

FOCUS

May 2012

INSIDE

- 3 Infrastructure innovation webinars
- 3 FHWA to host National Online Dialogue on Improving Transportation Performance
- 4 Advancing a new era of asset management
- 5 Context sensitive solutions: A call for case studies
- 6 FHWA launches online Policy and Guidance Center
- 6 Tech Brief examines performance of PPA-modified asphalt binders
- 7 Highway technology calendar

Building a More Durable Asphalt Pavement: Workshop Presents Best Practices for Longitudinal Joints

Learn how to improve the performance of longitudinal asphalt pavement joints with a new workshop available from the Federal Highway Administration (FHWA).

The free 4-hour workshop is designed to provide State transportation agencies and industry representatives with the latest information on specifying and constructing more durable longitudinal joints (LJs) and preventing premature cracking.

LJs are produced when fresh hot-mix asphalt is placed adjacent and parallel to an existing lane on a roadway. The joint is the interface between the two asphalt mats. Low density, permeability, and lack of adhesion can cause premature cracking and joint failure.

The workshop is the result of an FHWA and Asphalt Institute project that examined how LJs are specified and constructed across the United States. This project included a review of available literature and specifica-

tions, indepth interviews with expert paving consultants and contractors, and site visits to States of interest.

“A goal of this project was to search for consensus on how best to specify and construct LJs,” said Steve Cooper of the FHWA Resource Center. “The project is intended to provide the best practices possible for achieving overall LJ performance equal to that of the mat.”

The workshop highlights recommendations for improving LJ performance, including:

- Mix selection.
- Design and planning considerations.
- Alternative techniques and materials.
- Best practices for specifying and constructing LJs. Construction best practices include, for example, using a string-line guide to ensure that the paver opera-

continued on page 2 >

www.fhwa.dot.gov/publications/focus/index.cfm



U.S. Department
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**Federal Highway
Administration**

Coming Soon: *Focus* to Move Exclusively Online

The Federal Highway Administration (FHWA) is committed to getting information to *Focus* readers more quickly, reducing costs, and helping the environment. To achieve these goals, *Focus* will become an online-only newsletter in September 2012. The August 2012 issue will be the last one distributed using printed copies. The online version of *Focus* will continue to provide a printable version for readers who prefer the traditional eight-page format.

Please go to the *Focus* Web site at www.fhwa.dot.gov/publications/focus/index.cfm to sign up to receive an email notification when each issue of *Focus* is posted online. The email will include a short description and a link for each article. It will not include any cumbersome attachments.

Building a More Durable Asphalt Pavement, continued from page 1



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A new FHWA workshop highlights the latest information on specifying and constructing more durable longitudinal asphalt pavement joints.

tor makes a straight first pass. Other important best practices include ensuring that the vibratory screed on the paver is turned on at all times during construction and applying a tack coat uniformly to the full width of the lane.

Also covered are successful State strategies to increase pavement density and improve performance of the joint, as well as resources to assist agencies in turning best practices into standard practice. The workshop is intended for Federal, State, and local government personnel who are responsible for pavement specifications and the overall acceptance of roadway projects. It is also designed for paving

contractors who are responsible for adopting construction best practices. “The ultimate successful adoption of these improvements will need to be a team effort,” said Cooper.

More than 170 participants attended the pilot workshop in West Virginia on January 11, 2012. Since then, workshops have been held in Idaho, Minnesota, Colorado, Connecticut, Delaware, and Utah, with five more scheduled in the near future. “The feedback has been overwhelmingly positive,” said Cooper. “Every State can benefit from this workshop.”

More than 40 participants attended the Delaware session on March 22, 2012.

“I thought it was excellent and very relevant for the needs of the Department,” said Jim Pappas, Assistant Director for Quality at the Delaware Department of Transportation. “The information presented will help our field personnel know what to look for and how to address improper LJ construction. It will also serve as a framework for us to draft a specification on LJ requirements.”

For more information about the LJ workshop or to schedule a session in your State, contact Steve Cooper at the FHWA Resource Center, 443-257-7145 (email: stephen.j.cooper@dot.gov). *

Infrastructure Innovation Webinars

These free Webinars provide a quick introduction to the latest infrastructure innovations and technologies.

Road Safety Audit (RSA):

Focus on Implementation

May 17, 2012, 2:30–4 p.m. (eastern daylight time)

The Webinar will showcase how States have improved road safety by implementing RSA programs. Sixteen States now have a formal RSA Program, and 34 States have incorporated RSAs in their Highway Safety Improvement Program. Featured speakers will include representatives from the Florida Department of Transportation, Massachusetts Department of Transportation, and Montgomery County, Maryland, Department of Transportation. The session is hosted by the Federal Highway Administration (FHWA) National Highway Institute (NHI), in conjunction with the FHWA Highways for LIFE program.

To register, visit www.fhwa.dot.gov/hfl/commtool.cfm. For more information, contact Byron Lord at FHWA, 202-366-1325 (email: byron.lord@dot.gov).

Resilient Bridge Design

June 21, 2012, 2:30–4 p.m. (eastern daylight time)

This Webinar is based on a new FHWA publication, *Framework for Improving Resilience of Bridge Design*. The publication draws on lessons from past bridge failures to improve the resilience of bridge designs by using the “fault-tree analysis” methodology to identify potential events that could lead to a bridge failure. Designs that prevent such failures are then discussed. Examples of a fault-tree analysis for both concrete and steel bridges will be featured during the session. The Webinar is hosted by NHI, in conjunction with the FHWA Highways for LIFE program.

Registration information will be available in early June at www.fhwa.dot.gov/hfl/commtool.cfm. For more information, contact Julie Zirlin at FHWA, 202-366-9105 (email: julie.zirlin@dot.gov). *

FHWA to Host National Online Dialogue on Improving Transportation Performance

From May 21 to June 22, 2012, the Federal Highway Administration (FHWA) will host the National Online Dialogue on Improving Transportation Performance.

The dialogue offers Federal, State, tribal, and local transportation professionals and other stakeholders the opportunity to share accomplishments and lessons learned from using performance management principles to improve the Nation’s highways and connecting road networks.

Through the dialogue, participants can comment on numerous themes:

- Identify how FHWA can help you more effectively manage the performance of the transportation system.
- Illustrate how using performance measures has improved the lives of people in your community.
- Describe the types of performance reports and data you want FHWA to produce.
- Describe the types of transportation performance management analytical tools and data you need FHWA to provide to support your goals.
- Discuss how you think FHWA can improve relationships and communications with national, State, local, tribal, and community stakeholders.
- Discuss the barriers you have encountered in your work to improve the condition and performance of roads and highways.
- Share your recommendations for improving FHWA’s use of performance measures.

Stories and strategies captured during the dialogue will inform FHWA’s work as it develops an approach to engage communities in the use of performance management principles.

To sign up to participate in the dialogue, visit www.fhwa.dot.gov/TPM/engage. For more information, contact Connie Yew at FHWA, 202-366-1078 (email: connie.yew@dot.gov). *

Advancing a New Era of Asset Management

Identifying strategies to advance the practice of transportation asset management is the goal of a new Transportation Asset Management Expert Task Group (TAM ETG) established by the Federal Highway Administration (FHWA).

While States have varying levels of experience in implementing TAM programs, they all face some common issues relating to asset management. There is increased demand on transportation agencies, for example, to make performance-based management decisions that consider risk and long-term financial consequences. To accomplish this, many agencies are adopting the new *Asset Management Guide: A Focus on Implementation*. Released by the American Association of State Highway and Transportation Officials (AASHTO), the guide promotes the use of Transportation Asset Management Plans.

“State and local transportation agencies see the value of gathering input from a variety of stakeholders regarding how we can support them in this new era of asset management,” said Butch Wlaschin, Director of the FHWA Office of Asset Management. “States are also facing severe financial pressures that emphasize the need to develop risk-based asset management plans and financial plans. It is a good time to be discussing these issues, as asset management is the best long-term means to demonstrate accountability and preserve assets.”

The TAM ETG held its first meeting in March 2012 in Albany, New York. Members and liaisons include representatives from State transportation agencies; FHWA; AASHTO; the Transportation Research Board (TRB); Institute of Public Works Engineering Australia; Alberta, Canada, Ministry of Transportation; and consulting firms. The ETG has no rule-making ability but rather will serve as a hub for information exchange, bringing together ideas from State and Federal



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The Transportation Asset Management Expert Task Group will serve as a hub for information exchange, bringing together ideas to enable agencies to use asset management effectively.

agencies, the international asset management community, and the private sector.

“State transportation agencies will be facing many new asset management issues in the years ahead,” said ETG member Tim Henkel, Division Director for Modal Planning and Program Management at the Minnesota Department of Transportation. “The TAM ETG provides another opportunity for us to identify ways we all can address these challenges.”

Among other initiatives, the ETG will:

- Outline a framework for financially sustainable transportation infrastructure that clarifies connections among asset management, stewardship, risk management, performance management, and long-term financial planning.
- Identify strategies for advancing asset management practices and influencing change within State transportation agencies, as well as partnering with agencies to address gaps in their asset management framework, roles and responsibilities, tools, and workforce skills.
- Provide input to FHWA, AASHTO, and TRB regarding the implementation of State and local transportation asset management plans.

Other identified needs include developing case studies, communities of practice,

and other resources for agencies; exploring national asset management performance metrics and data issues; fostering the development of asset management tools and templates; defining ways to measure system performance improvement; and discussing practices and process changes that will enable agencies to use asset management effectively.

Communication is another important goal, including sharing best practices and success stories and providing communication tools. The ETG will also discuss the long-term sustainability of asset management initiatives.

“The next few years will be very dynamic,” said Wlaschin. “The TAM ETG will be a great forum for us to consider all viewpoints as we expand the concepts, principles, and fundamentals of asset management.”

For more information on the TAM ETG, contact Nastaran Saadatmand in the FHWA Office of Asset Management, 202-366-1337 (email: nastaran.saadatmand@dot.gov). To learn more about asset management resources, visit www.fhwa.dot.gov/infrastructure/asstmgmt. To obtain a print or digital copy of the *Asset Management Guide: A Focus on Implementation*, visit the AASHTO Bookstore at https://bookstore.transportation.org/Item_details.aspx?id=1757. *

Context Sensitive Solutions: A Call for Case Studies

Join the conversation about context sensitive solutions (CSS).

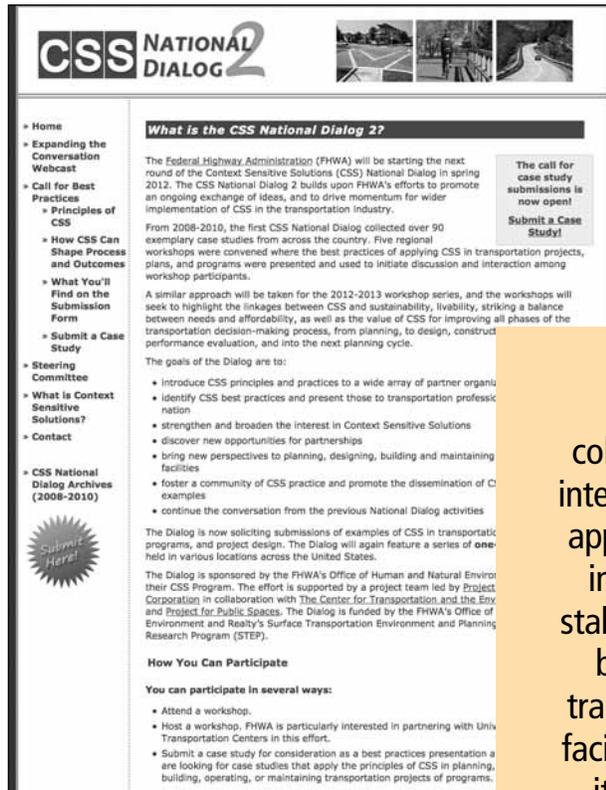
As part of the CSS National Dialog 2, case studies are now being accepted that demonstrate best practices in applying CSS principles to transportation projects, programs, and plans.

The Federal Highway Administration (FHWA) is looking for exemplary and innovative approaches that deliver context-driven outcomes by applying the CSS principles to the transportation decisionmaking process. Submissions are welcome from transportation agencies, planning agencies, community groups, and other organizations.

CSS is a collaborative, interdisciplinary approach that involves all stakeholders in building a transportation facility that fits its setting. This approach preserves and enhances scenic, aesthetic, historic, community, and environmental resources, while improving or maintaining safety, mobility, and infrastructure.

The CSS National Dialog 2 is sponsored by the FHWA Office of Planning, Environment, and Realty. It is supported by a team led by the Project Performance Corporation, in collaboration with the Center for Transportation and the Environment, Parsons Corporation, and the Project for Public Spaces. The Dialog is designed to:

- Deliver CSS principles and practices to a wide array of partner organizations.
- Strengthen and broaden the constituency for CSS.
- Discover new opportunities for partnerships.
- Bring new perspectives to the practice of planning, designing, building, operating, and maintaining transportation facilities.



To learn more about the CSS National Dialog 2, visit www.cssnationaldialog.org.

- Foster a community of CSS practice.

The Dialog will be conducted through a series of nine, 1-day workshops to be held across the country in 2012 and 2013. Each workshop will feature transportation initiatives that demonstrate CSS best practices, as well as provide a forum for discussion. The first CSS National Dialog collected more than 90 case studies from 2008–2010 and highlighted CSS best practices in five regional workshops. To download the final report and other materials from the first CSS National Dialog, visit www.cssnationaldialog.org/archive.asp.

CSS is a collaborative, interdisciplinary approach that involves all stakeholders in building a transportation facility that fits its setting.

To submit a CSS case study, visit www.cssnationaldialog.org/2/call.asp. Submissions will be accepted until June 15, 2012. To discuss any potential submissions or ask questions, send an email to cssnationaldialog@ncsu.edu or call 919-515-9351. For more information on the National Dialog, visit www.cssnationaldialog.org. Presentations from an April 11, 2012, Webcast that launched the CSS National Dialog 2 are available at www.cssnationaldialog.org/2/webcast.asp. To learn more about CSS, visit www.contextsensitivesolutions.org. *

FHWA Launches Online Policy and Guidance Center

Looking for up-to-date policy, legal, and guidance documents issued by the Federal Highway Administration (FHWA)?

The new online Federal-Aid Highway Program Policy and Guidance Center (PGC) is your one-stop shop (www.fhwa.dot.gov/pgc).

Users can browse documents by category, such as policy, guidance, legislation, and regulation, or topically by discipline, including construction, design, operations, pavement and materials, safety, and structures. Searchable cross-discipline topics include delegations of authority and policy information. Visitors can also look for documents using a cross-referenced, keyword search engine. A “What’s New” feature highlights recently posted documents and guidance.

To learn more about the PGC, consult the site’s “Quick Guide to the Center” and “User’s Manual,” which includes a list of Frequently Asked Questions. To start using the PGC’s many resources, visit www.fhwa.dot.gov/pgc. *



Visit www.fhwa.dot.gov/pgc for easy access to FHWA guidance and documents.

Tech Brief Examines Performance of PPA-Modified Asphalt Binders

Find the latest information on the use of polyphosphoric acid (PPA) as a modifier for asphalt binders in a new Tech Brief released by the Federal Highway Administration (FHWA).

The Use and Performance of Asphalt Binder Modified with Polyphosphoric Acid (Pub. No. FHWA-HIF-12-030) summarizes a 2009 workshop on PPA-modified asphalt performance sponsored by FHWA in cooperation with the Transportation Research Board and Minnesota Department of Transportation.

Since the implementation of asphalt binder specifications developed under the first Strategic Highway Research Program, suppliers have increasingly modified their asphalt binder to improve performance properties, including adding polymers, crumb rubber modifier, and PPA. The use of PPA, or other binder modifiers, is driven by suppliers using the most economical approach to meet all required performance specifications in a particular application. This has led to concerns about the performance characteristics of the PPA-modified binder and possible negative interactions with other mix components such as lime.

The Tech Brief explains the use of PPA in asphalt binder modification, including the effects of the binder source and interactions with other modifiers such as polymers. Information on mix performance will assist transportation agencies in understanding how PPA can improve performance, while a section on PPA and Moisture Damage Potential looks at how to mitigate any possible moisture damage. Past experience has shown that PPA increases the high temperature stiffness of an asphalt binder with only minor effect on the intermediate and low temperature properties.

Also presented are details on the field performance of PPA-modified binders.

In 2006, for example, the Arkansas Department of Transportation completed a major reconstruction of its Interstate system. The project used 6.7 million metric tons (7.4 million tons) of mix produced with modified asphalt binder, most of which included PPA. To date, only minor pavement distresses that are not related to the binder have been observed.

Information is also included on a workshop panel session where representatives from Arizona, Louisiana, and Wisconsin discussed their use of PPA. As the Tech Brief notes, “Each understands the concerns with PPA, but has had success by addressing performance properties as opposed to placing restrictive formulation specifications on the suppliers.”

To download the Tech Brief, visit www.fhwa.dot.gov/pavement/pub_details.cfm?id=737. For more information on the use of PPA-modified asphalt binder, contact John Bukowski in the FHWA Office of Pavement Technology, 202-366-1287 (email: john.bukowski@dot.gov). *



Highway Technology Calendar

The following events provide opportunities to learn more about products and technologies for accelerating infrastructure innovations.

Twenty-Ninth Annual International Bridge Conference (IBC)

June 10–13, 2012, Pittsburgh, PA

Sessions will highlight innovations in all aspects of bridge technology. Topics include long span bridges, construction, rehabilitation, accelerated bridge construction, design and evaluation, inspection and instrumentation, research, and special purpose bridges. Also featured are several seminars, including a Federal Highway Administration (FHWA) session on Load Rating of Short Span Bridges and Culverts and a seminar on Fracture Critical Bridge Inspection and Retrofit.

Contact: Visit www.eswp.com/bridge for additional information on the IBC.

Seventh RILEM International Conference on Cracking in Pavements

June 20–22, 2012, Delft, Netherlands

Conference topics spotlight the detection, prediction, and mitigation of cracking in pavements; laboratory and field model validation; and accelerated pavement testing. Organized by RILEM (the International Union of Laboratories and Experts in Construction Materials, Systems, and Structures), conference partners include FHWA and the American Association of State Highway and Transportation Officials (AASHTO).

Contact: Katherine Petros at FHWA, 202-493-3154 (email: katherine.petros@dot.gov), or visit www.rilem2012.org.

Forty-Ninth Annual Petersen Asphalt Research Conference

July 9–11, 2012, Laramie, WY

Organized by the Western Research Institute (WRI), the conference will present current research aimed at understanding and improving asphalt performance. Topics covered range from fundamental compositional research to applied field engineering. Attendees are invited to participate in an open mic discussion.

Contact: Steve Salmans at WRI, 307-721-2306 (email: ssalmans@uwyo.edu), or Jack Youtcheff at FHWA, 202-493-3090 (email: jack.youtcheff@dot.gov). Information is also available at www.petersenasphaltconference.org.

2012 Pavement Performance Prediction Symposium

July 12, 2012, Laramie, WY

Presented by WRI in cooperation with FHWA's Turner-Fairbank Highway Research Center, the symposium will take an indepth look at a single asphalt-related topic.

Contact: Steve Salmans at WRI, 307-721-2306 (email: ssalmans@uwyo.edu), or Jack Youtcheff at FHWA, 202-493-3090 (email: jack.youtcheff@dot.gov). More information on the selected topic will be available at www.petersenasphaltconference.org.

National Pavement Preservation Conference

August 27–30, 2012, Nashville, TN

The conference will feature best practices in pavement preservation and

information on new materials, equipment, and technologies. Participants can also observe demonstration projects showcasing preservation techniques for both asphalt and concrete pavements used across the country. Conference sponsors include AASHTO, FHWA, Foundation for Pavement Preservation, National Center for Pavement Preservation, and the National Association of County Engineers.

Contact: To learn more, visit www.nationalpavement2012.org.

2012 National Hydraulic Engineering Conference

August 28–31, 2012, Nashville, TN

The theme of the 2012 conference is “Flow Near, Under, and Over Roads: Optimizing Highway Hydraulics.” Presentations will highlight solutions to hydraulics challenges highway agencies face, including scour, stream stability, water quality, climate change, and modeling. Featured topics will include coastal engineering, stormwater quality, erosion and sediment control, flooding case studies, bridge and culvert hydraulics, and changes in watersheds. The conference is sponsored by FHWA, AASHTO, the Tennessee Department of Transportation, Transportation Research Board, and the U.S. Army Corps of Engineers Cold Regions Research Laboratory.

Contact: Cynthia Nurmi at FHWA, 404-562-3908 (email: cynthia.nurmi@dot.gov), or visit www.fhwa.dot.gov/engineering/hydraulics/conferences/120412.cfm.

continued on page 8 >

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Highway Technology Calendar,

continued from page 7

International Conference on Long-Life Concrete Pavements September 18–21, 2012, Seattle, WA

Organized by FHWA, in partnership with the National Concrete Pavement Technology Center, the conference will address concrete pavement design, construction, and materials technologies that result in long-life, sustainable concrete pavement. A mini-symposium on concrete paving

durability will be held on the final day of the conference.

Contact: Shiraz Tayabji at Fugro Consultants, Inc., 410-302-0831 (email: stayabji@aol.com), or Sam Tyson at FHWA, 202-366-1326 (email: sam.tyson@dot.gov). Conference information is also available at www.fhwa.dot.gov/pavement/concrete/2012conf.cfm. *

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