Curriculum Development

THIRD ANNUAL MEETING
APRIL 2016
Curriculum Development

History and Background

- Established as a pooled fund by FHWA in 2000
- Primary focus was matrices and ILT course developments
- Early adapters to WBT with HTML versions of the Drilled Shaft and Pile Driving Inspector Tutorials (static pages viewed via Web)
- Web-based training developments started 2007 and launched 2008
- Developed State Training Sharing Program in 2009 with 5 States
- In 2014, it became an AASHTO Technical Service Program
- Now, we have 80+ courses available and 40+ courses in development,
- **All developments have been through volunteer SMEs!**
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Curriculum Development Group

- Meet on a monthly basis
- Group has grown – we are a big group of volunteers!
- Development process
  - Solicitation of courses
  - Prioritization of courses
    - Does it fill a matrix gap?
    - Is there a course already available?
    - Does it fit into TC3 core curriculum?
  - Research for existing materials
  - Identify SMEs and reviewers
  - Start development process
  - Review and approve courses
What the Curriculum Development Team Member Contributes

- Assist in the prioritization process
- Assist in finding SMEs to review course content on specific topics
- Assist in actual course developments
- Share their expertise in State-specific experiences related to training topics
- Identify new trainings that may be available for conversions or developments
- Contribution time is approximately 2 to 4 hours a month (can be more with more involvement in actual course development)
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What We Accomplished in 2015

- Go live! – August 2015

- Updated courses under 2013 Course Development Contract (Work Order 3)
  - 21 instructional hours/6 courses
  - On budget

- Updated courses in the Plan Reading Series (Work Order 4)
  - 8 instructional hours/9 courses
  - On budget

- Updated 109 Instructional Hours (Work Order 6)
  - 4 courses were complete rebuilds
  - Several courses expanded course length with updates
  - Over budget
  - One course remaining to complete this work order!
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Updated and New Courses Launched and Projections

[Bar chart showing enrollment trends from August to August with months and corresponding numbers.]
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What We Are Working on for 2016

- Flexible Pavement Preservation Treatment Series – 10 hours (Work Order 8)
- Initial conversion/layout completed; initial SME reviews completed; additional reviews requested; multiple SME reviews are challenging
- Make updates, narrate, get final SME signoff, go live! – **Deadline: May 30**
  - Introduction to Pavement Preservation (0.5 hour)
  - Materials (1 hour)
  - Crack Sealing and Fillings (1 hour)
  - Localized Pavement Repairs (1 hour)
  - Chip Seals (1 hour)
  - Fog Seals (1 hour)
  - Slurry Seals (1 hour)
  - Micro-Surfacing (1 hour)
  - Thin Functional HMA Overlay (1 hour)
  - Ultra Thin HMA Bonded Wearing (1 hour)
  - Selecting the Right Treatment (0.5 hour)
What We Are Working on for 2016

- New Course Developments – 27 Instructional Hours (Work Order 9)
  - Pile Driving Inspector Tutorial (4 hours) – Live!
  - Drilled Shaft Inspector Tutorial (4 hours) – Live!
  - Construction Inspection of Structures Series – High-Level Design Plan Done!
  - AASHTO T 312 (2 hours) – Out for SME review
  - Construction Estimating (1 hour) – Done!
  - Fundamentals of Geosynthetic Materials (4 hours) – In production
  - Guardrail Series – 3 Courses (6 hours) – In production
    - Guardrail Basics
    - New Installation/Inspection
    - Maintenance and Repair
  - Trenchless Technology (4 hours) – In production
  - Understanding Materials Testing for Inspectors (2 hours) – Detailed Design Plan Development
What We Are Working on for 2016

- Support/updates provided for ICF contract
- Changes and compromises to the contract have been made as determined by FHWA. Original contract concept was to update the PCC Series’ 10 modules, and develop 6 new courses (18 hours)
  - PCC Pavement Preservation Series (14 hours) – Live!
  - PCC Concrete Overlay (2 hours) – Live!
  - Hot In-Place Recycling (3.5 hours) – Live!
  - Full Depth Recycling (4 hours) – Live!
  - MSE Walls (5 hours) – Live!
  - Bloodborne Pathogens (1 hour) – Live!
  - Rock Slope Mitigation (2.5 hours) – More work needed
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What We Are Planning for 2016

- New Course Developments – 20 Instructional Hours (Work Order 10)
  - Construction Inspection of Structures Series (9 hours)
    - Subsurface (geotechnical connection between the structure and earth)
    - Substructure (includes the abutments, bents, and piers – the parts that support the girders or beams and the deck)
    - Superstructure (includes those parts of the bridge supported by the substructure – everything from the girders/beams up, including the bearing devices)
  - Rehabilitation and Maintenance
    - Transportation System Management and Operations Committee (TSMO) – To be determined (5 hours)
    - High-Quality Foundations for Concrete Pavements (6 hours) – Fall
What We Are Planning for 2016

- New Course Developments – 30 Instructional Hours (Work Order 11)
  - AASHTO T 209
  - AASHTO T 283
  - Additional Structure Series courses to be determined through Work Order 10
  - More Fleet courses to be determined in partnership with AASHTO Fleet Management Group
  - Courses to be identified through 2016 TC3 call for courses solicitation!
What We Are Planning for 2016

- New Course Developments/Conversion Opportunities (Work Order 12)
- Total course hours and the amount of work necessary to complete the conversions is unknown at this time (will be made prior to the establishment of this proposed work order)
  - New version of Concrete Series (12 hours)
  - CV101 acquired from USDOT - ITS Joint Program Office (3.5 hours)
  - 3D Models for Construction Series acquired from FHWA (6 hours)
  - Cost Estimating course – full development (8 hours)
  - Concrete courses to be acquired from ACPA (TBD hours)
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What We Are Planning for 2016

- New Course Developments/Conversion Opportunities (Work Order 12)
- Mobile job aids and checklists from existing trainings!
  - Roadside Safety Pocket Guide
  - Pavement Preservation Checklist Series
  - Step-by-Step Calibration Procedure and Exercise
  - Other PDF Reference Materials

Common Problems and Solutions

1. Sealant not adhering to crack:
   - Crack not clean enough—re-clean.
   - Wet cracks—allow to dry, or use heat lance.
   - Low sealant application temperature—verify temperature gauges on molder, heat to correct temperature.
   - Cold ambient temperature—allow temperature to rise, or use heat lance.

2. Sealant cracking or debonding in winter:
   - Sealant too stiff—use softer grade.
   - Excessive pavement distresses.
   - Poor cleaning during installation—improve cleaning.
   - Not providing a widened reservoir—use a widened reservoir configuration.
   - Snowplows pulling out sealant—apply sealant flush with pavement.
   - Sealant installed too deep in crack—use correct depth to width ratio.
Next Steps

- Keep production and new course launches moving
- Identify new courses through solicitation
- Make trainings available on the mobile devices and iPads
- Identify and implement helpful job aids and checklists
- Fill matrices gaps with new course development
- Research JIT Video Library concept
- Recruit more curriculum development team members and SMEs
Questions