ITS Professional Capacity Building Program: Changing the way we think about ITS Education and Training

October 2012

ITS Joint Program Office,
U.S. Department of Transportation
ITS Professional Capacity Building 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
Focus on new ITS content, partnerships, and cost effective delivery methods:

- eLearning – ITS Standards Training Modules and CITE courses
- ePrimer and PIARC RNO-ITS Web Resource
- T3 webinars and ITS America State Chapter short courses
- Other PCB Activities: Video Library, Peer-to-Peer, University Case Studies
## ITS PCB Program Content

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

<table>
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<tr>
<th>Tier 1: Emerging Technologies</th>
<th>Tier 2: Current Research</th>
<th>Tier 3: Existing Technologies</th>
<th>Tier 4: Foundational Topics</th>
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<tr>
<td>• Connected Vehicle:</td>
<td>• Short-term Intermodal Research</td>
<td>• Arterial Management</td>
<td>• Standards</td>
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<td>• V2V</td>
<td>• Research Initiatives</td>
<td>• Freeway Management</td>
<td>• ITS Architecture</td>
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<td>• V2I</td>
<td>• ICM</td>
<td>• Crash Prevention &amp; Safety</td>
<td>• Systems Engineering</td>
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<td>• Safety Pilot</td>
<td>• MSAA</td>
<td>• Road Weather Management</td>
<td>• Telecommunications</td>
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<td>• Real Time Data Capture &amp; Mgmt.</td>
<td>• Clarus</td>
<td>• Roadway Ops &amp; Maintenance</td>
<td>• DSRC</td>
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<td>• DMA</td>
<td>• IVBSS</td>
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<td>• Data Collection &amp; Mgmt.</td>
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<td>• AERIS</td>
<td>• EFM</td>
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<td>• Security</td>
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<td>• Road Weather</td>
<td>• Smart Roadside</td>
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<td>• Data Communications</td>
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<td>• Technology</td>
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<td>• Policy</td>
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- T3 Webinars
- CITE Courses

- T3 Webinars
- P2P
- ePrimer
- CITE Courses

- ITS Video Library
- ITS Knowledge Resources

- CITE Courses
- Standards Modules
Partnerships

- CITE
- PIARC
- ITE
- ITS America
- NTI and NHI
- Universities
- Others?
eLearning

ITS Standards Training Program

▪ Free online ITS standards training:
  □ 18 modules – 1.5 hours each
  □ Provide skills needed to procure, implement, and operate ITS standards-based devices and equipment
  □ Targeted to state and local highway agencies and transit agencies staff
  □ Consultants, system designers and integrators, and system testers are also viewing
  □ 200 participants as of October, 2012

▪ Additional 19 modules under development through 2012

▪ Outreach and Awareness
Signed agreement with University of Maryland’s CITE to offer online courses for FREE to the public sector:

- 39 individual short courses
- Blended courses (combined instructor-led and online)
- Full-semester programs
- Certificate programs – 6 short courses bundled by topic area

Updates of Road Weather Management (Certificate), Safety, Telecommunications and Procurement courses

Developing new courses in Performance Management
Other Online PCB Activities

T3 webinars

▪ Online seminars provided free of charge by ITS PCB program
▪ Past webinars available through T3 archive
▪ Upcoming T3s:
  □ Towards Optimization: Transit Asset Management Strategies November 8, 2012
▪ Register at: http://www.pcb.its.dot.gov/

Peer-to-Peer Program

▪ P2Ps provides short term technical assistance to agencies facing ITS planning, procurement, deployment, and operational challenges
ITS ePrimer / PIARC RNO-ITS Web Resource

**ePrimer**
- Goal is for ITS content available entirely online, with multi-media examples by 2013.
- Technical editor and authors on board
- Collaborating with ITE, APTA and ITS America

**PIARC RNO-ITS Web Resource**
- Update to RNO & ITS Handbooks, combined in RNO-ITS web resource
  - To incorporate case studies produced by TC working groups
  - Provide focus on emerging economies
- US DOT contracting with ITS America for Technical Editor to update ITS content of website.
- PIARC Technical Committee responsible for RNO content.
University Strategy

- Top three challenges for ITS Education:
  1. Funding needed for development of new (ITS) programs
  2. Outdated or unavailable ITS textbooks
  3. Collaboration across academic departments & with Public-Private sectors
- Develop ITS ePrimer (strong academic interest)
- Develop interactive ITS Case Studies
  - Transit
  - Congestion
  - Regional Architecture (with National Architecture team)
- Enhance existing program activities and products to address the university audience and student/faculty needs
  - Standards Training
  - T3s
  - Peer-to-Peer events
  - Marketing / Outreach
What we’ve learned:

- Develop online resources and share them for free
- Coordinate so we do not spend precious program dollars on the same subject matter
- Identify and fill program gaps, e.g. standards training
- Go where your audience is going
On the Horizon: Massive Open Online Courses (MOOCs)

- A course with large scale participation and open access via the web (Wikipedia definition)
  - Open access - anyone can take the course
  - Scalability – while traditional courses depend upon a small ratio of students to teacher, MOOC are designed to support an indefinite number of participants
- Does not offer credits awarded to paying students at schools. However, assessment of learning may be done for certification.
- Examples: Khan Academy, Harvard/MIT edX, Udacity