CP Road Map E-News February 2011

The ***CP Road Map E-News*** is the newsletter of the Long-Term Plan for Concrete Pavement Research and Technology (CP Road Map), a national research plan developed and jointly implemented by the concrete pavement stakeholder community. To find out more about the CP Road Map, or to get involved, contact Dale Harrington, dharrington@snyder-associates.com, 515-964-2020.

New Moving Advancements into Practice (MAP) Brief

Moving Advancements into Practice (MAP) Briefs describe promising research and technologies that can be used now to enhance concrete paving practices.

MAP Brief 5-2:Intelligent Compaction for Concrete Pavement Bases and Subbases has recently been published under CP Road Map Track 5: Concrete Pavement Equipment Automation and Advancements.

Download MAP Brief 5-2 (1.1 mb pdf).

News from the Road

News from the Road highlights research around the country that is helping the concrete pavement community meet the research objectives outlined in the CP Road Map.

There's an app for that...

The American Concrete Pavement Association continues to add to its online applications library. An application for the design of a bonded concrete overlay over asphalt (BCOA) is now available.

To access this application, click here.

This work is contributing to research objectives outlined in CP Road Map Track 2: Performance-Based Design Guide for New and Rehabilitated Concrete Pavements.

Louisiana Transportation Research Center evaluates performance of polyeurethane foam as a rehabilitation option

A recent Transportation Research Board (TRB) report titled *Mitigating Transverse Joint Faulting in Jointed Concrete Pavement with Polyurethane Foam* documents research by the Louisiana Transportation Research Center that investigated an economical alternative for rehabilitation of severely faulted jointed concrete pavement. The report concludes that polyurethane foam injected under the slab can be a successful solution for the immediate treatment of faulting. The report warns, however, that load transfer at the joints is reduced because of the process required to install the foam.

Click here for more information and to obtain the report from TRB.

This project is contributing to research objectives outlined in CP Road Map Track 7: High-Speed Construction and Rehabilitation.

FHWA publishes state-of-the-technology report on high-performance materials for highway applications

The Federal Highway Administration (FHWA) recently published *Advanced High-Performance Materials for Highway Applications: A Report on the State of the Technology*, a summary of non-traditional construction materials that have potential for use in both new construction and rehabilitation of highways. The report is not concrete specific; however, it does include information on the use of innovative cements, aggregates, and other concrete-related materials, such as curing compounds and concrete surface sealant materials. This work is important because it helps identify the potential for non-traditional materials as possible sustainable alternatives for concrete pavements.

Click here to view the report.

This research can be categorized under CP Road Map Track 13: Concrete Pavement Sustainability.

TRB report investigates use of silica-rich rice husk as a supplementary cementitious material

A recent TRB report titled *Fundamental Investigations into Performance of Carbon-Neutral Rice Husk Ash as Supplementary Cementitious Materials* identifies a new method for processing rice husk ash (RHA) for the purpose of using it as a supplementary cementitious material (SCM) in new concrete mixtures. The new processing method increases the RHA's amorphous silica content, which increases the pozzolanic behavior of RHA. The report presents the results of laboratory tests performed in order to establish material properties and performance as a mineral additive in concrete mixtures. While not necessarily specific to pavements, this work may lead to the development of an advanced material that could potentially be both performance-enhancing and environmentally sustainable.

Click here for more information and to obtain the report from TRB.

This document is contributing to research objectives outlined in CP Road Map Track 12: Advanced Concrete Pavement Materials and Track 13: Concrete Pavement Sustainability.

Updates from the States: Mississippi

In recent years, the Mississippi Department of Transportation (MDOT) Research Division has collaborated with various agencies in order to accomplish concrete pavement research work. Under cooperative agreements, MDOT has worked and will continue to work with FHWA, the University of Mississippi, the Mississippi Transportation Research Center (MTRC) at Mississippi State University, and private consultants. MDOT also participates in the Transportation Pooled Fund Program.

In 2006, MDOT sponsored a workshop to identify transportation research needs for the State. These research needs included concrete pavement-related topics such as pavement preservation, concrete mix design and quality control/quality assurance (QC/QA) based on performance specifications, and pavement noise mitigation.

Read on for more information about concrete pavement research in Mississippi...

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Newsletter archives

- January 2011
- November 2010
- October 2010
- September 2010
- August 2010
- July 2010
- June 2010
- May 2010
- April 2010

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