ITS Academic Resources (8:45-10:15)

- ITS PCB Program Background
- ITS Case Studies
- T3e Webinars
- ITS Curriculum Webpage
- CITE Courses & Products (10:00-10:15)

Possible OPEN DISCUSSION of Academic Resources at end, if time permits
The USDOT’s Professional Capacity Building (PCB) Program:

- Established by congressional legislation to build and sustain a capable and technically proficient ITS workforce
- Provides comprehensive, accessible, flexible ITS learning for the transportation industry
- Focused on transportation professionals - develop their knowledge, skills, and abilities while furthering career paths

- Increase your knowledge of ITS technologies
- Excel at your career
- Advance the mission of your organization

ITS PCB Program Background

- Part of U.S. DOT ITS Joint Program Office (ITS JPO)
- Authorized by Congress in 1996 to develop the workforce competencies to transform the transportation infrastructure through ITS
- Reauthorized by Moving Ahead for Progress in the 21st Century (MAP-21)
- In 2010 embarked on new strategic direction:
  - Develop new ITS content and fill gaps in existing content.
  - Build partnerships to direct learning to the right audiences.
  - Move to cost-effective, engaging delivery methods.
- Ever increasing effort to expand coordination with wider (non-Federal) partners:
  - Academia
  - Professional Associations
ITS PCB Partners

FUTURE PARTNERS

- SAE International
- IEEE
- NACo
- AMPO
- Consumer Electronics Association (CEA)
- International Road Federation
- Transportation Workforce Centers
- USDOT FMCSA

U.S. Department of Transportation
NOTICE: THIS IS NOT AN OFFICIAL DOCUMENT.
# ITS PCB Program Content

**Targeted delivery, through strategic use of partners:**

## Tier 1: Emerging Technologies
- Connected Vehicle:
  - Vehicle to Vehicle (V2V)
  - Vehicle to Infrastructure (V2I)
- DSRC (for Transportation)
- Technology
- Policy
- Automated Vehicles
- Smart Cities

## Tier 2: Current Research
- Short-term Intermodal Research
- Research Initiatives
  - ICM
  - MSAA
  - Clarus
  - IVBSS
  - EFM
  - Smart Roadside
  - AERIS

## Tier 3: Existing Technologies
- Adaptive Signal Control
- Arterial Management
- Freeway Management
- Crash Prevention & Safety
- Road Weather Management
- Driver Assistance
- And more...

## Tier 4: Foundational/Cross-Cutting Topics
- Standards
- ITS Architecture
- CVRIA
- Systems Engineering
- Telecommunications
- DSRC
- Data Collection & Mgmt.
- Security
- Data Communications
- Procurement

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- T3 Webinars
- CITE Courses
- ITS America State Chapter Workshops
- T3 Webinars
  - P2P
  - ePrimer
  - CITE Courses
- ITS Video Library
  - ITS Knowledge Resources
- CITE Courses
  - Standards Modules
  - NHI Courses
Partnering with Higher Education

The USDOT looks to colleges and universities as partners in educating the next generation of leaders in Connected Vehicles

<table>
<thead>
<tr>
<th>Priority Audiences</th>
<th>Anticipated Audiences</th>
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<tbody>
<tr>
<td>Over the Next 1 to 3 Years</td>
<td>Over the Next 3 to 5 Years</td>
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<tr>
<td>• Federal Agencies</td>
<td>• Insurance and Privacy Audiences</td>
</tr>
<tr>
<td>• Transportation Executives and</td>
<td>• Public Safety/Law Enforcement</td>
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<tr>
<td>General Managers</td>
<td>• Freight/Commercial Vehicle Owners and</td>
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<tr>
<td>• Transportation Practitioners</td>
<td>Operators</td>
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<td>(including Engineers and Planners)</td>
<td>• Media</td>
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<tr>
<td>• Manufacturing/Industry</td>
<td>• Advocacy Organizations</td>
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<td>• IT/Communications</td>
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<tr>
<td>• Data Aggregators</td>
<td></td>
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<tr>
<td>• Automobile Manufacturers</td>
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</tbody>
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ITS Case Studies

- Case Study developed from input from 1st & 2nd University Workshops
- 6 Case Studies
  - Adaptive Signal Control
  - National ITS Architecture
  - ITS Concept of Operations
  - Civil Design Considerations for ITS Implementation
  - Travel Time Based Performance Measures
  - Transit Service and ITS
- All 6 Case Study to be available online early 2017
ITS Case Studies – 2016 Pilots

- Civil Design Considerations for ITS Implementation
  - Gonzaga University (Undergraduate)
  - Florida International University (Undergraduate & Graduate)

- ITS Concept of Operations at University of Massachusetts (Undergraduate)

- Transit Service and ITS by TSI at Oklahoma University
T3e (education) Webinars

Purpose

T3e’s are envisioned as a forum to bridge academic research with the larger transportation community. The goals are multifaceted and aim to:

- Allow transportation professionals to learn about emerging trends and interact with academia.
- Provide students an opportunity to present their work to the professional community and perfect their presentation skills.
- Offer an opportunity for academic institutions to showcase their programs and labs to a national audience.
- Provide those in all sectors with an opportunity to network and find synergy, potentially forming partnerships for deployment, operations, or new research topics.
T3e (education) Webinars

Format

- Focus on a specific ITS topic, theme, or subject area
- Up to 60-minutes in length—the first 25-40 minutes is devoted to presentations on relevant research, while the remaining 20-30 minutes are set aside for an interactive question and answer discussion.
- Presenters may be university students, staff members, researchers, or professors but usually includes multiple presenters.
- T3e’s present a unique forum for exchange between academia, government, and industry.

www.pcb.its.dot.gov/t3_webinars.aspx
T3e (education) Webinars

Process

- Because the T3e’s are focused on academic research, unlike other T3 webinars, T3e presenters come exclusively from academia.
- In contrast to traditional T3’s which are hosted by a federal DOT staff member, a professor will serve as the host on a T3e webinar.
- The T3e Webinar content is developed by the professor and presenters, who determine the topic(s) and learning objectives.
- All T3e’s are produced by the Volpe Center T3 team who works with professors and students throughout.
- All T3e webinars are archived and available for viewing on the T3 website which presenters and can access and share freely.

Spaces are available on the calendar for 2016-2017!
Please speak to Jaime if you are interested.
T3e (education) Webinars

Past T3e’s

Network-Wide Impacts of Connected Vehicles on Mobility: An Agent-Based Modeling Approach
*Oregon State University*
Dr. Haizhong Wang, Alireza Mostafizi and Shangjia Dong

Sustainable Urban Traffic Management Using Advanced Technologies
*University of Massachusetts Amherst*
Dr. Eleni Christofa, Yashar Farid and Farnoush Khaligi

Transportation Characterizing Bikeshare Usage with Network Modeling Techniques & GTFS-Enabled Spatiotemporal Analysis of Transit Services
*University of Utah*
Dr. Cathy Liu, Jeffrey Taylor and Kiavash Fayyaz

Connected Vehicles and Rural Road Weather Management
*University of Wyoming*
Dr. Rhonda Young and Britton Hammit
ITS Curriculum Webpage

Purpose

To publish information about ITS courses in order to provide:

- Prospective graduate & undergraduate students interested in ITS with a “one-stop-shop” resource with information on university ITS programs & courses; and

- Educators with a platform to feature their ITS courses and an opportunity to informally network with other educators, exchanging lesson plans and best practices.

You can help develop this into a meaningful resource by providing us with:

- A list of your ITS courses, along with one or two web links to course descriptions/information

- A two-to-three sentence description that sums up ITS-related initiatives at your institution

- A university point of contact, and

- A university logo that we can publish on our website.
The webpage will ultimately feature a comprehensive list of educational institutions that offer coursework in ITS, connected vehicles, automated vehicles, smart cities, or other innovative transportation research, and provide links to curriculum information and ITS-centric programs.