FHWA CONCRETE PAVEMENT PROGRAM DIRECTION UNDER MAP-21

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NCC/TTCC Fall 2013 • Asheville, NC
FHWA Organizational Structure

- Office of Pavement Technology
  - Asphalt Team
  - Concrete Team
  - Pavement Design and Analysis

- Office of Asset Management, Pavements, and Construction (Proposed)
  - Materials
  - Construction Management
  - Pavement Design and Analysis
  - Pavement and Asset Management
Moving Ahead for Progress in the 21st Century (MAP-21)

- “…promote, implement, deploy, demonstrate, showcase, innovate pavement technologies, practices, performance, and benefits.”

- “The goals of the accelerated implementation and deployment of pavement technologies program shall include –
Goals of MAP-21 Pavement Implementation & Deployment

- cost-effective design, materials, recycled materials, and practice to extend pavement life
- reduce initial cost and life-cycle cost of pavements
  accelerated construction
- design criteria and specs for practices, product materials
- technology transfer
FHWA (Concrete) Pavement Program

- Pavement Design and Analysis
  - DARWIN-ME Deployment Team and State support
  - Development of Regional User Groups for implementation and calibration
  - Support development of network level assessment tools
FHWA (Concrete) Pavement Program

- Pavement and Materials Quality Assurance
  - Concrete Technical Guidance Program
    - Mobile Concrete Lab field projects
  - Expert Task Groups
  - QA State reviews, training, tools
  - Equipment Loan Program
FHWA (Concrete) Pavements Program

Equipment for Training and Loan

AVA

MIRA

MIT Scan
FHWA (Concrete) Pavement Program

- Advancing New Materials and Technologies
  - Internal Curing for Concrete Pavements
    - Improved concrete properties
    - Minimize curing and cracking
    - Longer life pavement

- Implementation activities are being discussed with industry and State DOT’s
FHWA (Concrete) Pavement Program

- Construction Technology
  - Concrete Overlay Guidance and Demonstrations
FHWA (Concrete) Pavement Program

- Environmental Stewardship
  - Sustainable Pavements Program TWG and deployment support
  - Innovative materials and environmental issues
  - Life cycle development for pavements
FHWA (Concrete) Pavement Program

- Increase Technical Capacity
  - Industry / DOT Workshops
  - 6 weeks Materials Course

- Field Support / Technical Assistance
  - State pooled fund support
  - Program area ETG with stakeholders
Cooperative Agreement FHWA-CP Tech

- Established to assist in accomplishing goals under MAP-21

- Possible 5 year award
  - Base Period (24 months)
  - 3 Option Years (12 months each)

- Awarded in 2012

- 5 Objective Areas Identified
Cooperative Agreement FHWA-CP Tech

1. Advance Sustainable Aspects of Concrete Pavements and Materials: Recycled Materials, Industrial Byproducts, Blended Cements
   - National open house with IL Tollway
   - Tech Brief on industrial byproducts and blended cements
   - RCA Deployment Plan implementation
2. Advance Preservation and Maintenance Techniques for Concrete Pavements

- Technical assistance with concrete overlays
- Update existing Guide to Concrete Overlays
- Develop a synthesis of performance experience with concrete overlays
- Update/Publish Concrete Preservation Manual and Training on Demand Modules
- Preservation training materials
- Preservation regional workshops
- Preservation one-stop-shop website
Cooperative Agreement FHWA-CP Tech

3. Advance Long-Life Concrete Pavements
   - Develop Guidance on 2-Lift Concrete Placement

- References
- Check lists
- Guide specification
4. Advance Innovative Concrete Materials and Mixture Design

- Facilitate the NCC task group on durability based specifications
- Develop a manual of practice on Performance Engineered Mixes
- Deployment of new testing technologies
5. Advance New Technologies and Advancements in Concrete Pavement Placements
   - Develop pamphlets and check lists
   - Develop document on QC procedures
Cooperative Agreement- ACI

- Implementation of Ternary Mixtures
- Chemical Admixture Workshops
- Cementitious Materials Workshop
- Self Consolidating Concrete Workshop
Cooperative Agreement-CRSI

- Technology Transfer Activities for CRCP
  - Workshops
  - Webinars
  - Provide technical assistance to State DOT’s
  - Establishment of a Technical Working Group
IDIQ Contract - Pending

- Established to assist in accomplishing goals under MAP-21
- 5 year award
- Pending Award in 2013
- 6 Task Areas Identified
1. Development of Best Practice Guidelines
   - Tech Briefs, Technical Advisories, Guide Specifications

2. Technology Delivery
   - Workshops, Webinars, Web-Based Training, Open Houses

3. Demonstration Projects
4. Technical Assistance to States
   - Peer-to-Peer exchanges, forensic evaluation

5. National and International Conferences

6. Expert Task Groups
   - Gather stakeholder input and feedback
SHRP 2 Implementation of Renewal Research Products

- Modular Pavement Technology (R05)
- Real-Time Smoothness Measurements on PCC Pavements During Construction (R06E)
- Performance Specification for Rapid Renewal (R07)
  - Guide specifications for concrete pavements and bridge decks
SHRP 2 Implementation of Renewal Research Products

- Composite Pavement Systems (R21)
  - Thin asphalt over concrete
  - Two-lift concrete

- Using Existing Pavements in Place (R23)
  - Long-Life Pavements
    - Lower cost over pavement life
    - Use substantially less new materials
    - Constructed quickly
THANK YOU!

QUESTIONS ?