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 Offers Free ITS Training

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

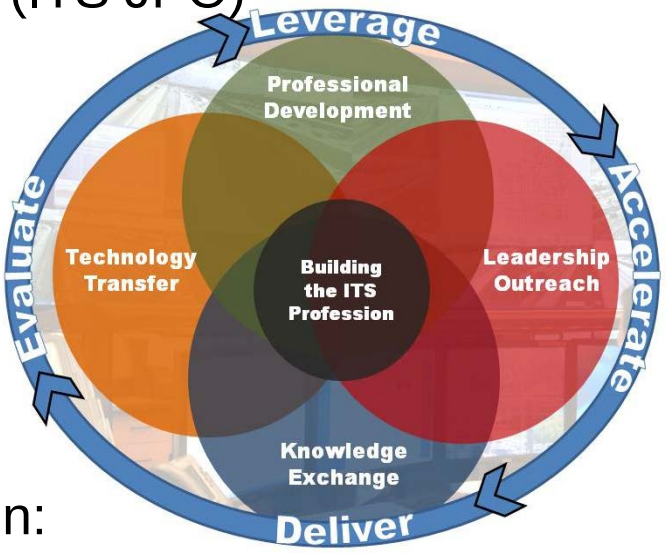
- ✓ **Increase your knowledge of ITS technologies**
- ✓ **Excel at your career**
- ✓ **Advance the mission of your organization**

Source: ThinkStock

Achieve your ITS learning goals. Visit: www.pcb.its.dot.gov/training.aspx

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

Office of the Assistant Secretary for Research and Technology
University Transportation Centers

Institute of Transportation Engineers

U.S. Department of Transportation
Federal Highway Administration

FTA
Federal Transit Administration

IMSA®
Your Partner in PUBLIC SAFETY

TSI
Transportation Safety Institute
National Traffic Safety Division

NHI
NATIONAL HIGHWAY INSTITUTE
Training Solutions for Transportation Excellence

American Association of State Highway and Transportation Officials
AASHTO
The Voice of Transportation

APTA
AMERICAN PUBLIC TRANSPORTATION ASSOCIATION

Rutgers
Edward J. Bloustein School of Planning and Public Policy

NTI
National Transit Institute

NOCoE
National Operations Center of Excellence
SHRP2 SOLUTIONS

ITS AMERICA

ITS PCB Program Content

Targeted delivery, through strategic use of partners:

Tier 1: Emerging Technologies	**Tier 2:** Current Research	**Tier 3:** Existing Technologies	**Tier 4:** Foundational/Cross-Cutting Topics

• Connected Vehicle:
  • Vehicle to Vehicle (V2V)
  • Vehicle to Infrastructure (V2I)
  • DSRC (for Transportation
  • Technology
  • Policy
• Automated Vehicles
• Smart Cities
	• Short-term Intermodal Research
	• Research Initiatives
	  • ICM
	  • MSAA
	  • Clarus
	  • IVBSS
	  • EFM
	  • Smart Roadside
	  • AERIS
		• Adaptive Signal Control
		• Arterial Management
		• Freeway Management
		• Crash Prevention & Safety
		• Road Weather Management
		• Driver Assistance
		• And more…
			• Standards
			• ITS Architecture
			• CVRIA
			• Systems Engineering
			• Telecommunications
			• DSRC
			• Data Collection & Mgmt.
			• Security
			• Data Communications
			• Procurement

• 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

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

ITS Case Studies

ITS Professional Capacity Building Program / *Advancing ITS Education*

About | ITS Training | Knowledge Exchange | Technology Transfer | ITS in Academics | Media Library

ITS PCB Home

ITS in Academics

ITE Student Chapter Series
Case Studies
Education & Career Resources

Free ITS Technical Assistance

- **ITS Peer-to-Peer Program** connects you with experienced peers or technical experts.
- **ITS Help Line** provides technical support by e-mail or telephone at 866-367-7487.

Stay Connected

ITS in Academics

Case Studies

The ITS PCB Program is pleased to offer higher education instructors a new learning resource for the classroom. The ITS Case Study is a scenario-based learning tool that exposes students to real-world decisions that come with planning, deploying, and operating ITS technologies.

There are currently two case studies:

- **Adaptive Signal Control**
- **National ITS Architecture**

Why Case Studies?

Results from the PCB Program's 2012 University Partners Workshop and webinar indicated that faculty supported U.S. DOT-sponsored case studies as a method for incorporating ITS content into existing Civil and Transportation Engineering courses. Case Studies expose students to ITS-related scenarios, from the perspective of different job roles, within transportation organizations. This exposure gives students an understanding of what it means to work as ITS professionals.

How to Access the Case Studies

ITS Case Studies are organized by instructor files (PowerPoints and PDFs of Word documents) and student files. Both sets of files include a study guide, a presentation on the technology, the actual case study, and the case study debrief.

- Instructors must register to gain access to the instructor files.
- Student files are available for anyone to view.

Each Case Study requires a separate registration.

USDOT/Thinkstock

USDOT/Thinkstock

https://www.fhwa.dot.gov/publications

Adaptive Signal Control Case Study			
Instructor Files			
Adaptive Signal Control	Register/Log In		
Student Files			
Introduction to Intelligent Transportation Systems and Adaptive Signal Control Technologies	PPT	PDF	HTML*
Case Study take home packet	N/A	PDF	HTML*
In-class debrief	PPT	PDF	HTML*
National ITS Architecture Case Study			
Instructor Files			
National ITS Architecture	Register/Log In		
Student Files			
Component 2: National ITS Architecture Exercise	Word	PDF	HTML*

*508-compliant HTML versions of the Student Files are currently in development. They will be posted when completed. If you have questions, please contact Gerry Flood at Gerry.Flood@dot.gov.

- 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

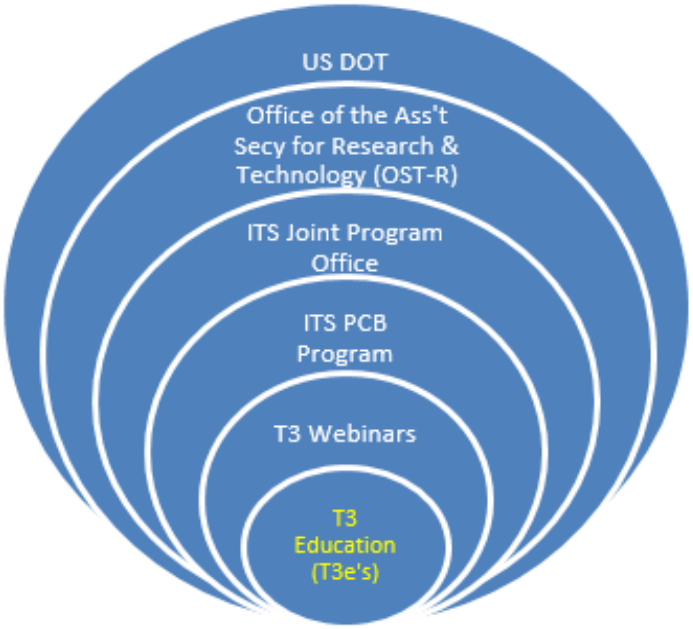
- *Civil Design Considerations for ITS Implementation*
  - Gonzaga University (Undergraduate)
  - Florida International University (Undergraduate & Graduate)

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

- *Transit Service and ITS* by TSI at Oklahoma University

T3e (education) Webinars

Purpose



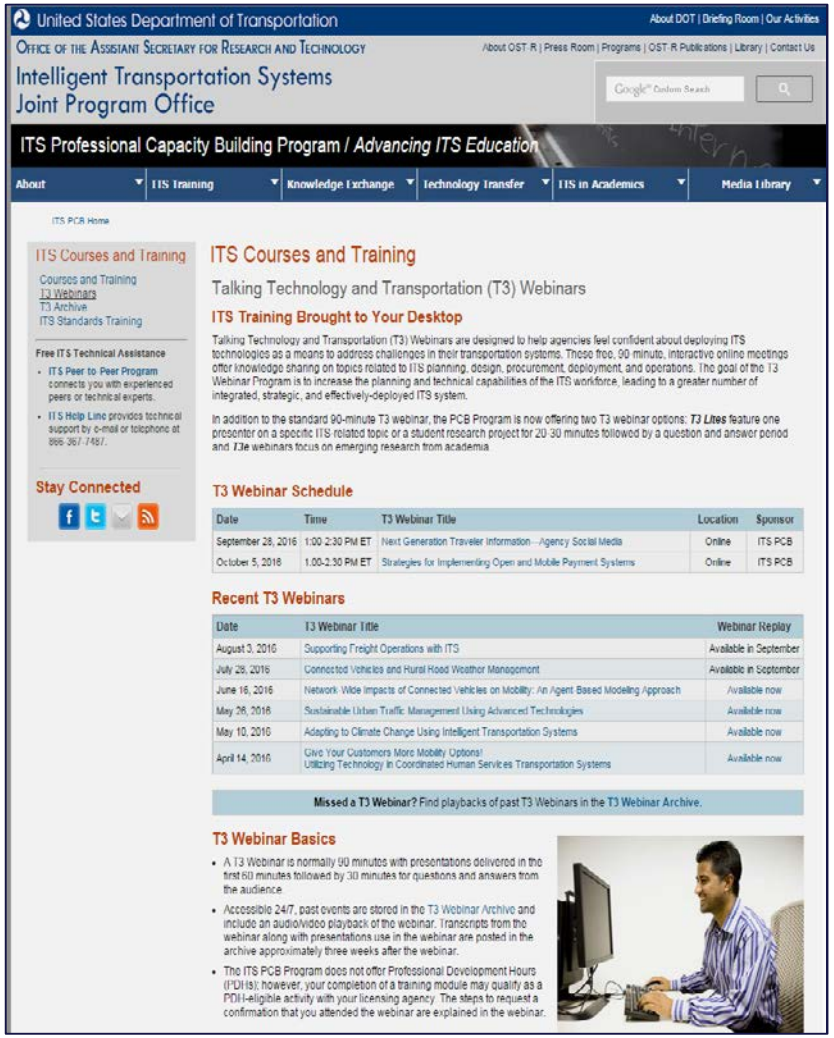
T3e's are envisioned as a forum to bridge academic research with the larger transportation community. The goals are multifaceted and aim to:

- 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

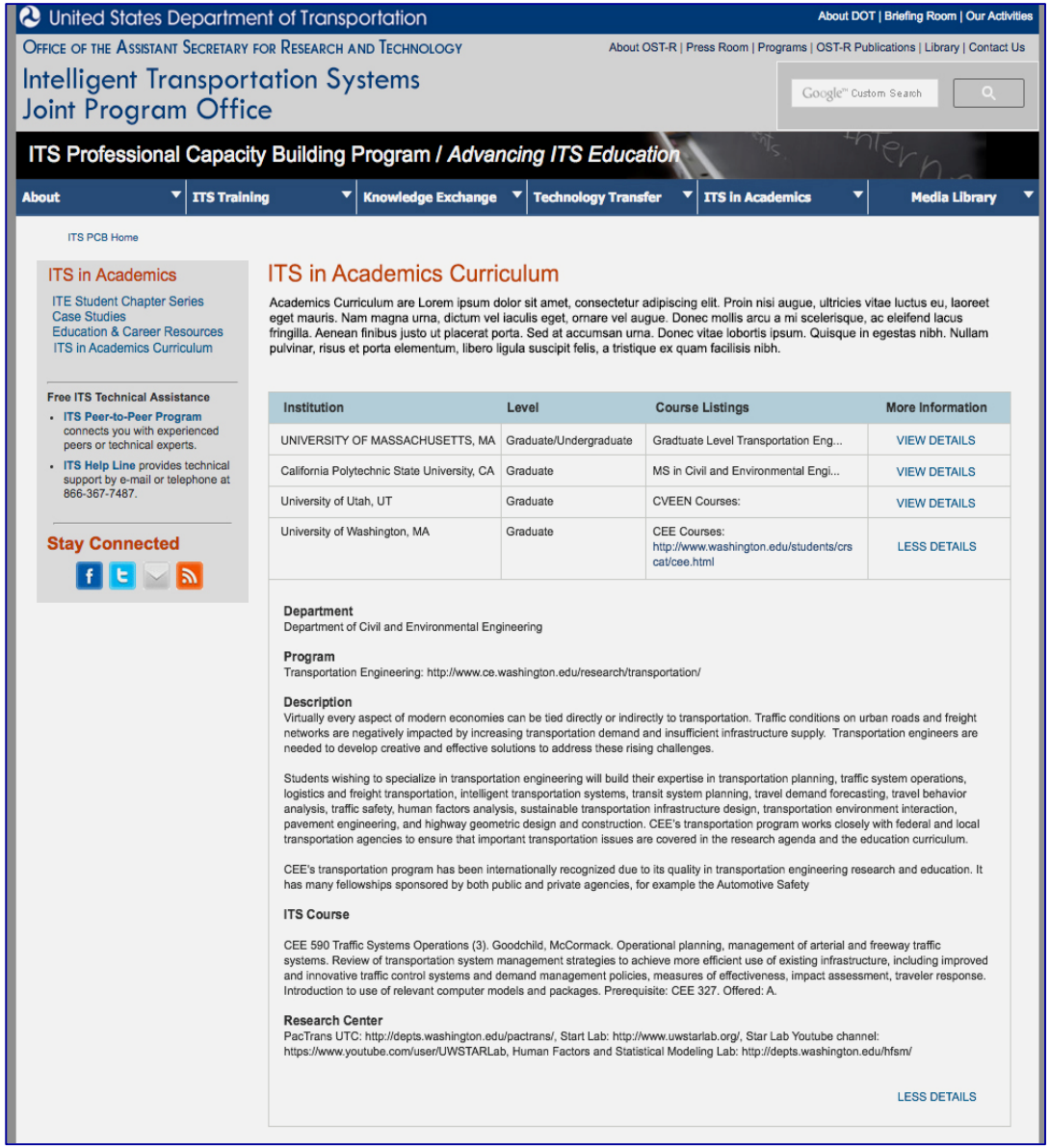
To publish information about ITS courses in order to provide:

- 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.

ITS Curriculum Webpage



Found at:
www.pcb.its.dot.gov

Within ITS in Academics:

https://www.pcb.its.dot.gov/academics.aspx

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.