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Upcoming Events

February 1
MATHCOUNTS
TTEC

March 11-15
Northwestern Traffic Engineering Workshop
TTEC

April 3
Roads Scholar #13(a)-Bridge Maintenance & Repair
TTEC

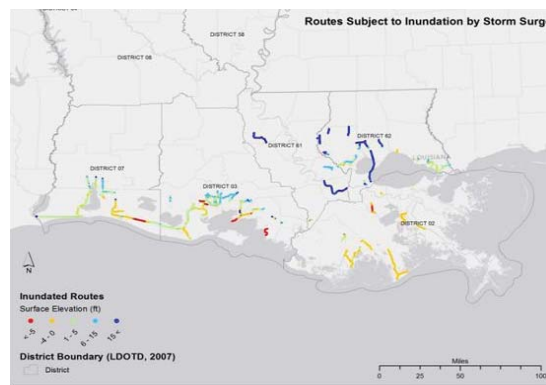
To view more events, please visit
<http://www.ltrc.lsu.edu>

Study Identifies Key Factors in Flooding to Improve Evacuation Routes

It's no secret that road flooding is a serious operational hazard for low-lying areas of south Louisiana and proves to be especially true for emergency evacuation routes, which must be accessible for coastal residents evacuating ahead of an approaching hurricane or tropical storm. So in order to alleviate hazards associated with flooded evacuation routes, DOTD sought to develop a proof of concept model to synthesize the flood hazards for emergency evacuation road segments in south Louisiana.

Through an LTRC study led by Joshua D. Kent, Ph.D., entitled "Quantifying the Key Factors that Create Road Flooding," Louisiana State University (LSU) Center for GeoInformatics (C4G) researchers evaluated commonly flooded road segments on state-maintained highways; explored the numerous factors that contribute to the hazards of road flooding (vulnerability and risk relative to vehicle type, road elevations, tidal ranges, wave action, and storm surge); and developed a deterministic,

scenario-based flood inundation model for DOTD to utilize using existing DOTD road databases, national storm surge models, and external weather related links to create a near real-time planning instrument to determine potential inundation levels.



In addition to the flood model, researchers were able to provide emergency managers and decision-makers a map of these high-risk

road segments attributed with estimated inundation heights, road surface elevations, storm surge estimates, links to tidal and wave action data sources, and vehicle vulnerability assessments. The map and supporting data will act as simple planning software for identifying road segments at risk from flooding and hopefully provide better evacuation routes to those residents at risk as storms arise in the future. The prototype software was available during Hurricane Isaac and recommendations for further refinements could expand the tool into a more real-time operational tool.

Local Schools to Build Interest in Transportation through RIDES & TRAC Programs

In an effort to foster interest in the transportation field, DOTD and LTRC have recently joined an AASHTO education outreach program called RIDES (Roadways Into Developing Elementary Students) and TRAC (Transportation and Civil Engineering). The RIDES program is designed to interest K-8 students in transportation careers while improving their math and science skills. Students will utilize critical thinking skills to solve real-world problems and learn about careers in the transportation industry, especially civil engineering. The TRAC program consists of eight self-contained education modules featuring professionally developed curricula that meet the national standards for STEM and the core curriculum. Each module contains a teacher reference guide, a volunteer guidebook, a movie showing how each activity works, and the equipment, software, and supplies needed to perform up to 75 hands-on activities, related to: bridge design, highway safety, city planning, magnetic levitation, environmental design, traffic technology, and magnetic levitation.

To kick off the state's involvement, Materials Research Administrator Bill King, P.E., and LTRC Training Events Program Manager Mary Leah Coco, Ph.D., were guest speakers and utilized RIDES curriculum in Miss Gina Spatafore's Parkview Baptist School's pre-kindergarten class on Friday, November 30th. Miss Spatafore's class studied various aspects of transportation for a week and concluded their studies with two experiments focusing on transportation. The first experiment taught students about velocity through the use of a beach ball, ramp, and measuring squares. The beach ball was inflated at different rates and rolled down the ramp at these various rates to demonstrate to the students that the more air that was in the beach ball, the faster the ball would roll down the ramp. The students measured where the ball stopped each time it rolled the down the ramp. The second experiment involved pouring water through a sample of porous asphalt. King and Coco talked with the students about why it is important for water to move through the asphalt versus staying on the surface.



This is just the beginning of many more similar lessons that will take place across the area's classrooms. As part of the program, teachers attend two days of high-energy training conducted by National Board Certified Teachers. This module contains a curriculum as well as a large trunk of resources for teachers to use in the classroom to conduct the activities.

LTRC hosted the latest training workshop on December 10 and 11 as teachers from Parkview Baptist, Zachary High School, McKinley Senior High, Scotlandville Magnet High, Kenilworth Science and Technology, Northwestern Middle, Upper Pointe Coupee Elementary, and Rollins Place Elementary were in attendance. Teachers learned strategies for implementing the activities across grade levels, conducted various experiments, networked with other teachers involved in both the RIDES and TRAC programs, learned computer programs like Bentley and Sim City 4, and were even taught how to integrate these concepts into other areas of school like language arts.

To learn more about Louisiana's involvement with RIDES and TRAC, please contact Mary Leah Coco at maryleahcoco@la.gov or 225-767-9167.



LTRC's David Jumper gets pulled into the demonstration



Japan Seeks Knowledge from DOTD on Disaster Management Techniques

The National Institute for Land and Infrastructure Management (NILIM) has recently begun a three-year project on “Risk and Crisis Management Strategy for Excessive and Multiple Actions of Natural Disasters.” In an effort to gain more understanding on this topic, researchers from Japan traveled to the U.S. to visit officials from FEMA and FHWA as well as researchers and emergency preparedness experts in Louisiana. Japanese researchers, which included Shigeki Unjoh, Dr. Eng., project leader, and Kazunari Matsuoka, met with Louisiana engineers, researchers, professionals, and officials at TTEC on Thursday, December 6 to discuss strategies, techniques, and current processes that Louisiana takes during these extreme events.

Local speakers during the seminar included Christopher Guilbeaux, the senior operations officer at the Governor’s Office of Homeland Security and Emergency Preparedness, who explained the emergency management process in Louisiana. Chief Mike Park with the Task Force Hope of the U.S. Army Corp of Engineers discussed what improvements were made to the Hurricane Storm Damage Risk Reduction System that defends New Orleans from hazardous storm surges. He also discussed the national

response framework for disaster response and the Corps’ role in that. LSU Professor and Director of the Gulf Coast Center for Evacuation and Transportation Resiliency Brian Wolshon concluded the presentations when he discussed evacuation research conducted by the center.

Based on the lessons learned from the destructive damage caused by the 2011 Tohoku earthquake, the research objective of the NILIM report is to improve Japan’s emergency management capability (preparedness and responses) against extreme natural disasters (earthquake, heavy rain, flood, volcano, slope failure, etc.). Researchers wanted to learn how the U.S. prepares to manage such natural disasters. They explained, “We understand that the U.S. has advanced system/technology for such disaster management, and that remarkable improvement has been made after the 2005 Hurricane Katrina as well as other extreme disasters including earthquakes, hurricanes and tornados.”

The focus of the study is on the national/ local disaster management system including organizations (government, NGO, private, and the cooperation); responsibilities; development policy of infrastructures to mitigate disasters (for design and extreme events); new concepts and technology; and ongoing research.



Louisiana Transportation Conference Approaching

The upcoming Louisiana Transportation Conference, *Partnerships for Progress in Transportation*, is gearing up as it prepares to bring together over 1,500 attendees from across the nation. While at the conference, attendees can expect to learn about innovative transportation technologies and experience many professional development opportunities. This year's conference will be held February 17-20, 2013, at the River Center in Baton Rouge, La. The conference's preliminary program is available online at http://www.ltrc.lsu.edu/ltc_13/program.html.

Sponsorships Still Available

The Louisiana Transportation Conference is a unique opportunity for transportation professionals from government, academia and private industry to exchange ideas and information relative to transportation policy, practice, and problems.

Your sponsorship support will help defray the cost of hosting this event and allow for more networking opportunities with other transportation professionals. Tiered sponsorship packages are described at http://www.ltrc.lsu.edu/ltc_13/sponsors.html.

Thank you to our current conference sponsors!

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Download the App

Attendees can now download the new LTC app to better navigate this year's conference by scanning below:



iPhone



Android

Visit http://www.ltrc.lsu.edu/ltc_13/app.html, for more information on the LTC 2013 app.

Exhibitors Welcome!

The 2013 LTC Vendor Exhibition will be held February 18-20, 2013. If you are interested in purchasing a booth, please visit: http://www.ltrc.lsu.edu/ltc_13/exhibitor.html. Our current exhibitors for 2013 include:

1. ARCADIS
2. Advanced Mobile Asset Collection
3. American Council of Engineering
4. Big River Industries
5. Blacklidge Emulsions, Inc.
6. Cardno TBE
7. Concrete & Aggregates Association LA
8. Contractors Paving Supply
9. Electrotechnics Corp (ELTEC)
10. Eustis Engineering Services, LLC
11. FENSTERMAKER
12. Fugro Consultants
13. G.E.C., Inc.
14. GeoEngineers, Inc.
15. Geopeir
16. InfoTech, Inc
17. John Thomas, Inc.
18. LTM
19. Marketing Associates, Inc.
20. Michael Baker Corporation
21. MOBA Corp
22. NAUE America, Inc.
23. Protection Services, Inc.
24. Skidabrader
25. Southern Traffic Services, Inc.
26. Stanley Consultants, Inc.
27. Surdex Corp.
28. Sweeping Corporation of America, Inc.
29. Terracon
30. Transpo Industries, Inc.
31. TXI Expanded Shale
32. Uretek USA, Inc.

LPESA Fall Conference Features Multi-Faceted Program

by Nick Verret

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The Louisiana Parish Engineers and Supervisors Association annual fall conference, held on September 13, 2012, at the Transportation Training and Education Center (TTEC), provided attendees with technical sessions that covered a wide range of topics relating to many different aspects of their work as local public works professionals.

Besides the usual fare of sessions relating to legislative updates, off-system bridges, pavement rehabilitation, and asphalt specifications, this conference also featured such diverse topics as DOTD's railroad grade crossing closure initiative, the Louisiana historic bridge inventory project, and online training opportunities that are available from the American Public Works Association.

TTEC Administrator Glynn Cavin, Ph.D., gave a presentation on the new future transportation workforce initiative that is designed to make young people aware of career opportunities in the transportation industry, and Ann Wills, DOTD director of Local Agency Programs, updated the group on the new LPA Qualification Core Training program. Mary Stringfellow of FHWA also spoke to the group about the initiatives that will be addressed under the

second round of Every Day Counts, and she provided information relative to the new federal transportation bill known as MAP-21. One of the topics of keen interest to the group was an update on the public bid law by Michael Vallan, assistant state attorney general, which featured an enlightening Q-and-A session

As always, the LPESA fall conference also provided attendees with networking opportunities, as well as a great lunch provided by associate member Louisiana Asphalt Pavement Association, and, of course, door prizes. Overall, the participants rated the conference as providing very useful information relative to their job, and the feedback continues to be very positive relative to the length of the conference, with the overwhelming majority preferring the one-day format that has been utilized in recent LPESA conferences.

The LPESA Conference Program Committee wishes to thank all the presenters and others who assisted in helping make this conference a success! Also, please note that next year's spring conference is scheduled for May 16, 2013, at a location to be determined. Be sure to mark your calendar and plan now to attend!

Staff Updates and Accomplishments



LTRC employees dressed up on Halloween to honor Smith's last day with the center.

LTRC would like to congratulate **Gordon Smith**, former management development program manager, on his recent retirement. Smith began his career with the State of Louisiana in 1983 at the Department of Labor and then moved to the Department of Civil Service until 1986. In 1986, he moved to the Ethics Administration and then a year later went back to Civil Service as a test development specialist. He spent a short time at the Division of Administration before moving to DOTD where he spent the next 21 years working in training. Smith spent the majority of his time at DOTD as a program manager for the Leadership – Management Development Training Program. He created an Access database that he used to process, schedule, and track training for thousands of department employees. He also managed a yearly contract with LSU and worked with CPTP to provide classes for his program.

Staff Updates and Accomplishments (continued)

Senior Geotechnical Research Engineer **Gavin Gautreau, P.E.**, was recently awarded the Andrew M. Lockett Medal for Civic Activities from the Baton Rouge Chapter of the Louisiana Engineering Society (LES). Gautreau along with other LES winners will be formally introduced at the E-Week banquet held in February 2013.

LTRC Associate Director of External Programs **VJ Gopu, Ph.D., P.E.**, served on the NSF Site Visit Teams to review the NEES Equipment Sites at the University of California – Berkeley and the University of Illinois – Urbana/Champaign, and the NEES Headquarters at Purdue University.

Recently Published

Project Capsule 13-3ST

Effects of Hydrokinetic Turbines on Mississippi River Infrastructure

Clinton S. Wilson, Ph.D., P.E.

Project Capsule 12-4PF

Synthesis of Research Results: Regional Implementation of Warm Mix Asphalt

Ronnie Clark Graves, P.E., P.G.

Technical Summary and Final Report 496

Evaluation of Surface Resistivity Measurements as an Alternative to the Rapid Chloride Permeability Test for Quality Assurance and Acceptance

Tyson Rupnow, Ph.D., P.E., and Patrick Icenogle, P.E.

Technical Summary 409

Evaluation of Stone/RAP Interlayers Under Accelerated Loading
Louay Mohammad, Ph.D.



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To view a complete list of LTRC publications, visit the website at www.ltrc.lsu.edu.

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