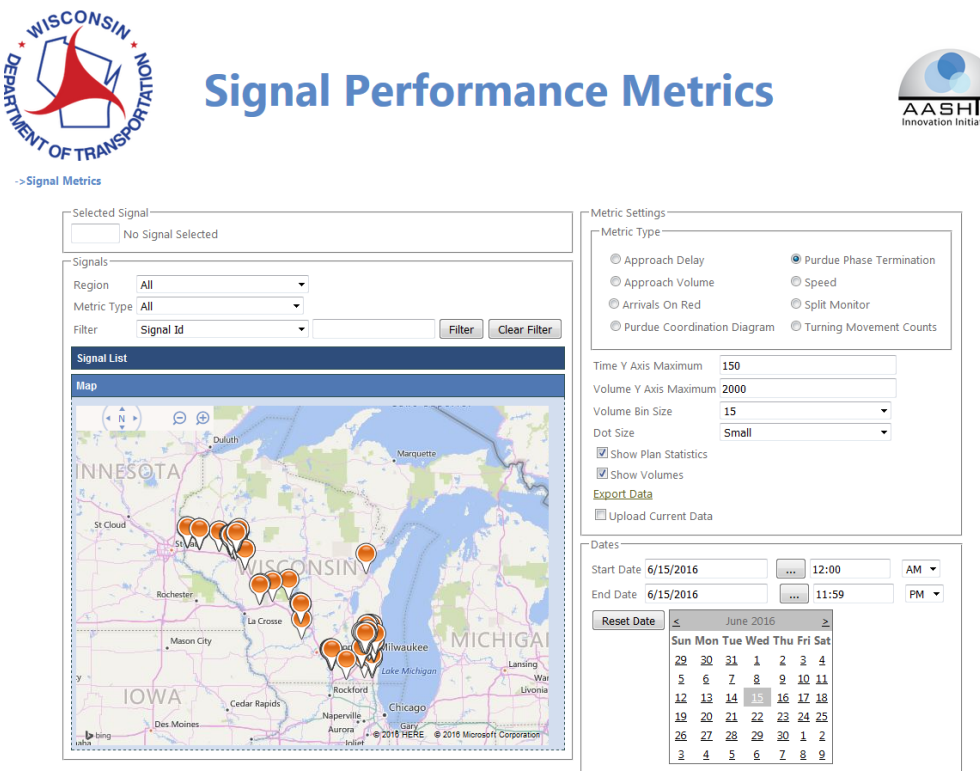
- Number of signal controllers currently running CV applications: None
- Number of signal controllers planned to run CV applications by 2020: Noe
- Do your current procurement specifications for traffic signal hardware (e.g., controllers) include language for SPM support? No but we are updating our specs this year for SPM support
- Do your current procurement specifications for any ITS hardware (including signal controllers) include language for CV application support? No, but we are interested.

Signal Performance Metrics

- WisDOT deployed Utah DOT's SPM system in 2015 through the AASHTO Innovation Initiative
- 200 signals collecting data



Challenges

- Data storage and retention
- Cellular communication
- Controller compatibility
- Software upgrade and source code

Benefits

- Coordination
- Local Timing
- Detector health
- Communications