ITS-Connected Vehicle Technology research initiative

January 23rd, 2015

Create a community that applies technology to improve transportation system mobility, safety, energy use/env.
Agenda

• 12:00 Noon- 12:10 PM Brief Introductions
• 12:11-12:45 PM-Discussion of research opportunities from various sources
• 12:45-1:00 PM-Forming a CV consortium. Mr. Brad Freeze, Tennessee DOT
• 1:00-1:30 PM-Team-building for various opportunities

• Sign-up sheet/restroom location
• Bi-weekly meetings: TBD
Challenge and Opportunity

• Address societal transportation concerns
  – Safety
  – Mobility
  – Environment
  – Energy
  – Others...

• Stimulate, initiate, & fund “RD&D” of innovative strategies
Needs

• Interdisciplinary & collaborative efforts
• Areas of expertise *include*
  – Civil Engineering
  – Electrical and Computer Engineering
  – Communications and Networks
  – Mechanical Engineering
  – Industrial Engineering
  – Social & Behavioral Sciences
  – Economics and Finance
  – Business and Logistics
• Scholarship and a long-term vision
A “strawman” vision...

- Community to lead applications
  - connected vehicles and autonomous vehicles
  - Information security
  - Alternative fuel vehicles

- Demonstration projects

- Economic development

- Intellectual property and scholarship
V2V: Cooperative ACC

Using Vehicle Automation on Freeways, Steven E. Shladover
Near-term large-scale funding opportunities

- VW initiative (and Nissan)
- USDOT, Connected Vehicle Pilot Program
- USDOT, Connected Cities Research Program
- USDOE, Vehicle Technologies Office Incubator
- NSF, Civil Infrastructure Systems
VW

• Dr. Bill Dunne
USDOT, Connected Vehicle Pilot Program

- USDOT received 63 responses to the RFI
- Smaller focused deployments, $2-$5 million
- Medium-sized deployments, $5-$12 million
- Larger deployments, $12-$20 million
- Cost share required-20% to 100%?
- Testbeds...
Areas of potential focus for pilots

- Incident management/emergency vehicle management
- Freight mobility/commercial vehicles
- En-route driver information
- Disaster response and evacuation
- Archived “big data”
- Environmental/eco-friendly applications

Federal guidance: Carefully designed experiments which have a measureable impact
PHASE 1, DELINEATION OF WORK

The Pilot Deployer shall perform the work described in the following tasks:

- **Task 1**  Program Management
- **Task 2**  Pilot Deployment Concept of Operations (ConOps)
- **Task 3**  Security Management Operating Concept
- **Task 4**  Safety Management Plan
- **Task 5**  Performance Measurement and Evaluation Support Plan
- **Task 6**  Pilot Deployment System Requirements
- **Task 7**  Application Deployment Plan
- **Task 8**  Human Use Approval
- **Task 9**  Participant Training and Stakeholder Education Plan
- **Task 10**  Partnership Coordination and Finalization
- **Task 11**  Outreach Plan
- **Task 12**  Comprehensive Pilot Deployment Plan
- **Task 13**  Deployment Readiness Summary
USDOT, Connected Cities Research Program

• Free webinar on new Connected Cities Research Program [http://www.itsa.org/connectedcitieswebinar](http://www.itsa.org/connectedcitieswebinar)

• “Connected vehicle technologies, integrated sensors, big data analytics, cloud computing, mobile devices, social media, the smart grid, and the Internet of Things (IoT) are converging to transform the future of our cities, making them smarter and their citizens more connected than ever before.”

USDOE, Vehicle Technologies Office Incubator

- Pre-proposals due to UT on Jan 16, 2015
- $500K-$3 Million

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<th>FY 2015 Vehicle Technologies Office Incubator</th>
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<td><strong>Notification of Interest to ORE</strong></td>
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<td><strong>Limit on Number of Applications</strong></td>
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<td><strong>Anticipated No. of Awards</strong></td>
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<td><strong>Cost Share</strong></td>
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<td><strong>Link to Opportunity</strong></td>
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NSF, Civil Infrastructure Systems

- Full Proposal: Feb 1, 2015 - February 17, 2015
- $100K to $2 Million
- Designing, constructing, managing, maintaining, operating & protecting efficient, resilient & sustainable civil infrastructure sys.
Next...

• Forming a CV consortium. Mr. Brad Freeze
• Team-building for various opportunities

• Actions needed...
  – Workplan, organization, workshop, webpage, ...