MAP-21
FHWA's Concrete Pavement Technology Implementation Program

Gary L. Crawford
Pavement Design and Analysis Team

National Concrete Consortium
Philadelphia, Pennsylvania

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Reauthorization of Highway Legislation

- MAP-21 – Moving Ahead for Progress in the 21st Century Act
- Level funding
- Past legislation: Innovative Pavement Research and Deployment Program (IPRD)

MAP–21

- Deployment and R&D programs separated
- Designated program for *Accelerated Implementation and Deployment of Pavement Technologies* (AIPT)
- Funding level: $12.0 million per year
  - $6.0 million each for concrete and asphalt

MAP–21– AIPT

- Collaborative effort with state DOTs and industry
- Leveraging of resources
- Expert task groups
- Industry input

Meetings for Concrete Industry Input on Implementation Activities

- FHWA, NCPTC at ISU, ACPA, and PCA meeting
  - Ames, Iowa, August 2012
- ACPA-FHWA Chapter-State Meeting
  - Washington, DC, October 2012
- ACPA meeting with FHWA
  - Washington, DC, October 2012
- ACPA Annual Meeting
  - Marco Island, Florida, November 2012

Concrete Pavement Industry Priorities for Implementation

- Concrete overlays – expert teams, guidelines, demonstrations and workshops to address
  - Constructability and traffic management
  - Design and details
  - Guide specifications
  - Case studies – documentation of performance
- Performance-Engineered Mixtures – for durability and sustainability
  - Guide specifications
  - Equipment loan program
  - QA/QC

Concrete Pavement Industry Priorities for Implementation

- Innovative methods and materials
  - Accelerated construction
  - Paving under traffic
  - Early opening
  - Roller-compacted concrete
  - Internal curing

Concrete Pavement Industry Priorities for Implementation

- Mechanistic-Empirical Design Guide (MEPDG) implementation
- Sustainable Pavement Program
- CP Roadmap
  - Administrative support to disseminate technical advancements towards research gaps
  - Guidance to SHAs on concrete pavement preservation and management

FHWA Priorities for Concrete Pavement Technology Implementation

- Items listed as industry priorities

AND

- QA – state reviews, training, and tools
- 6-week materials course
- Advancing CRCP
- NDT and real-time pavement evaluation
- Implementation of SHRP2, concrete-pavement related products

Implementation activities include

- TRB Advisory Committee
- Expert Task Groups (ETG)
- Cooperative Agreement (NCPTC, ACI, and CRSI)
- IDIQ Contracts for technology implementation
- Pooled-Fund program support
- Mobile Concrete Laboratory (MCL)

Mobile Concrete Laboratory (MCL)

New tools in MCL

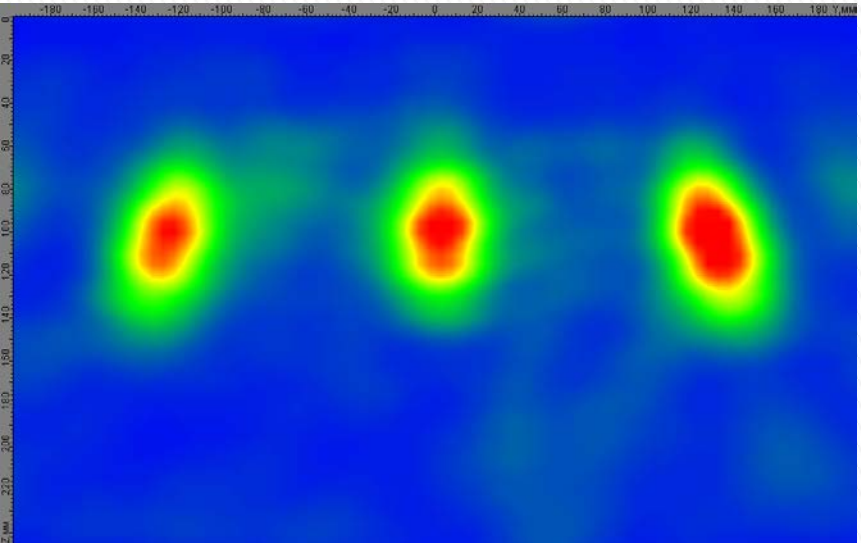
MIT Scan-T2

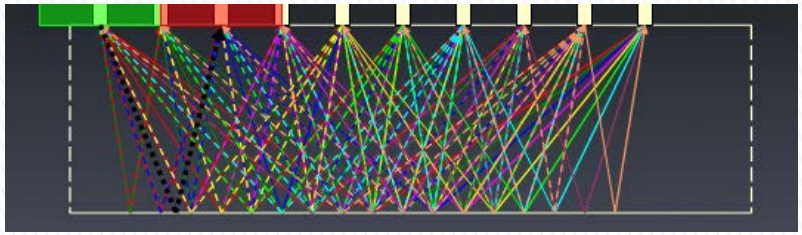
- Pulse-induction technology for pavement layer thickness measurement
- Accurate: ± 2-mm accuracy
- Reliable and easy to use

New tools in MCL

MIRA – Ultrasonic Tomography

- 40 low-frequency, dry-point contact shear wave transducers
- Applications
  - Concrete cover depth
  - Layer thickness
  - Internal defect detection
  - Material properties (e.g.,PCC strength)





ASR Program

- Webinars, workshops and field projects will be completed this year
- For more information http://www.fhwa.dot.gov/pavement/concrete/asr.cfm

Sustainable Pavement Program

- ETG meetings will continue to evaluate tools for Life-Cycle Assessment (LCA)
- Reference Manual under development
- New technologies discussed and evaluated, including
  - Use of photo-catalytic pavement materials
  - Recycling materials and techniques

Ternary Mixtures

- Workshop being developed through FHWA/ACI Cooperative Agreement
- Available by December 2013?
  - Will be offered free of charge to highway agencies
    - Contact: tom.yu@dot.gov 202-366-1198
  - Three other seminars are currently available:
    - Cementitious Materials
    - Chemical Admixtures
    - Self-Consolidating Concrete

CRCP Workshops and Webinars

- Workshops and webinars will be offered through FHWA/CRSI Cooperative Agreement
- Available by December 2013?

NCPTC Cooperative Agreement

- Tech Transfer of Concrete Pavement Technologies
  - 2 Year Base Period, awarded September 2012
  - 3 Option Years

Co-Op Base Period Activities

- Advance sustainability of pavements and materials
  - Conduct open house with IL Tollway Authority
  - Develop tech brief on industrial byproducts and blended cements
  - Develop RCA deployment plan

Co-Op Base Period Activities

- Advance preservation and maintenance techniques
  - Update ‘08 Preservation Manual and Training on Demand modules
  - Prepare training materials and conduct regional workshops
  - Develop “One-Stop Shop” website
  - Provide tech assistance for concrete overlay program
  - Update ‘08 “Guide to Concrete Overlays”
  - Develop synthesis of performance experience of concrete overlays

Co-Op Base Period Activities

- Advance long-life concrete pavement
  - Develop application guidance for two-lift paving construction
  - Host National Open House

Co-Op Base Period Activities

- Advance innovative concrete materials and mixture design
  - Facilitate NCC Task Group for Durability Based Spec's
  - Develop manual of practice on Performance Engineered Mixtures
  - Deployment of new testing technologies

Co-Op Base Period Activities

- Advance new technologies for concrete pavement placement
  - Develop field resources and check lists
  - Develop document for successful QC procedures

THANK YOU!

QUESTIONS?

Gary L. Crawford

gary.crawford@dot.gov

202-366-1286