

US DOT, ITS Joint Program Office (JPO)
ITS Professional Capacity Building (PCB) Program

Advanced Technological Education (ATE) PI Meeting

October 25, 2012
Omni Shoreham Hotel, Washington DC

Mac Lister

Program Manager – Knowledge and Technology Transfer

What is Intelligent Transportation Systems (ITS)?

ITS integrates users, vehicles, and transportation systems through information and communications technologies that result in making the transportation system more efficient.

Existing



Smart Traffic Signals



Electronic Tolling and Payment

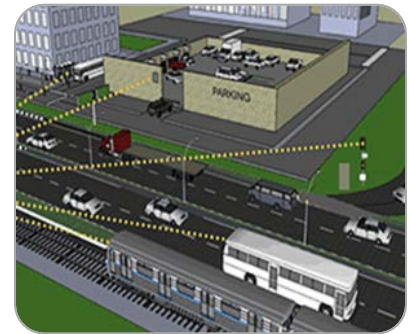


Traffic and Incident Management



Traveler Information

Future



Connected Vehicle Environment



What is Intelligent Transportation Systems (ITS)?

The Market for Intelligent Transportation Systems in the U.S. and North America (2011) Findings

- North American ITS end-use product and services market of \$52 billion.
- Almost 180,000 private sector jobs to the U.S. ITS end-use market alone. ITS end-use market alone, with a total of 445,000 jobs in the total industry value chain.
- U.S. ITS industry is growing with CY 2015 projected end-use revenue increasing by almost 41 percent (over CY 2009) and private sector employment of more than 205,000.

Growth in the ITS market equates to jobs and the need for a skilled a transportation workforce.



ITS PCB Program - Vision

ITS Professional Capacity Building (PCB) Program

To develop an ITS profession that leads the world in innovative use of ITS technologies.



ITS PCB Program - Audience

Traditional Program Focus

- Decision Maker
- Program Manager
- Planner
- Designer/Engineer
- Technician

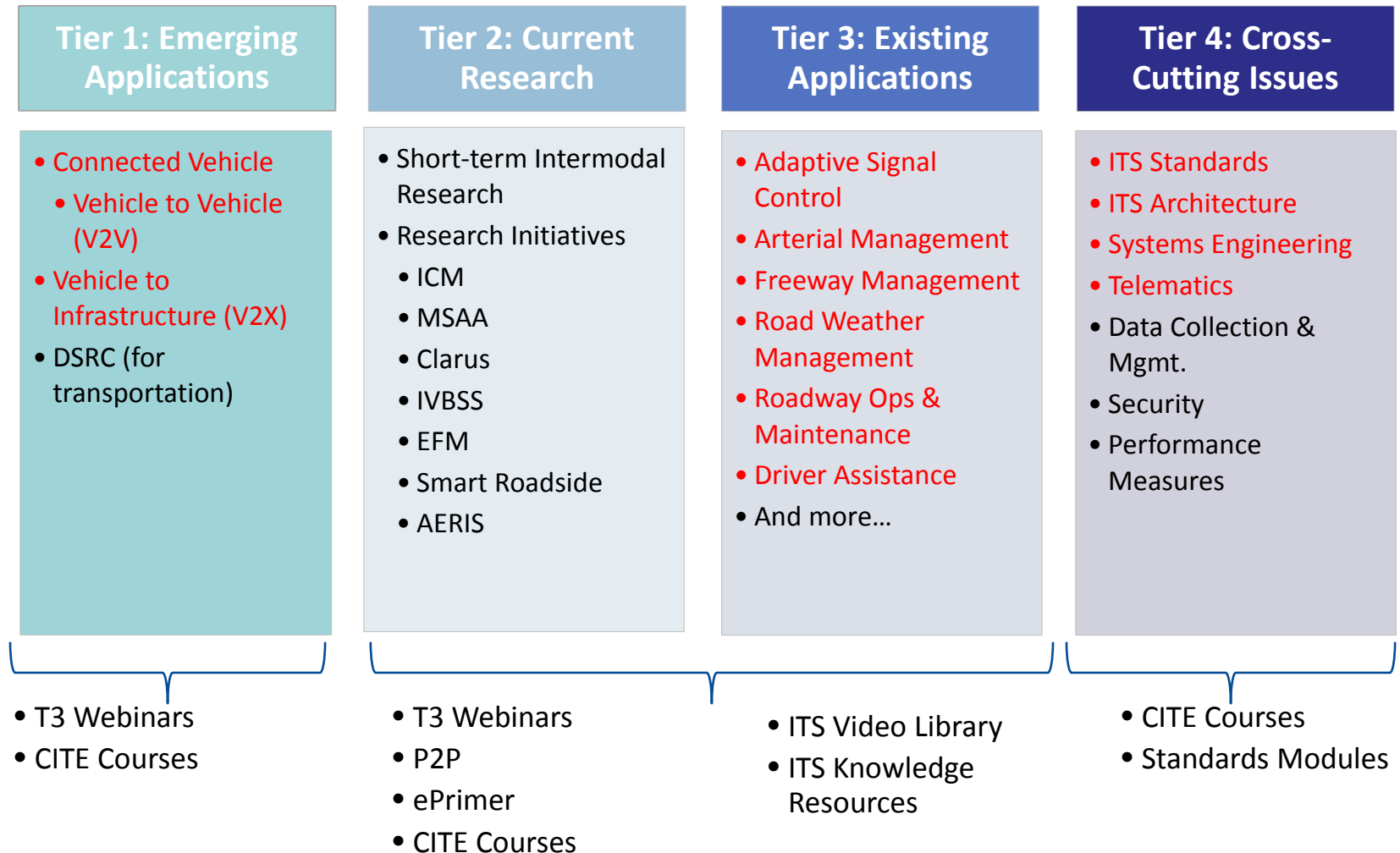


New Program Focus

- Faculty and Students
- Multi-modal Adopters
- Connected Vehicle



ITS PCB Program – Training Content



ITS PCB Program - Activities

Knowledge and Technology Transfer

- **Academic Outreach**
- **Consortium for ITS Education (CITE)**
- **ePrimer (2012-2013)**
- T3 Webinar Program
- Peer-to-Peer (P2P) Technical Assistance
- ITS Standards Training
- ITS Video Library
- Knowledge Resources Database
- Connected Vehicle Outreach
- Inter-modal Collaborative Programs



Workshops and Presentations

- ITS America Annual Meeting, State Chapter meetings, and Student Day
- ITS World Congress
- National Transportation Workforce Development Conference



Academic Outreach – Activities

NCHRP-20-77 - Transportation Operations Framework (UMD-CATT Lab)

Purpose

- Develop a training and capacity building framework for transportation operations (including ITS-related skills) for technicians, engineers, and managers – by identifying gaps in existing training and offering ways to develop new training and deliver the needed training.

Key Outcome (*related to transportation technician training needs*)

- Identifies the complete lack of training for **real-time operations management** including: real-time traveler information coordination, archived data management, special event management, electronic payment systems, or the collective management of technologies for roadway management.



Academic Outreach – Activities

ITS PCB Program Outreach

Purpose

- To understand the current state of ITS educational programs, challenges and needs for teaching ITS subjects, develop ways to address those needs, and explore potential partnership opportunities with universities.

Key Outcomes

- Reveals that ITS is cross-disciplinary and must be integrated into disciplines other than civil engineering;
- Illustrates that ITS technologies design and deployment are well beyond typical civil education programs;
- Suggests that there are significant challenges exist in attracting students to ITS; and,
- Offers that increasing awareness of ITS as a growing fields is necessary.

Partnerships are key to filling training gaps and developing the ITS- transportation workforce.



ITS PCB Program – Activities



Consortium for ITS Education (CITE)

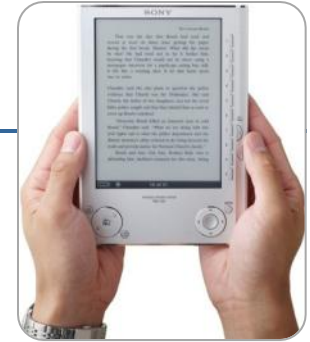
- Updating old courses with new content to stay relevant to the field.
- Offering FREE courses to all participating universities and their enrolled students, AND public sector practitioners.
- Including courses in information technology, traffic engineering, project management, systems engineering, management & operations, and ITS technology.
- Helping to fill the gaps for training through collaboration and partnerships with participating universities.

CITE offers high-quality, cost effective ITS learning in a collaborative educational environment.



ITS PCB Program – Activities

ITS ePrimer (FY 12-13)



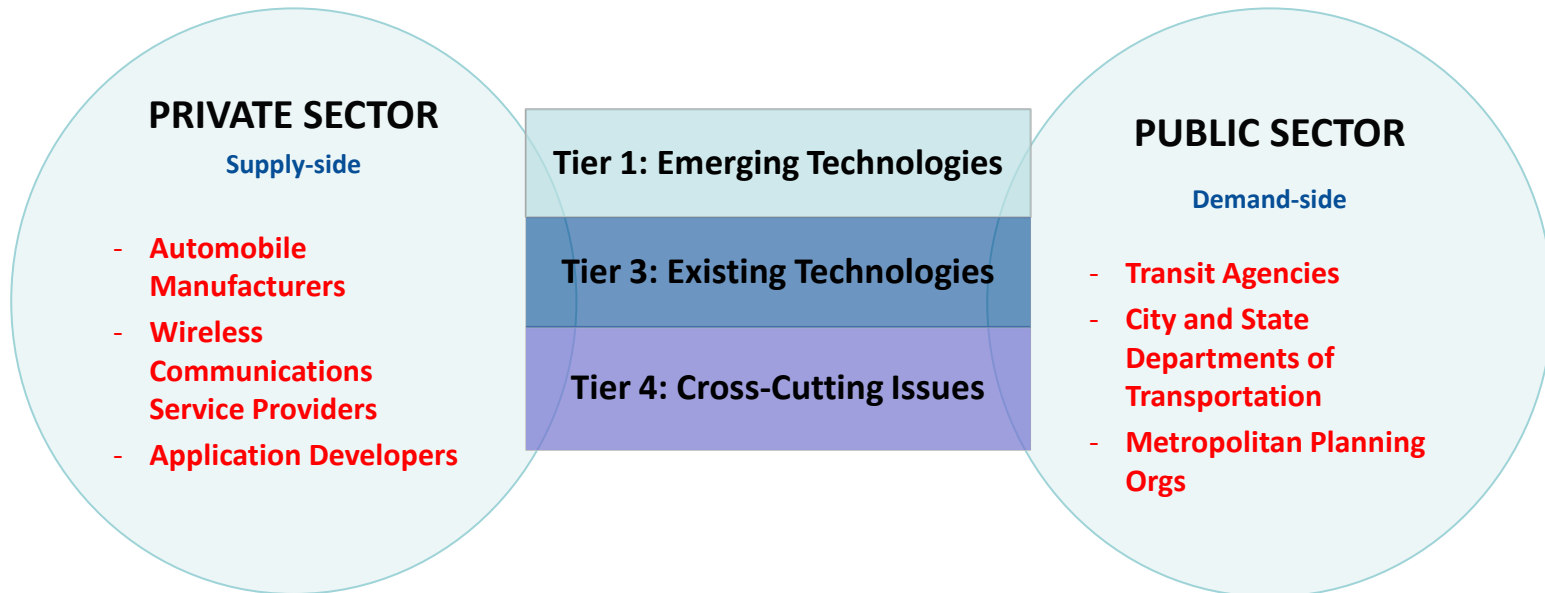
ITS ePrimer Topics

1. Introduction to ITS
2. Systems Engineering
3. Transportation Management Systems
4. Traffic Operations
5. Personal Transportation
6. Commercial Vehicles/Freight/Intermodal
7. Public Transportation/Transit Management
8. Electronic Toll Collection and Pricing
9. Supporting ITS Technologies
10. ITS Applications in Different Contexts
11. Sustainable Transportation
12. Institutional Issues
13. Emerging Issues
14. Connected Vehicles

The ITS ePrimer provides a foundation for educating the ITS transportation workforce of the future.

ITS PCB Program – Training Opportunities

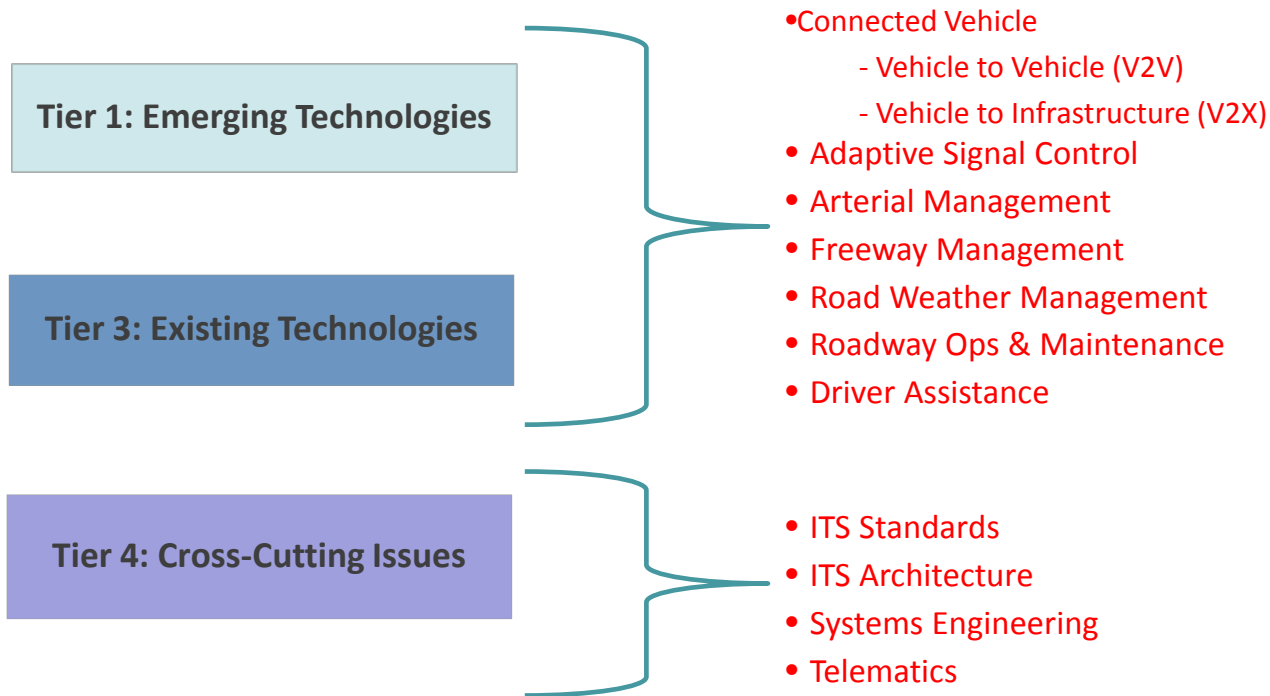
Training Implications for: Designer/Engineer and Technician Positions



- *Private sector manufacturers are developing a myriad of hardware devices and software services for ITS related transportation management and communications systems.*
- *The public sector is the predominate end-user/deployer of the technologies.*
- *Training is needed within both sectors for emerging and existing technologies and cross-cutting issues related to both.*



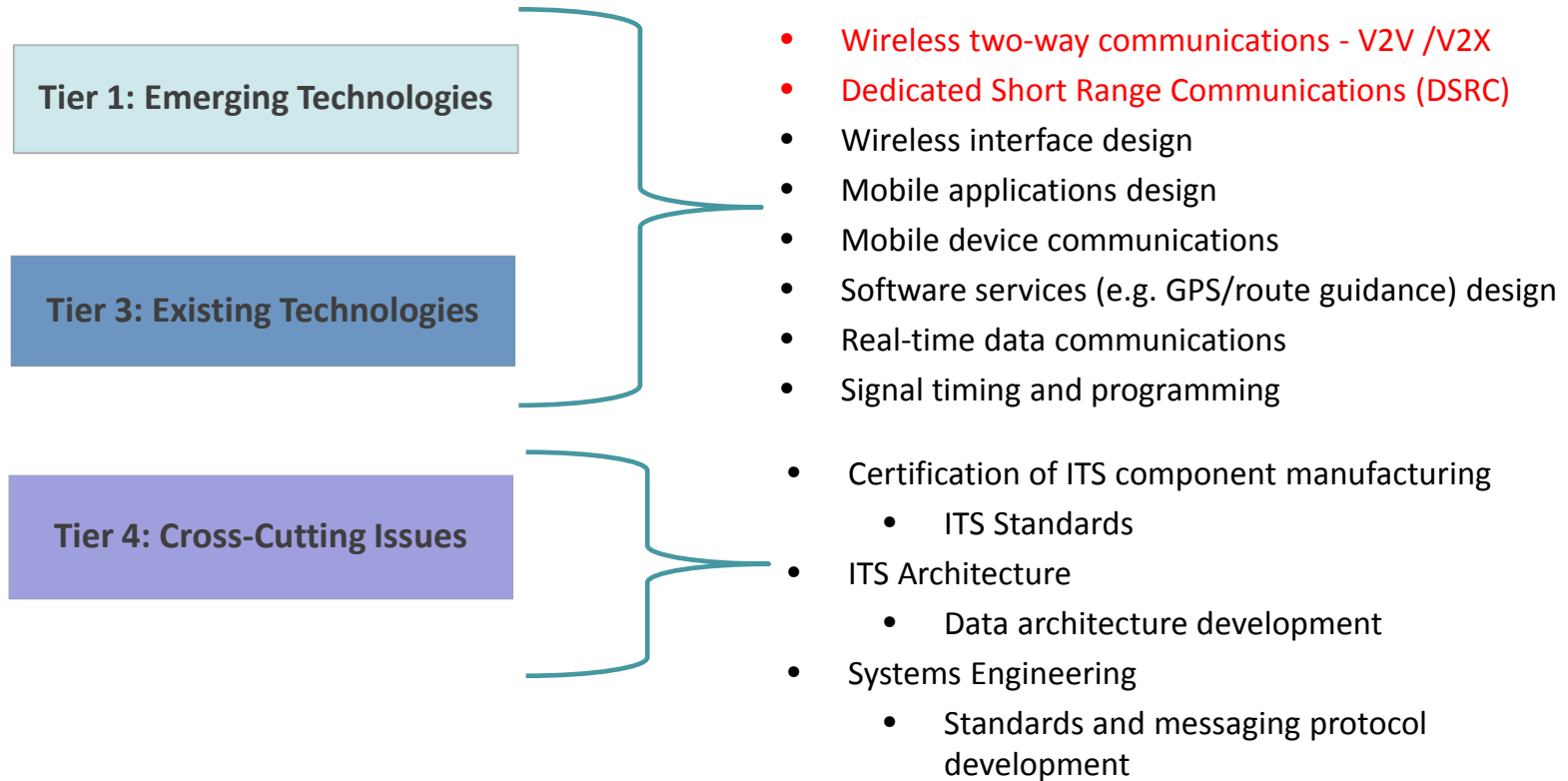
ITS PCB Program- Training Opportunities



ITS PCB Program – Training Opportunities

Training Implications for: Designer/Engineer and Technician Positions

Skills needed



ITS PCB Program

Ongoing Activities

- Developing ITS ePrimer (FY12-13)
- Developing ITS Case Studies (FY 12-13)
 - *Regional Architecture (with National Architecture team)*
 - *Adaptive Signal Control*
- Enhancing existing program activities and products to address the academic audience and student/faculty needs including:
 - *Expanding CITE offerings*
 - *Developing ITS Standards Training*
 - *Delivering T3 Webinars*
 - *Collaborating with ITS America*
 - *Offering Peer-to-Peer Exchanges*
 - *Engaging in Marketing Outreach*



Thank you!

US DOT, ITS Joint Program Office (JPO)
ITS Professional Capacity Building (PCB) Program

Mac Lister

Program Manager – Knowledge and Technology Transfer

Email: Mac.Lister@dot.gov

Phone: (202) 366-0375

ITS PCB Program: www.pcb.its.dot.gov

CITE Program: www.citeconsortium.org

