

## ***FHWA R&T Now*** ~ May 2012~

*A news update of research, technology, and development from the U.S. Department of Transportation (USDOT), Federal Highway Administration (FHWA)*

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### **GENERAL/ADMINISTRATIVE**

#### **TFHRC Explores Partnering through Cooperative Research and Development Agreements**

The Federal Highway Administration's (FHWA) Turner-Fairbank Highway Research Center (TFHRC) has been exploring partnerships with private industry through the use of Cooperative Research and Development Agreements (CRADAs) in a number of research areas, including pavement materials and structures. TFHRC recently posted a CRADA opportunity on the Federal Business Opportunities Web site, <https://www.fbo.gov/>. The opportunity, which closed May 23, 2012, sought partnering proposals in the area of advanced cementitious materials. CRADAs are unique technology transfer tools authorized by the Federal Technology Transfer Act that allow federal laboratories to work in partnership with U.S. industries, academia, and other organizations on cooperative research and development projects. Under a CRADA, TFHRC cannot provide funds, but can make research facilities, intellectual property, and expertise available for collaborative interactions to further the development of scientific and technological knowledge into useful, marketable products. CRADAs provide flexibility in leveraging resources and structuring project contributions, intellectual property rights, and in protecting proprietary information and CRADA research results.

For more information, contact Jodi Condes, 202-493-3173, [jodi.condes@dot.gov](mailto:jodi.condes@dot.gov).

#### **SHRP2 Implementation Update**

With over 50 percent of the research completed, the early results of the Second Strategic Highway Research Program (SHRP 2) are being readied for implementation. FHWA and the American Association of State Highway and Transportation Officials (AASHTO), with assistance from the Transportation Research Board (TRB), have extensively reviewed and prioritized the expected results of all the SHRP 2 research projects, and are developing a programmatic three-year implementation plan for the products identified as joint priorities. The three-year plan includes preliminary budget estimates and schedules for product readiness. For each of the priority products, FHWA and AASHTO will develop a collaborative, detailed implementation plan that establishes deployment goals, strategies, costs, and measures. FHWA program and technical staff are closely engaged in TRB's SHRP 2 pilots, training, workshops, and Webinars. This high level of involvement, which will expedite the transfer of knowledge from the researchers to the deployment agents and practitioners, serves to further refine or prepare these products for full-scale deployment.

For more information, contact Margie Sheriff, 202-366-1747, [margie.sheriff@dot.gov](mailto:margie.sheriff@dot.gov).

#### **TFHRC Shares Research Opportunities Via Webinar**

On May 10, 2012, the Office of Research, Development and Technology completed the last of five Webinars that communicated research opportunities to 22 University Technology Centers (UTCs). The purpose of the Webinars was to provide FHWA's perspective on national challenges and highway research priorities; offer the opportunity for UTCs to consider highway research priorities in their own research plans and initiatives; inform State research managers on priorities; and provide FHWA contacts for follow-

up communications and coordination. Each Webinar focused on one or more of the Department of Transportation's (DOT) strategic goal areas, and one Webinar covered policy and innovative financing. Participants included research managers and FHWA division research coordinators. TFHRC hosted the low-cost, low-travel Webinars with support of other headquarter offices and the Research and Innovative Technology Administration.

Presentations are posted at <http://www.fhwa.dot.gov/research/partnership/utc/2012webinar.cfm>.

### **European Visit Highlights FHWA Adaptation Research for Climate Change**

Twelve members from the Forum of European National Highway Research Laboratories (FEHRL), an international association engaged in road engineering research and related topics, visited the United States for a series of meetings focused on highways and climate change. Based in Brussels, FEHRL provides a coordinated structure for the interests of more than 30 European national research technical centers, and other associated institutes from around the world. On March 26, 2012, representatives of FEHRL visited FHWA's Turner-Fairbank Highway Research Center (TFHRC) to hear about current research, adaptation issues, policy activities, sustainability evaluation and planning, and infrastructure performance.

Visit <http://www.fhwa.dot.gov/research/resources/fehrl7.cfm> to read more about this event.

For more information about international research coordination and collaboration efforts, contact Debra Elston, (202) 493-3181, [debra.elston@dot.gov](mailto:debra.elston@dot.gov).

## **ADVANCED RESEARCH**

### **EAR Program Explores Dynamic Ridesharing in Three Cities**

Despite the success of dynamic ridesharing, sometimes called "slugging" or "casual carpooling," in several U.S. cities, it has been understudied by academics and transportation professionals. FHWA's Exploratory Advanced Research (EAR) Program is exploring how slugging works. The EAR Program is supporting qualitative research by assembling focus group participants from those who slug or casual carpool to work in three cities—Washington, DC, Houston, TX, and San Francisco, CA—to gain first-hand knowledge from both the drivers and riders about their experiences, practices, satisfaction, suggestions, and decisions to participate in slugging. The researchers will be developing a report summarizing the results of each of the focus groups as well as the lessons learned. In November and December 2010, the EAR Program supported a team consisting of transportation professionals, academic faculty, and business entrepreneurs who visited informal carpool lines (also called slug-lines or casual carpool lines) in the three cities to observe "sluggers" and compare practices. The team also met with private ride-match providers, regional planners, carpool participants, and transportation planners and engineers. The report from the scan team and focus groups will be available upon completion on the EAR Web page at <http://www.fhwa.dot.gov/advancedresearch/>.

For more information about the EAR Program, contact David Kuehn, 202-493-3414, [david.kuehn@dot.gov](mailto:david.kuehn@dot.gov). For more information about dynamic ridesharing, contact Allen Greenberg, 202-366-2425, [allen.greenberg@dot.gov](mailto:allen.greenberg@dot.gov).

### **EAR Program Publishes Fact Sheets on Projects that Advance Modeling of the Very Small and the Very Large**

Materials, structures, and sensors are the building blocks of transportation infrastructure. With so many potential applications, a fundamental understanding of the diverse physical properties is essential for effective ongoing monitoring and maintenance. fact sheet describes the EAR Program sponsored project,

“Nano Material and Simulation by New Multiple Length/Time Scale Theories and Algorithms,” which is being conducted by George Washington University and aims to develop a new approach to understanding the physical behavior of materials covering multiple length and timescales.

The growth of major metropolitan areas over the last century has resulted in the emergence of “mega-regions”—a large network of urban areas that often develop along major transportation routes. Expected to form an essential role in the future global economy, new analysis tools are needed to operate these mega-regional transportation networks efficiently. A new fact sheet describes the EAR Program sponsored study, “Mega-Regional Travel,” which is being lead by the University of Maryland.

To access these fact sheets visit <http://www.fhwa.dot.gov/advancedresearch/pubs/12029/index.cfm> and <http://www.fhwa.dot.gov/advancedresearch/pubs/12024/index.cfm>.

For more information, contact David Kuehn, 202-493-3414, [david.kuehn@dot.gov](mailto:david.kuehn@dot.gov).

## **INFRASTRUCTURE**

### **TechBrief: Construction Quality Assurance for Design-Build Highway Projects**

A majority of State transportation agencies use the design-build (DB) contracting method to deliver transportation projects. Documented benefits of DB include faster project delivery, improved constructability, less cost growth, early cost certainty, and fewer claims.

This TechBrief is available at <http://www.fhwa.dot.gov/publications/research/infrastructure/12039/index.cfm>.

For more information, contact Michael Rafalowski, 202-366-1571, [michael.rafalowski@dot.gov](mailto:michael.rafalowski@dot.gov).

### **TechBrief: Ultra-High Performance Concrete Composite Connections for Precast Concrete Bridge Decks**

Ultra-high performance concrete (UHPC) has been used to develop a novel composite connection detail for joining precast concrete bridge decks supporting superstructure elements. The results of the research effort and recommendations for the use of this connection detail are provided in this TechBrief.

The document is available at <http://www.fhwa.dot.gov/publications/research/infrastructure/structures/hpc/12042/>.

For more information contact, Ben Graybeal, 202-493-3122, [benjamin.graybeal@dot.gov](mailto:benjamin.graybeal@dot.gov).

## **SAFETY**

### **TRB/AASHTO Joint Roadside Safety Meeting**

The TRB/AASHTO Joint Roadside Safety Meeting will be held July 29 to August 2, 2012 at the Arnold and Mabel Beckman Conference Center in Irvine, California.

For more details and to register for the meeting, visit

<http://www.cvent.com/events/trb-aashto-joint-roadside-safety-meeting/event-summary-ad03f95c63c94cf080f19c296237b283.aspx>.

## RECENT PERIODICALS

### ***Public Roads—May/June 2012***

This issue includes: Making the Journey a Destination; Defense Access Roads; The Fast 14 Project; Learning from Japan's Ordeal; Where These Drivers Went Wrong; and Moving the Nation's Goods.

It is available online via <http://www.fhwa.dot.gov/publications/publicroads/12mayjun/index.cfm>

For more information, contact Paula Magoulas, [paula.magoulas@dot.gov](mailto:paula.magoulas@dot.gov).

### ***FOCUS Newsletter May 2012***

The May issue includes: Building a More Durable Asphalt Pavement: Workshop Presents Best Practices for Longitudinal Joints; FHWA to Host National Online Dialogue on Improving Transportation Performance; Advancing a New Era of Asset Management; Context Sensitive Solutions: A Call for Case Studies; FHWA Launches Online Policy and Guidance Center; Tech Brief Examines Performance of PPA-Modified Asphalt Binders; Infrastructure Innovation Webinars; Highway Technology Calendar; and, Coming Soon: *Focus* to Move Exclusively Online.

The issue is available online via <http://www.fhwa.dot.gov/publications/focus/12may/12may00.cfm>

For more information, contact Lisa Pope, [lgpope@woodwardcom.com](mailto:lgpope@woodwardcom.com).

### ***Innovator: Accelerating Innovation for the American Driving Experience—March/April 2012***

This issue includes: Q&A With Kirk Steudle: Accelerating Innovation to Meet Public Expectations; Seeing Is Believing, Utah Showcase on Bridge Innovation Shows; Massachusetts Bridge Project Makes 'Best Ideas' List; Temporary Bridges Save Time and Money on Mississippi River Crossing; States Try Precast Elements to Build Bridges Faster; New Manual Helps Agencies Make the Most of ABC Technologies; Scheduling Software Keeps Highway Agencies on Track for Project Success; and, Calendar.

The issue is available online via <http://www.fhwa.dot.gov/hfl/innovator/issue29.cfm>.

For more information, contact Kathleen Bergeron, [kathleen.bergeron@dot.gov](mailto:kathleen.bergeron@dot.gov).

### **Links:**

**Turner-Fairbank Highway Research Center:** <http://www.fhwa.dot.gov/research/>

**Resource Center:** <http://www.fhwa.dot.gov/resourcecenter/>

**National Highway Institute:** <http://www.nhi.fhwa.dot.gov/home.aspx>

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Suggestions may be submitted to: [FHWA\\_Now@fhwa.dot.gov](mailto:FHWA_Now@fhwa.dot.gov)