US Ignite: Track 1: Enabling Connected Vehicle Applications through Advanced Network Technology

SC-CVT: South Carolina Connected Vehicle Testbed

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NSF US Ignite Program

- US Ignite fosters the creation of next-generation Internet applications that provide transformative public benefit.

- By engaging diverse public and private leaders, the idea is to “ignite” the development and deployment of new apps with profound impact on how Americans work, live, learn and play.

- Applications are focused in six areas of national priority:
  - Education & Workforce
  - Energy
  - Health
  - Public Safety
  - Transportation
  - Advanced Manufacturing

- See the first 60 seconds or so of: https://www.us-ignite.org/smartfuture2015/
Summary of the Idea

- Advanced infrastructure: an SDN-enabled wireless infrastructure that includes DSRC, LTE, and WiFi
- Extend, develop, evaluate two Connected Vehicle application concepts in a manner that leverages advanced network infrastructure
  - Queue Warning
    - See http://www.iteris.com/cvria/html/applications/app52.html
  - Traffic Incident Detection
• Project will deploy DSRC/LTE/WiFi on a stretch of I85 near ICAR
• SC DOT is involved, we can co-locate on their existing infrastructure and access their dark fiber
  • We can NOT connect to their network
  • We will make CV data available to SC DOT through a web interface
Tentative location for SC-CVT
Tentative Project Plan

• Two year project (started 9/2015)
• First 6 months
  – Deploy DSRC and LTE equipment
  – Design/develop applications
• Further out
  – Development of heterogeneous wireless system with services to support CV
  – Research related to algorithms behind applications
  – Field test and demos
  – Integration with SC DOT and Public Users