

State of ITS

The Year Ahead for USDOT's ITS Program

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Research and Innovative Technology Administration

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Connected Vehicle Safety Pilot

- Data collection exceeds our expectations
- Regular drivers experienced proven technology
- Connectivity across various types and modes
- More data collection in 2014



U.S. Department of Transportation
Research and Innovative Technology Administration
ITS Joint Program Office

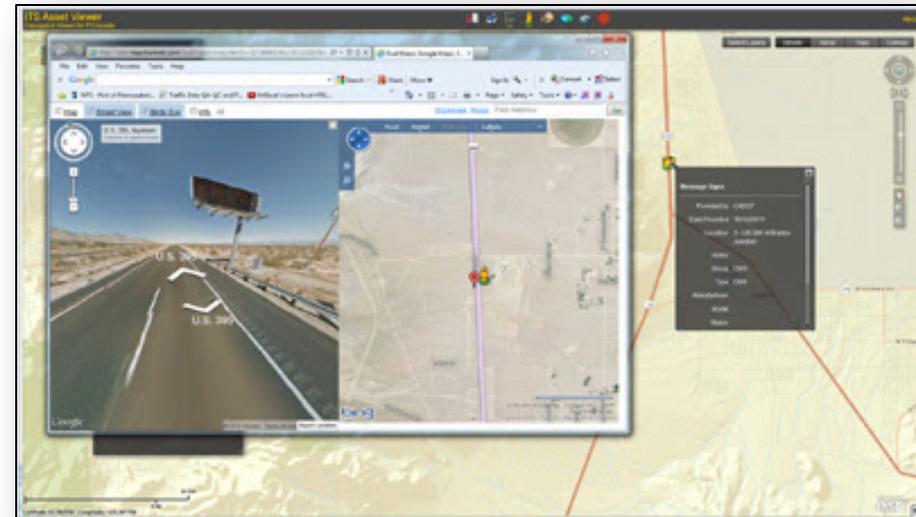
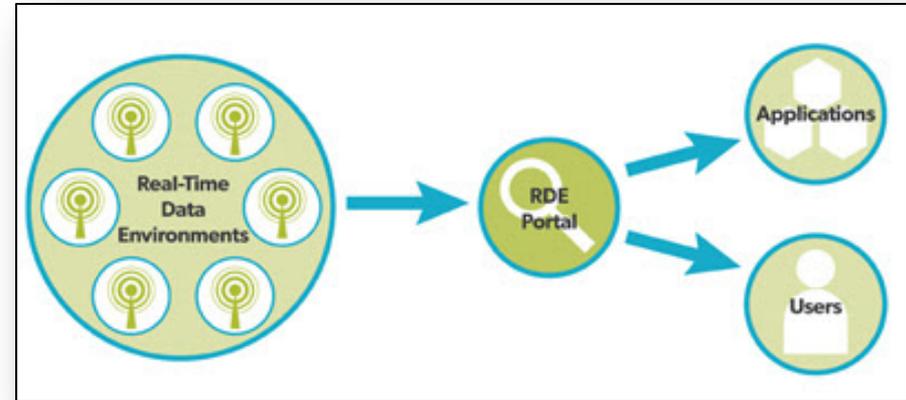
Integrated Corridor Management

- “Living laboratories” in the fight against congestion
- Pioneering decision support systems for multimodal surface transportation systems
 - Use cutting edge technology
 - Monitor & predict traffic conditions
 - Manage traffic flow
- Successfully deployed two integrated corridor management sites
- Travelers and traffic managers get a more complete picture of traffic conditions
- Make informed decisions



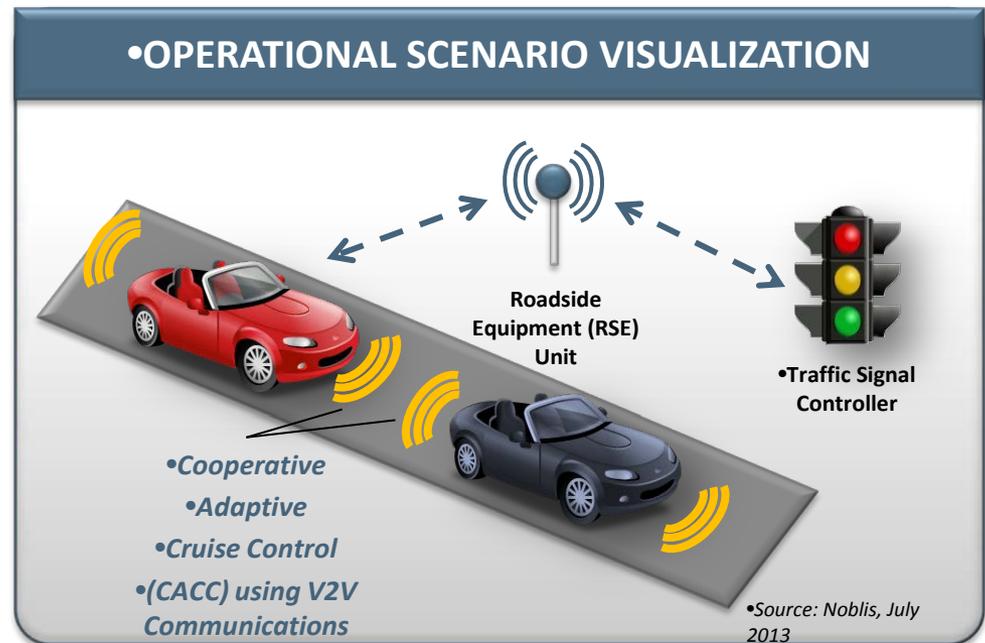
Data Sharing

- Research Data Exchange
 - promotes sharing of archived and real-time data
 - multiple sources and multiple modes
 - Data is vetted and available to public
- ITS Asset Viewer
 - Visually displays ITS deployments
 - Picture of geographic location
 - Status of ITS deployment



AERIS - Eco-Signal Operations

- Uses connected vehicle technologies to decrease fuel consumption
- Decreases pollution by reducing idling and improving traffic flow
- Five Operational Scenarios
 - Eco-Approach and Departure at Signalized Intersections
 - Eco-Traffic Signal Timing
 - Eco-Traffic Signal Priority
 - Wireless Inductive Charging
 - Vehicle Engine Start-Stop Technology



Connected Automation

- USDOT's role in vehicle automation:
 - Facilitate development and deployment
 - Ensure automation enhances safety, mobility, and sustainability
 - Coordinate with industry
 - Address mixed traffic operations
 - Identify benefit opportunities
 - Establish Federal Motor Vehicle Safety Standards



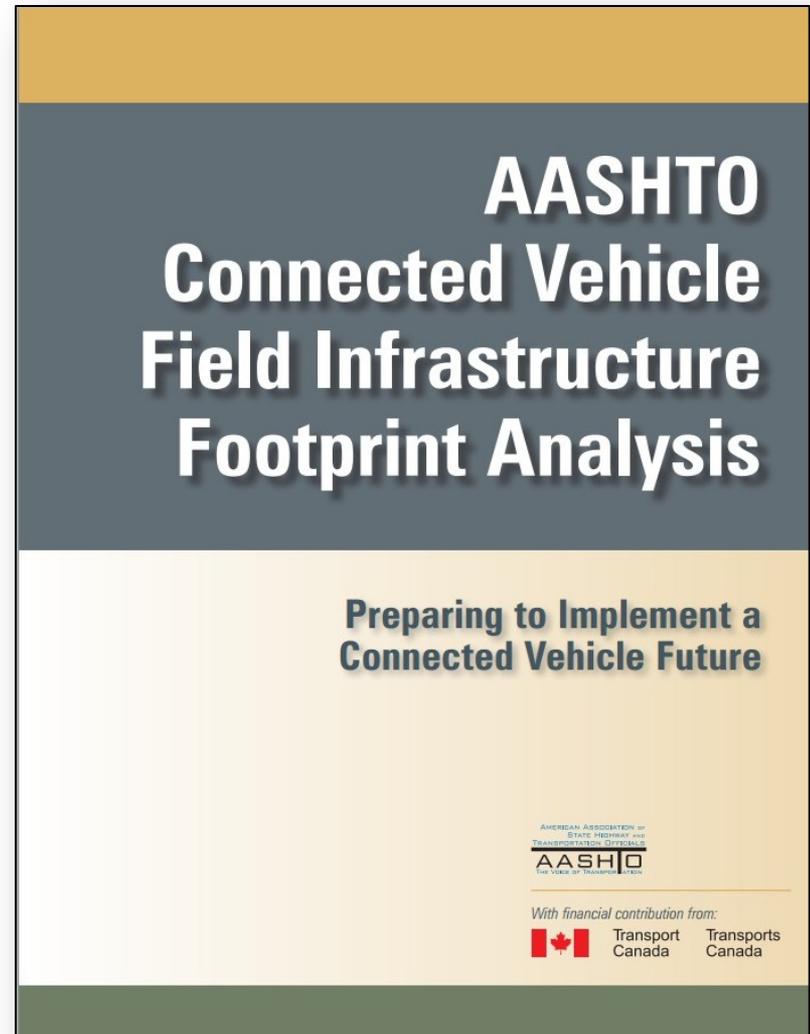
ITS Strategic Plan

- Connected Vehicles
- Automation
- Data (Systems Management and Utilization)
- Emerging Capabilities
- Interoperability
- ITS Technical Assistance, Adoption, and Deployment



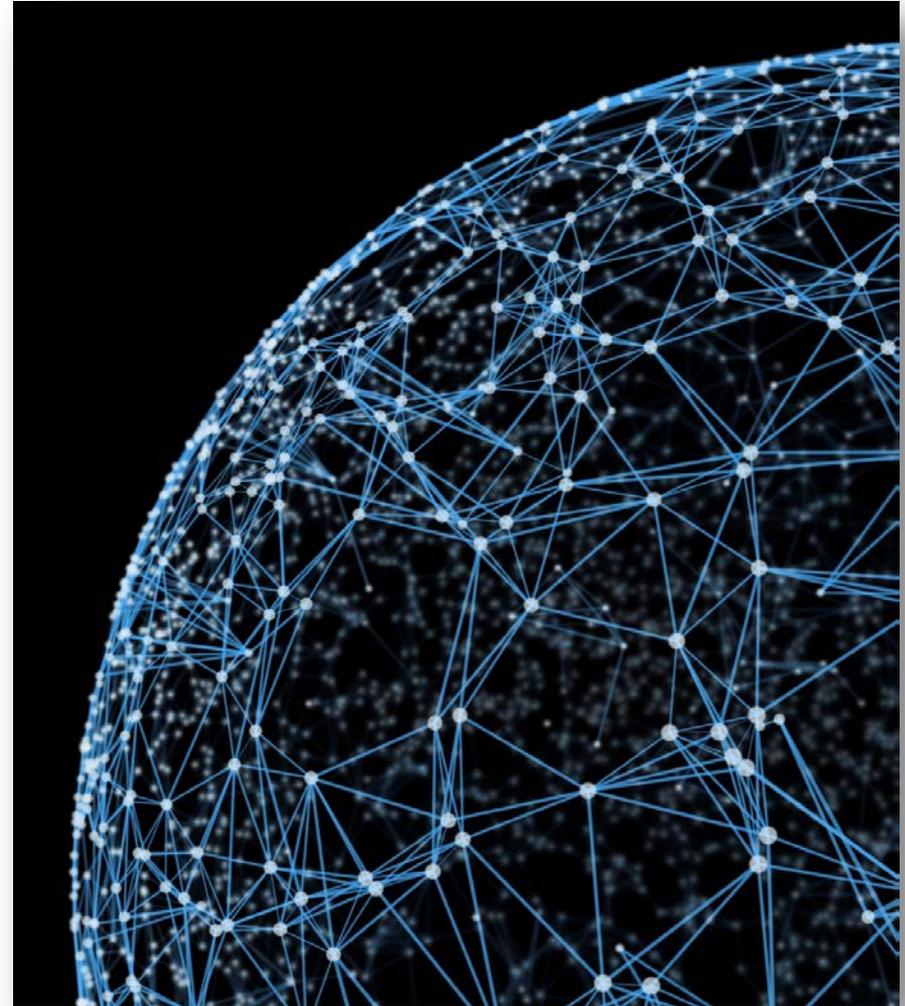
Connected Vehicle Infrastructure Footprint Analysis

- Create a vision of a national connected vehicle infrastructure
- Provides guidance to state agencies and DOTs, including:
 - Infrastructure needs at regional and national levels
 - Illustrations of typical deployments at signalized intersections, urban freeways, rural roadways, international border crossings, and other locations
 - System and equipment needs and siting requirements
 - Operations, maintenance and institutional issues
 - Deployment cost estimates



Exploratory Research

- Broad study of emerging technologies that impact the transportation industry
- Scan, identify and assess emerging capabilities
- Explore potential research and development threads



Test Beds



Challenges

- In 2013, FCC released a Notice of Proposed Rule Making
 - Would allow unlicensed users to operate in the 5.9 GHz spectrum, currently set aside for connected vehicle technology
 - Critical V2V and V2I interactions take place in this band
- The Department expressed its concerns to NTIA and FCC



Upcoming Events

- **FHWA V2I Guidance Input Workshop**
 - **January 16th 1-4pm** (Following TRB) - in Washington, DC (Hampton Room, Omni Shoreham)
- **First Connected Vehicle Plugfest**
 - **January 29-30** @ McLean, VA (Turner Fairbank Research Center)
- **Connected Vehicle Reference Implementation Architecture (CVRIA)**
 - **February 19-20** @ San Francisco, CA
- **ICM workshop (with ITS America)**
 - **February 26th** in Dallas, TX
- **Connected Vehicle Mobility, infrastructure and Data workshop**
 - **February 26-27** @ Washington, DC
- **AERIS webinars**
 - February 13th
 - March 13th



Learning & Training Opportunities

- Spur deployments through education
- Share knowledge and lessons learned
- ePrimer
- USDOT-funded ITS training offerings
 - On-site workshops at ITS America meetings
 - Online training
 - ITS Standards Training

Intelligent Transportation Systems (ITS)
ePrimer

Build your knowledge and expertise in ITS with a new, easy-to-use, FREE Web resource.

The ITS ePrimer provides transportation professionals, educators, students, and others with a series of up-to-date, Web-based modules describing key ITS topics, with a multimodal perspective.

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Web-Based Modules

- Introduction to ITS
- Systems Engineering
- Transportation Management Systems
- Traffic Operations
- Personal Transportation
- Freight, Intermodal, and Commercial Vehicle Operations
- Public Transportation
- Electronic Toll Collection and Pricing
- Supporting ITS Technologies
- Rural and Regional ITS Applications
- Sustainable Transportation
- Institutional Issues
- Connected Vehicles
- Emerging Issues

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