



Ninth Annual Pennsylvania Concrete Conference

## The CP Road Map: An Opportunity to Shape the Future


**Jim Grove**  
January 29-31, 2008

National Concrete Pavement  
Technology Center  
  
uniting agencies, industry and researchers  
to advance concrete pavement technology

### Midwest Concrete Consortium



- Founded in 1997
- Began with 10 states
  - Former FHWA Regions 5 & 7
- FHWA funded it for 3 years
- Agency / Industry / FHWA Forum
- State concrete materials/construction engineers
- Industry- Contractors/suppliers
- FHWA



### MC<sup>2</sup> Mission

- Sharing PCC research and technology
- Encouraging uniform specifications
- Promoting quality design and construction

### MC<sup>2</sup> Vision

**The vision of the group is to provide an avenue for industry, suppliers, government agencies, and academia to work together to continuously improve concrete performance and durability in a cost-effective manner**



### Early Accomplishments

- Cement plant inspection agreements
- Standard dowel basket design

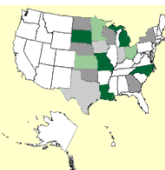






### MCO

Material and Construction Optimization for  
Prevention of Premature Pavement  
Distress in PCC Pavements

- Pooled fund started in 2002
  - All but 1 MC<sup>2</sup> states
  - Added 8 additional
- TAC met in conjunction with MC<sup>2</sup>
  - Funded state travel
  - Met twice per year
- Five year project





### CP Road Map


- A new, comprehensive, strategic plan for concrete pavement research and technology
- Completed in 2005 after 4 years of development

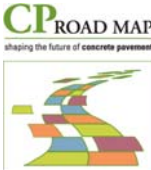




### CP Road Map Goals

- To meet the paving challenges of the future
- To guide the investment of research dollars for the next ten years
- To promote cooperation among fund managers and all stakeholders





**it's your move!**

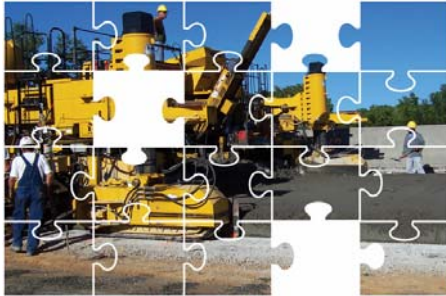
### Research Plan Summary


- 12 tracks
- 250 problem statements
- \$250M
- 10 years






PCC paving is an integrated system that still has knowledge gaps







What the Center Is Not	What the Center Is
<ul style="list-style-type: none"> <li>• Not a manager of research</li> <li>• Does not control research</li> <li>• Not a sponsor of research</li> <li>• Not a banker of research funds</li> <li>• Not an issuer of RFPs</li> </ul>	<ul style="list-style-type: none"> <li>• Research coordination through sharing of information</li> <li>• Facilitate others conducting research</li> <li>• Help researchers access the right resources and partnerships</li> </ul>



### Concrete Roadmap Action Plan

- **Four tracks underway**
  - Mix Design & Analysis
  - High Speed NDT
  - Surface Characteristics
  - Overlays
- **Sustainability**
  - Added later
  - May be a separate track or an integrated into each






**it's your move!**

### Mix Design & Analysis Track

- Mixture Testing and Analysis Guidelines
- Emerging Tests
- Field Evaluation, Coordination, Training & Outreach
- Manual
- Modeling and Software

I-2015


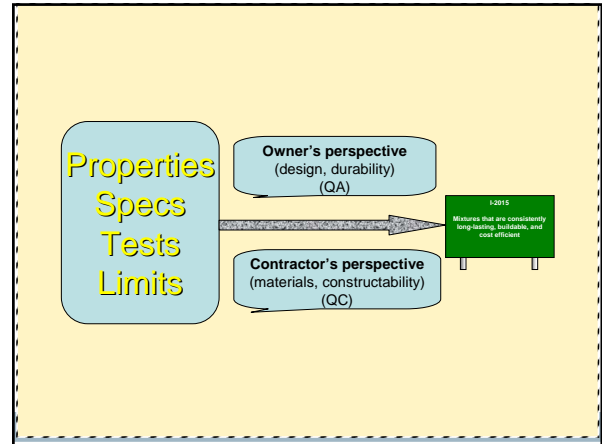
**Mixtures that are consistently long-lasting, constructible, and cost efficient**



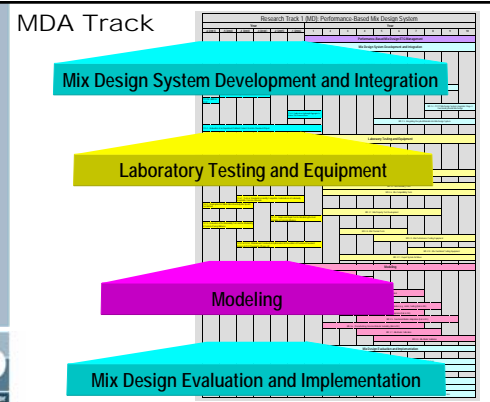
Mix Track



**Destination 2015:**  
**Innovative** concrete mix material selections and mix design **procedures** to produce economical, compatible, and **optimized** concrete mixes **integrated** into both structural concrete pavement design and construction control.

MDA Track





**Mix Design System Development and Integration**

**Laboratory Testing and Equipment**

**Modeling**


**Mix Design Evaluation and Implementation**

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**MDA Projects**  
**Design and Control for Concrete Pavements**

- Audience - Design Office or Batch Office
- Led by PCA/ACPA (Leif Wathne)
- Budgeted at PCA/ACPA to start 2008
- Rewrite of PCA EB001 for pavements





**MDA Projects**  
**Modeling and Software Improvements**

- Led by FHWA
- Compass / HIPERPAV / Pavespec / M-E PDG
- Making packages talk to each other



**MDA Projects**  
**Mixture Testing & Analysis Guidelines**  
**Evaluation of Emerging Testing Equipment**  
**Field Evaluation, Training and Outreach**


- States interest
  - Material and concrete testing
  - Field control
- Led by CP Tech Center
- Pooled Fund

### Technology Transfer Concrete Consortium


- MCO ended in 2007
- Continue the momentum
  - Sharing of new technology
  - Sharing research findings
  - Continue interacting with other concrete engineers in other states
- Created a new pooled fund in 2008
- TTCC: TPF-5(159)

<http://www.pooledfund.org/projectdetails.asp?id=390&status=4>





### Technology Transfer Concrete Consortium

- Currently has 16 states
  - CA, GA, IA, IL, IN, KS, MI, MN, MO, NC, ND, NY, OK, SD, TX, WI
- Two others intend to join
- Advisory Group for the Mix Track (MDA)
- Tech Transfer
  - Publication of tech briefs
  - Research findings
  - Technical presentations- NC<sup>2</sup>



### Technology Transfer Concrete Consortium

- Not too late to join!
- First meeting
  - April 8-10, 2008
  - Baton Rouge, LA
  - Hosted by the Louisiana Transportation Research Center
- Held in conjunction with NC<sup>2</sup>

### National Concrete Consortium


- MC<sup>2</sup> is morphing into NC<sup>2</sup>

Midwest Origin

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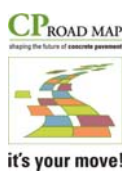

National Focus

- The goals will remain the same
- New name reflects the national make up of the group
- Still an agency / industry / FHWA forum



### Becoming Involved

- CP Road Map
  - Collaborative Agreement
  - Pooled fund- Operation Support
- Mix Track (MDA)
  - Pooled fund
- NC<sup>2</sup>
  - Join the TTCC
    - Technical Advisory Committee
    - Interact with other states
    - Technical advancements

### National Concrete Pavement Technology Center

For more information, please contact

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