2014 TRB Annual Meeting
ITS Committee Meeting

Update on Development of 2015-2019 ITS Strategic Plan

January 15, 2014

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Update on ITS Strategic Plan

- Under DOT Review
  - Review and concurrence by ITS Strategic Planning Group
  - Review and concurrence by ITS Management Council – Spring 2014
  - Public release following concurrence from Office of the Secretary
The ITS Strategic Plan Addresses Three Questions

- “Where are we?”
  - Baseline for organizational functions and practices to ensure incremental progress toward achieving the Vision

- “Where are we going?”
  - Vision – describes where ITS as a field wants to go (with JPO support)
  - Describes how the vision and mission of ITS JPO can be used to improve ubiquity and impact of ITS programs and technologies

- “How will we get there?”
  - Sets the stage – shares big picture for strategy and plan for achieving.
  - Lays out the strategy designed to enable success of the Internal Plan by identifying components necessary to achieve desired results
  - Includes high level program descriptions to establish basic areas of JPO supported work to advance JPO across ITS
Stakeholder Input to the Strategic Plan

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
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<tbody>
<tr>
<td>Academia</td>
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<td>Federal Agency</td>
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Recordings of ITS Strategic Plan Webinar Series available at: http://www.its.dot.gov/meetings/strategic_plan_webinar_recordings.htm
Online Dialogue Through IdeaScale

**National Online Dialogue on Intelligent Transportation Systems (ITS) Research Agenda**

**WHAT**
The ITS Joint Program Office (JPO) is leading an effort to solicit input about the future agenda for ITS research and development activities. As part of this effort, the ITS JPO is offering a variety of opportunities for stakeholders to contribute ideas to assist in the development of the plan including multiple interviews, internal staff discussion sessions, and external stakeholder workshops and webinars and IdeaScale.

**WHY**
The U.S. Department of Transportation (USDOT) Intelligent Transportation Systems (ITS) Strategic Planning process is underway. The next ITS Strategic Plan (2015-2019) is focused on developing a blueprint for how the Department will allocate federal ITS research funds during the second half of this decade and we need your help. Your input will ensure that we consider the perspectives and ideas of all stakeholder groups as we build strategies and action plans for 2015 – 2019.

**HOW**
IdeaScale is designed to help identify the focus areas for the next ITS Strategic Plan. ITS JPO invites stakeholders to participate in the discussion via IdeaScale’s open dialogue which will enable continuity of the USDOT’s current research programs while establishing new or redefined goals and objectives to meet emerging research needs. To offer your ideas and insights via IdeaScale, register here.

Accessible at http://itsstrategicplan.ideascale.com
Public Meetings

- Discussions held at
  - ITE Annual Meeting
  - ITS Program Advisory Committee
  - National Rural ITS Conference
  - IEEE Vehicular Technologies Conference
  - Connected Vehicle Trade Association
  - USDOT Connected Vehicle Meeting

- Topics of Discussion Included
  - Automation
  - Distracted Driving
  - Social Networking
  - Electric Vehicles
  - Ride Sharing
  - Crowd Sourcing
  - Aging Population
  - Increase in Urbanization
  - Application Development
How Input is Shaping the ITS Strategic Plan

**Vision**
Transform the way society moves

**Mission**
Conduct research, development, and education to facilitate the adoption of information and communication technology to enable society to move intelligently.

**Strategic Themes**
- Enable Safer Vehicles and Roadways
- Enhance Mobility
- Limit Environmental Impacts
- Promote Innovation
- Support Transportation Connectivity

**Program Categories**

**Goals**
Draft Strategic Themes

- **Enable Safer Vehicles and Roadways** by developing better crash avoidance and protection measures, crash notification mechanisms, commercial motor vehicle operations considerations, and infrastructure-based and cooperative safety systems.

- **Enhance Mobility** through improved traffic management, incident management, transit management, freight management, road weather management, toll collection, traveler information, highway operations systems, and remote sensing products.

- **Limit Environmental Impacts** by better managing traffic flow, speeds, congestion, and other vehicle conditions to optimize overall system and vehicle operations and efficiency.

- **Promote Innovation** by fostering technological advancement and innovation across the ITS portfolio by continuously pursuing a visionary/exploratory research agenda and aligning the pace of technology development, adoption, and deployment to meet future transportation needs.

- **Support Transportation Connectivity** through the application of advanced wireless technologies that enable communications between vehicles of all types, the infrastructure, and portable devices through the use of real-time transportation information and applications.
“The ITS JPO is responsible for ITS research execution and initial technology transfer activities, such as field testing, though modal staff is involved throughout the research process. Once a technology is considered mature, the modal agencies assume responsibility for its ongoing support in most cases.”

ITS Technology Lifecycle

<table>
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<th>ITS Program Domain</th>
<th>Agencies’ Domain</th>
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**Knowledge Transfer**
Draft Program Area: Connected Vehicles

- Focus on adoption through testbeds and pilots
- New applications, functionality, and technological enhancements
- Develop pathway towards convergence of connected vehicles and automation
- Potential benefits:
  - Increases in safety, mobility, system efficiency, access to resources for disadvantaged groups, and decreases in negative environmental impacts
  - Improved security and reliability of the connected vehicle environment to encourage adoption

“Connected Vehicles will be adopted by different demographic communities at different rates. The continued safety and convenience of those who remain unconnected must be considered.”

IdeaScale Submission
Draft Program Area: Automation

- Focus on development to enable smooth introduction of automated features into the nation’s vehicles and transportation systems.
- Potential benefits:
  - Expanding the reach of transportation modes to disabled and older users, as well as providing “last mile” connectivity service for all users
  - Increasing the efficiency and effectiveness of existing transportation systems
  - Reducing the number and severity of crashes caused by drivers.

“The transition to automated vehicles is a key challenge. There is a need to understand the key tipping points as the fleet mix changes, including the diverse levels of automation which will likely exist.”

CVTA Jam Session Report
Draft Program Area: Data
(Systems Management and Utilization)

- Focus on enabling systematic data capture from ITS-enabled technologies, including
  - connected vehicles (automobiles, transit, and commercial vehicles)
  - mobile devices
  - infrastructure
- Focus on protecting the privacy of users.
- Potential benefits:
  - Increasing efficiency of information sharing
  - Assuring public that privacy of data will be protected
  - Improving quality (accuracy and timeliness) of data
  - Stimulating innovation within new applications

“In research, there is a need to understand how to perform Big Data collections and analysis; in deployment, there is a need to understand how to extract data to enable research topics across broad areas.”
Transit Stakeholder; NRITS
Draft Program Area: Emerging Capabilities

- Focus on technological, market, and demographic trends throughout the globe and across industries to seek and evaluate emerging capabilities that demonstrate the potential to transform transportation.
- Potential benefits:
  - Forge stronger relationships and partnerships with private industry and universities
  - Provide JPO ability to adapt existing or upcoming programs to accommodate new ITS technologies

“By switching to more efficient controllable lighting – driven by V2I technology, the ten largest metropolitan areas could reduce annual carbon dioxide emissions by 1.2 million metric tons – the equivalent of taking 212,000 vehicles off the road.”

IdeaScale Submission
Draft Program Area: Interoperability

- Focus on development of architecture and standards intended to move many ITS-related technologies, agencies, and operations away from distinct silos and institutions that do not communicate and coordinate with each other.

- Potential benefits:
  - Maintenance of the forward and backward interoperability of ITS equipment and reduced need for re-investment over time.
  - Greater efficiency in communications and information sharing between transportation agencies, technology, applications, and users by creating a common ITS operating environment.

“MAP 21 already has performance measurement guidelines. Help us write Statements of Work that would allow us to deploy these tools using our data.”

State and Local Agencies Webinar, Jul 17, 2013
Draft Program Area: ITS Adoption and Deployment

- Focus on building trust with potential deployers throughout the technology lifecycle by consistently
  - being responsive and reliable with information requests
  - providing insight and information as it is received
  - being accessible to the stakeholders and potential deployers
  - applying knowledge gained in research and development to application
  - demonstrating value and benefits of a given ITS technology

“Connected Vehicle data can lead to improved controller algorithms leading to overall improvements in signal systems. Massive source of data - need to figure out how to use it!”

Tolling, Pricing, Signals, and Safety Webinar, Aug 29, 2013

Image Source: Thinkstock/USDOT
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- Following release of ITS Strategic Plan
  - Construct preliminary budgets
  - Define specific programs
  - Codify program activities and roadmaps through Program Charters