

Concrete Pavement Technology Program (CPTP) – Products & Implementation Activities

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Virginia Concrete Conference
March 11, 2005



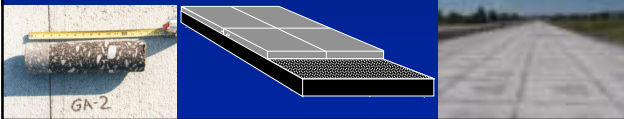
CPTP Primary Focus Areas

- Advanced Designs
- Improved Materials
- Improved Construction Processes
- Rapid Repair & Rehabilitation
- Enhanced User Satisfaction
- Trained Workforce

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Advanced Design – Design & Performance of Whitetopping

- Thin (TWT: 4 to 6 in.) & ultrathin (UTW: 2 to 4 in.) whitetopping techniques developed early 1990s
- These pavements are expected to provide service life of 10 to 15+ years
- CPTP studies resulted in improved design & repair procedures



Improved Materials Products

- Tests to flag problematic combinations of concrete materials
- Improved guidelines for developing job-specific concrete mixtures
- Improved procedures for concrete durability testing (freeze-thaw, ASR)



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Improved Construction Processes Magnetic Tomography – Dowel Location

- Conducted laboratory and field evaluation of magnetic imaging tomography using the MIT Scan-2 device (developed in Germany)
- Field evaluations on USA projects indicate that the device can measure 3-dimensional dowel alignment quickly & accurately



Other Construction Support Tools

- TEMP maturity-based system - early opening to traffic
- HIPERPAV software - estimate early age cracking potential
- Concrete curing guidelines - ensure proper curing regimen (techniques, materials, timing) is used at construction sites



Rapid Repair & Rehab Products

- Precast panels for full-depth repair of transverse joints
- Precast post-tensioned panels for pavement rehabilitation

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Precast Panels – Pavement Repair



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Precast Post-tensioned Concrete Panels

- Location: Georgetown, TX – Frontage Road
- Constructed Oct/Nov. 2001; 2,300 ft length
- Slab thickness = 8 in. (Equiv. to 14 in. CRCP)
- Demonstrated precast system feasibility



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Enhanced User Satisfaction

- Development of guidelines for construction traffic management for high-volume roadways
- Studies to better understand and define smoothness and surface texture requirements

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Trained Work-Force Activities

- Disseminate latest BEST PRACTICES information developed from the CPTP and from complementary studies
- Coordinate with State agencies and industry organizations for delivery in an efficient & timely manner

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Best Practices Workshops

- Design & Construction Features
- Optimized Materials & Mixtures
- Construction Best Practices



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CPTP Workshops

- Presenting 1 and 2-day workshops on Best Practices for:
 - Concrete Pavement Design (including M-E Design)
 - Concrete Pavement Construction (including recent advances)
 - Concrete Materials & Mix Design
 - Concrete Pavement Repair/Rehabilitation
- 2004 – Alabama
- 2005 – Ohio, Iowa, Florida, Utah, Kentucky, California, Minnesota, Georgia
- 2006 - Louisiana

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National Conferences

- International Conference on Best Practices for Thin & Ultrathin Whitetopping –
 - Denver, Colorado
 - April 2005
- 8th International Conference on Concrete Pavements
 - Colorado Springs, Colorado
 - August 2005

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“Concrete Pavement Technology Update”

- Published periodically
- Widely distributed
- Provides information on product availability, trials, implementation activity & performance



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