

Technology Today

Volume 25, Issue 2

Winter 2010

A publication of the Louisiana Transportation Research Center



In this Issue

Access to AASHTO Specifications and Test Procedures Now Online

1

Combined Searching of RiP and TRIS Now Available

2

Louisiana Transportation Conference Hosts Thank You

3

Lafayette Consolidated Government Seeks Advice on Superpave

4

LTRC Transportation Curriculum Council Meets

5

LTRC Hosts Southeastern Transportation Consortium

6

Recently Published

7

Staff Updates and Accomplishments

8

Upcoming Events

February 1

Chip Seal Seminar
Alexandria, LA

To view more events, please visit
<http://www.ltrc.lsu.edu>

Access to AASHTO Specifications and Test Procedures Now Online

LTRC's library continues to grow as the new database *Knovel Transportation Engineering Collection* has just been added to LTRC's online subscriptions. Sandy Brady, LTRC librarian and transportation research advisor, announced that, with the new database, users will gain access to AASHTO specifications and test procedures. With this new availability, this is now the preferred access for these documents, specifically for the MatLab and district labs across the state, since the new database provides ease of use, allows anywhere access, and supplies the necessary information at a lower cost than traditional hard copies.

The collection includes a number of key publications from AASHTO, such as:

- *Standard Specifications for Transportation Materials and Methods of Sampling and Testing*
- *AASHTO Provisional Standards*
- *AASHTO LRFD Bridge Design Specifications (5th Edition)*
- "AASHTO Green Book" *A Policy on Geometric Design of Highways and Streets*
- "MUTCD" *Manual of Uniform Traffic Control Devices*

The screenshot shows a web browser window displaying the Knovel website. The address bar shows the URL <http://www.knovel.com/web/portal/browse/subject/933/>. The page features a search bar with the text "search knovel" and a "Search" button. Below the search bar, there are navigation tabs for "Home", "My Knovel", "Browse", "Data Search", and "Tools". The main content area is titled "Browse" and shows a breadcrumb trail: "Browse by Subject >> Transportation Engineering >> Cargo Handling & Storage". Underneath, there are sub-sections for "Transportation Engineering" and "Cargo Handling & Storage". The "Cargo Handling & Storage" section lists several titles, including "Container Terminals and Automated Transport Systems - Logistics Control Issues and Quantitative Decision Support", "Guidelines for Chemical Transportation Risk Analysis", "Guidelines for Chemical Transportation Safety, Security, and Risk Management", "Guidelines for Safe Warehousing of Chemicals", "Hazardous Materials Compliance Manual", "Hazardous Materials Regulations Guide", "Intermodal Freight Transport", and "Shipping Company Strategies - Global Management under Turbulent Conditions". At the bottom of the page, there is a footer with copyright information: "© 2010 Knovel Corporation. All rights reserved." and a "Connect with Knovel" section with social media links for Facebook, Twitter, and LinkedIn, along with a "Sign up for our newsletter" form.

“Knovel provides enhanced content with interactive tables and graphs, allowing users to find and customize data similar to when using spreadsheet applications, such as Microsoft Excel. Features include selecting rows, sorting, finding data, and filtering data,” Brady explains. “Interactive graphs and equations allow you to input data, make calculations, plot points on a graph, save, and print the information that you have collected.”

While the database may be quite comprehensive, access is simple. In fact, anyone can have automatic access with a username and password. “Knovel allows for a customizable access with ‘My Knovel,’ which allows users to log in and access content from any online computer—not just those on the DOTD network, lets users save searches and content for future easy access, and permits users to share content with others.”

To log in, users can start at the LTRC home page, then go to the “Library/Information Services” page. The *Knovel Transportation Engineering Collection* page is linked there as well as key frequently used publications.

“Each database we subscribe to provides access to unique content. From TRB, we can access TRB publications, and from ‘My ASTM,’ we have access to the full set of ASTM standards—current and historical. The *Knovel Transportation Engineering Collection* adds access to over 110 publications from various publishers, of ‘technical information engineers need for the design, construction and upgrade of transportation systems.’ Now staff can quickly and easily access these documents right from their computers,” Brady explains.

Interested users can contact Sandy Brady at 225-767-9716 or sandra.brady@la.gov for questions regarding the new database and its features.

Have a research question or need help with a topic?

Sandy Brady has been assisting researchers and growing the LTRC library since it opened in 2008. Call, e-mail, or chat online at <http://www.ltrc.lsu.edu/library.html> for help in a number of areas.

■ RESEARCH ASSISTANCE

Assisting in literature reviews
Suggesting databases for research
Helping with search strategies

■ DOCUMENT RETRIEVAL

TTEC library
Libraries nationwide

■ NETWORKING

Open communication with other state librarians on commonly asked questions to better answer questions from local researchers

■ RESOURCE PROVISION

Adding necessary books and other publications to the physical library or by subscribing to them electronically

Combined Searching of RiP and TRIS Now Available

The American Association of State Highway and Transportation Officials (AASHTO) recently announced that database users of Research in Progress (RiP) and Transportation Research Information Services (TRIS) or TRISworld databases will now be able to search the two simultaneously.

This news is especially beneficial for researchers with LTRC and DOTD. Skip Paul, LTRC director, explains, “All researchers or research managers should conduct a TRIS/RiP search prior to meeting with the Project Review Committee the first time so that existing information can be considered in the formation of the research work plan/proposal or RFP.” Researchers will be now able to gather the same results with just half the time and effort.

Brady explains, “Researchers don’t have to go to each database separately to run the same search. Often researchers forget to search RiP. Hopefully this will make it a little more automatic.” Overall, with this new availability, the individual researcher will save time, LTRC potentially saves valuable resources if another agency is running the same or similar research, and other researchers can be identified for collaboration and/or sharing of information.

Lisa Loyo, manager of information services with AASHTO, explains, “To search TRIS or TRISworld and RiP simultaneously, start at either tris.trb.org or trisworld.trb.org. From the Simple Search interface, check the box below the search box to include projects from Research in Progress. On the Advanced Search interface, from the Result Type dropdown, list simply select ‘All Publications and Projects’ to search TRIS or TRISworld and RiP. To search only RiP select ‘Only Projects.’”

Loyo also notes the following when searching the databases simultaneously:

- *Projects from RiP are identified by “Project” at the beginning of the search result title.*
- *Persons field = author or editor in TRIS or TRISworld records; project manager or principal investigator for RiP records.*
- *Organizations field = corporate author, publisher, or availability agency in TRIS or TRISworld records; sponsor or performing agency in RiP projects; source organization for both reports and research projects.*
- *Identifier field = report number or contract number.*
- *Date Range field = published date for reports in TRIS or TRISworld and start date for projects in RiP.*

Louisiana Transportation Conference Hosts Thank You

LTRC and DOTD would like to thank all those who attended this year’s LTC, including speakers, vendors, and sponsors, who contributed to the success of this year’s conference, *Transportation: A Key to a Sustainable Future*. The biennial event drew a record number of attendees, innovative presentations, and some of the industry’s leading professionals to Baton Rouge’s River Center for four days of networking and technology transfer.

If you attended the conference and would like a copy of the session presentations, please fill out the conference evaluation form that you will receive by e-mail following the conference. Once the survey is complete, you will have access to all the presentations provided to LTRC by speakers from the technical sessions during the conference.

Be sure to check back for highlights from the conference in our spring edition of *Technology Today* as well as information on the 2013 conference. If you would like to download the entire conference program, browse photos, or read more about the featured speakers, please visit LTC’s Web site at http://www.ltrc.lsu.edu/ltrc_11/.



Lafayette Consolidated Government Seeks Advice on Superpave

4

In the last decade, Superpave asphalt has proven its importance and necessity as more states are implementing Superpave mixtures into their roads and highways. Superpave stands for Superior Performing Asphalt Pavement and represents an improved system for specifying the components of asphalt concrete, asphalt mixture design and analysis, and asphalt pavement performance prediction.



As Superpave gains popularity, LTRC has been consistent in testing and researching the material to discover how it should be best implemented in Louisiana roads. While the state began the transition to Superpave mixtures over 10 years ago, the city of Lafayette has recently taken notice of the material's success and potential for better road design options on their city roads.

As a result, the Lafayette Consolidated Government met with LTRC transportation officials and asphalt experts at a Superpave seminar to discuss the possibilities and benefits of implementing Superpave into Lafayette's hot mix design. Mitch Wyble, a representative of the Lafayette Consolidated Government and city engineer, explained, "We realize Superpave is coming into the era that we're in and if we don't get on board, we're going to be left behind." To best assist Lafayette, a modified version of the DOTD Superpave specifications that better fits municipalities than highway construction was presented to the group and then discussed during the seminar along with benefits and potential problems.



To give the group a better understanding of the material, Engineering Materials Characterization Research Facility (EMCRF) Manager and LSU Civil Engineering Professor Louay Mohammad presented a condensed lecture on the background of Superpave and gave a brief overview. Mohammad addressed the mix design process, the required purchasing of the Superpave Gyratory Compactor, additional research, and how to best implement the material (where Mohammad suggested the importance of committees, testing the material, and training contractors, material suppliers, and consultants). He also discussed and showed the performance

of Superpave on about 23 projects throughout the state in northern and southern regions with various traffic levels.

Throughout the rest of the seminar, questions were asked of the experts concerning how Superpave will alleviate problems Lafayette is facing and how to manage quality control of the material. The group also discussed the different potential levels of use and how to determine Superpave's uses specifically in Lafayette.

To wrap up the seminar, Mohammad took the group on a tour of the LTRC asphalt laboratory to get a better idea of Superpave's characteristics and equipment needed for implementation and testing.

For more information on Superpave pavements, please contact Louay Mohammad at 225-767-9126 or louaym@lsu.edu.

LTRC Transportation Curriculum Council Meets

The LTRC Transportation Curriculum Council (TCC) gathered at TTEC for their annual meeting on Wednesday, Sept. 1. LTRC and DOTD officials as well as industry partners met to discuss committee and training program changes, prior and projected classes for TTEC, the availability for external training programs, and workforce development, among others.

The LTRC Transportation Curriculum Council and related subcommittees serve to advise and assist LTRC administration in the identification, prioritization, development, evaluation, and implementation of transportation related technology transfer, training, work development, and educational services for the DOTD and its public and private transportation industry partners.

Dr. Eric Kalivoda, DOTD assistant secretary of planning and programming, opened the meeting by stating that the council is here for the workforce and to decide what steps need to be taken in the future. He explained, "We have a lot of work to do with the pressure of the tightening budget and staff cuts. DOTD has to do more with less while being respectful of people's time."

LTRC Director Skip Paul emphasized reaching outside of DOTD for the first time and the reorganization of PPM 47, a committee previously known as Technology Transfer Training Committee. Through this reorganization, subcommittees have been formed to determine what types of courses are needed for transportation engineers and professionals. The reorganization will also allow for better feedback from those the committees represent to make suggestions to council members. The new subcommittees will meet twice a year and will report findings and priorities to TCC.

Also, with the revision of PPM 47 comes changes to the Comprehensive Public Training Program (CPTP), a reduction in contracts and classes, and the possible elimination of Mindleaders (one of the industry's top e-learning and talent development producers) due to budgetary constraints.

During the meeting, the question of whether online training should be a part of required training was posed. Glynn Cavin, TTEC administrator, weighed in on this topic and discussed the opportunity to share information to the workforce by use of twitter, facebook, and LinkedIn since many incoming younger workers carry mobile devices. Cavin also addressed the importance of maximizing utilization of the building, collaborating to discuss making training more available to all staff, training centered on content to shift to student-centered, and improving accessibility.

Other topics of interest included the availability of AASHTO, National Highway Institute (NHI), Federal Highway Administration (FHWA), and Transportation Curriculum Coordination Council (TCCC) training programs coming to TTEC and the national effort to standardize training, using core curriculum matrix as a guide. Also, members discussed LTRC's workplace development plan that aims to partner with other agencies to try to increase employees' education and skills along with ways to improve the plan.

The half-day meeting concluded as duties and roles of selected chairs were recognized and the newly formed subcommittees were asked to complete a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis based on their area for training for their first meeting, which is likely to be scheduled for May 2011.

LTRC Hosts Southeastern Transportation Consortium



The second annual meeting of the Southeastern Transportation Consortium (STC) meeting was held in Baton Rouge, LA on October 5-7, 2010, at the Louisiana Transportation Research Center. Lead state Louisiana hosted the consortium, which was initiated through the FHWA Transportation Pooled Fund (TPF) Program. The goal of STC aims to pool financial, professional, and academic resources to coordinate research and develop improved methods of addressing common problems in the planning, design, construction, maintenance, management, and operation of transportation systems in participating states.

The member states in attendance for this year's meeting included Louisiana, North Carolina, Georgia, Kentucky, and Mississippi.

During the three-day meeting, members discussed topics ranging from the business charter, state research programs, high-ranked research need statements, successful research implementation strategies, and other opportunities for fund collaborations.

A particular topic of interest included the review of the STC project database and Web site. The beginning stage and potential functions of the database were presented. Members then discussed the current and future value of the database and the opportunity it will serve within their own organizations. While the database is not yet complete, all those in attendance approved the continuation of the site's development and maintenance. Also, after reviewing current transportation consortium Web sites, the group approved the use of STC funds to develop a Web site specific to STC that will contain basic consortium information and access to the STC project database. The site will be expanded as additional project information is available.

Another important portion of the meeting included the discussion on the value of funding regional synthesis projects. The group focused on determining scopes for the projects, funding options, and approval. The

board also established a topic identification process that included a review of the STC database and high-ranked research projects. Finally, the process for selecting principal investigators was finalized.

The consortium concluded on Thursday, Oct. 7 as topical presentations were discussed, including support for National Cooperative Highway Research Program (NCHRP) problem statements, benefits of belonging to the Transportation Knowledge Network, and the advantages of using SharePoint (a family of software products developed by Microsoft for collaboration, file sharing, and web publishing).

Recently Published



Final Report 459 and Technical Summary 459
Reference Measurements of Pavement Management System Roadway Elevations
J. Anthony Cavell, PLS, CFedS, and Roy Dokka, Ph.D.

Final Report 464 and Technical Summary 464
Application of Satellite Imagery for Surface Rain Rate Estimation
Shih A. Hsu and Brian W. Blanchard

Project Capsule 04-4B
Development of a Design Methodology for Asphalt Treated Base Mixtures
Louay Mohammad, Ph.D., and Munir Nazzal, Ph.D.

Project Capsule 04-6B
Characterization of Louisiana Asphalt Mixtures Using Simple Performance Tests and MEPDG
Louay Mohammad, Ph.D.

Project Capsule 07-6P
Evaluation of Current Louisiana Flexible Pavement Structures Using PMS Data and New M-E Pavement Design Guide
Zhong Wu, Ph.D., P.E.

Project Capsule 08-2ST
Monitoring Bridge Scour Using Fiber Optic Sensors
Steve Cai, Ph.D., P.E.

Project Capsule 10-2C
Validation of Correction Factors for Concrete Coefficient of Thermal Expansion
Hak-Chul Shin

Project Capsule 10-3GT
Design Values of Resilient Modulus of Stabilized and Non-Stabilized Base
Khalil Hanifa, E.I.

Project Capsule 10-4P
Development of Cost-effective Pavement Treatment Selection and Treatment Performance Models
Mohammad Jamal Khattak, Ph.D., P.E.; and Emad Habib, Ph.D., P.E.

Project Capsule 11-2B
Evaluation of Dynamic Shear Rheometer Tests for Emulsions
Nazimuddin Wasiuddin, and William “Bill” King, Jr., P.E.

Staff Updates and Accomplishments

LTRC is pleased to welcome **Benjamin Hays**. Benjamin joins the LTRC staff in the pavement unit as an engineering technician 2 and can be reached at 225-767-9120.

Associate Director of External Programs **Vijaya (V.J.) Gopu, Ph.D., P.E.**, served on three National Science Foundation (NSF) site visit teams that reviewed the Network for Earthquake Engineering Simulation (NEES) Headquarters at Purdue University and the NEES equipment sites at the University of Texas-Austin and University of California – Los Angeles in September 2010. Dr. Gopu also served on a NSF Research Experiences for Undergraduates (REU) Site Proposal Review Panel in Washington, D.C. in November 2010.

Dr. Gopu also assisted in hosting a workshop on Effective Proposal Writing to LSU faculty on October 13, 2010 with LSU Professor Roger Seals.

Engineering Materials Characterization Research Facility (EMCRF) Manager and LSU Civil Engineering Professor **Louay Mohammad, Ph.D.**, presented a keynote lecture titled *Mechanistic Characterization of Sustainable Materials for Pavement Infrastructure* at the 23rd Rhode Island Transportation Forum held on October 29, 2010 at the University of Rhode Island. The theme of the forum was *Sustainable Transportation Infrastructure and System for Globalization*.



Follow us at www.twitter.com/LTRC_Updates.
Find us on facebook at <http://www.facebook.com>.

This public document is published at a total cost of \$779.00. One thousand copies of the public document were published in this first printing at a cost of \$779.00. The total cost of all printings of this document, including reprints, is \$779.00. This document was published by Copies Too, Printing and Copying, 5251 Nicholson Drive, Baton Rouge, to report on the research and training of the Louisiana Transportation Research Center, as required in R.S. 48:105. This material was duplicated in accordance with standards for printing by state agencies, established pursuant to R.S. 43:31. Printing of this material was purchased in accordance with the provisions of Title 43 of the Louisiana Revised Statutes.

Technology Today Publication Statement

Technology Today is a quarterly publication of the Louisiana Transportation Research Center, administered jointly by the Louisiana Department of Transportation and Development and Louisiana State University. For additional information on material included in this newsletter, contact the public information director at 225.767.9183.

**Louisiana Transportation
Research Center**
4101 Gourrier Avenue
Baton Rouge, LA 70808-4443

Harold “Skip” Paul, P.E.
Director

Mark Morvant, P.E.
Associate Director
Research

Sam Cooper, MSCE, P.E.
Associate Director
Technology Transfer and Training

Vijaya (VJ) Gopu, Ph.D., P.E.
Associate Director
External Programs

Glynn Cavin, Ph.D.
Technology Transfer and
Training Administrator

Jenny Speights
Public Information Director

Nick Champion
Photographer

Emily Wolfe
Multi-Media Specialist

Jenny Gilbert
Editor/Technical Writer