



U.S. Department of Transportation
Federal Highway Administration

FHWA CONCRETE PAVEMENT PROGRAM DIRECTION UNDER MAP-21

DESIGN

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TEAM LEADER-PAVEMENT
AND ANALYSIS*

89th Annual Meeting • NESMEA •
Portsmouth, NH

Moving Ahead for Progress in the 21st Century (MAP-21)

One Hundred Twelfth Congress
of the
United States of America

AT THE SECOND SESSION

*Begun and held at the City of Washington on Tuesday,
the third day of January, two thousand and twelve*

- “...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 –

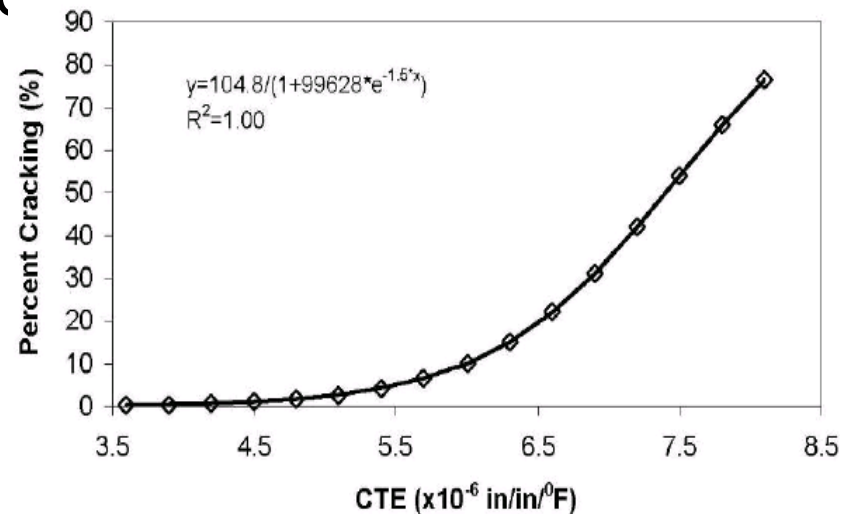
Goals of MAP-21 Pavement Implementation & Deployment

- 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, products, and 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

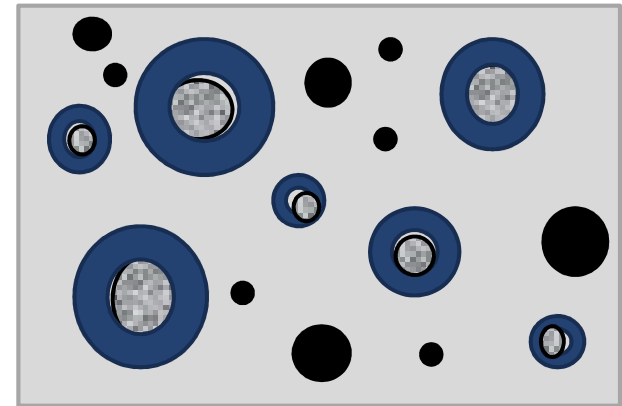
MIRA



MIT Scan

FHWA (Concrete) Pavement Program

- Advancing New Materials and Technologies
 - ▣ Internal Curing for Concrete Pavements
 - Improved concrete properties
 - Minimize curling 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



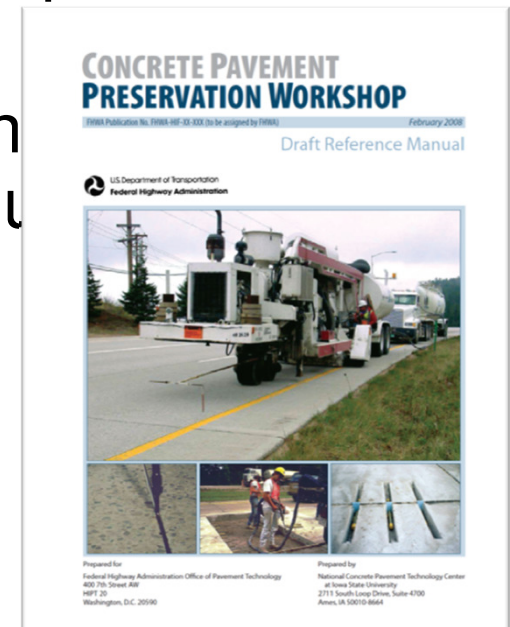
Cooperative Agreement FHWA-CP Tech

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



Cooperative Agreement FHWA-CP Tech

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 Module
 - ▣ 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



Cooperative Agreement FHWA-CP Tech

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



Cooperative Agreement FHWA-CP Tech

5. Advance New Technologies and Advancements in Concrete Pavement Placements

- ▣ Develop pamphlets and check lists
- ▣ Develop checklists for CC placements



Cooperative Agreement- ACI

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



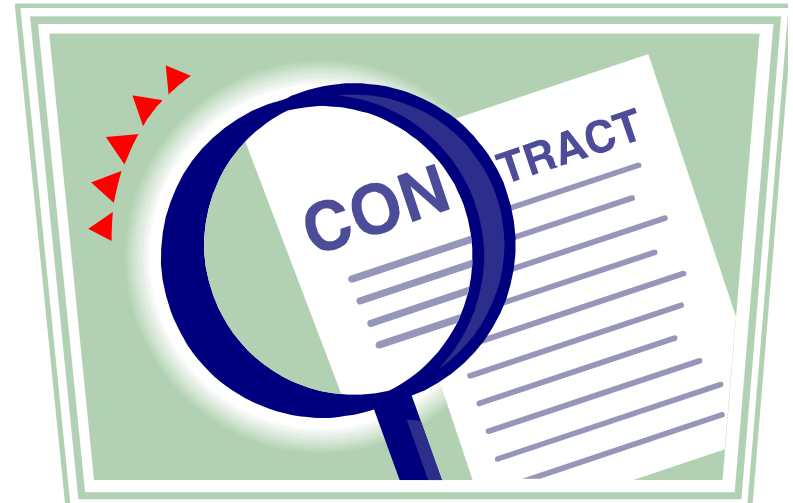
Cooperative Agreement-CRSI

- 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



IDIQ Contract- Pending

1. Development of Best Practice Guidelines

- ▣ Tech Briefs, Technical Advisories, Guide Specifications

2. Technology Delivery

- ▣ Workshops, Webinars, Web-Based Open Houses

3. Demonstration Projects



IDIQ Contract - Pending

4. Technical Assistance to States

- ▣ Peer-to-Peer exchanges, forensic evaluation

5. National and International Conferences

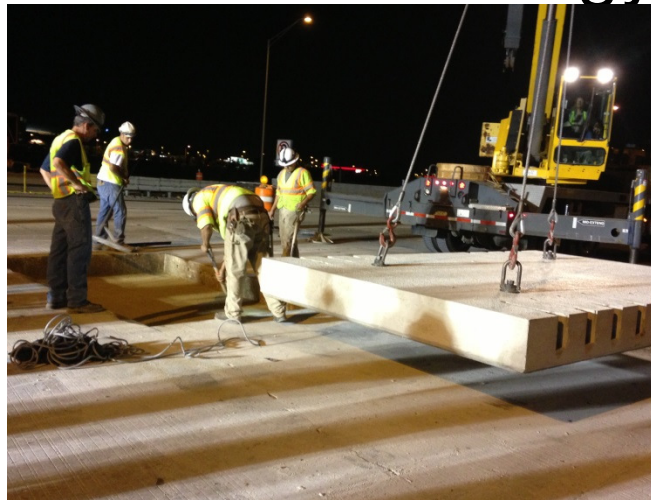


6. Expert Task Groups

- ▣ 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 ?

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