

Technology Today

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LTRC

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Upcoming events

- 10/2/06-10/6/06
NW Univ Seminar: Traffic and Transportation Engineering
TTEC Room 100
- 10/9/06-10/13/06
NW Univ Seminar: Traffic Engineering Tech Assistants
TTEC Room 100 and Room 175
- 10/16/06-10/20/06
LRFD for Hwy Bridge Superstructures: Steel and Concrete
TTEC Room 175
- 10/23/06-10/27/06
NW Univ Seminar: Traffic Engineering Tech Assistants
TTEC Room 100 and Room 175
- 10/31/06
Heavy Equipment Operations: Safety and Preventive Maintenance
TTEC Room 100
- 11/13/06-11/17/06
LRFD for Hwy Bridge Superstructures: Steel and Concrete
TTEC Room 175
- 11/28/06-11/29/06
Principals of Writing Highway Construction Specifications
TTEC Room 175

LTRC Reorganization Takes Effect

LTRC has recently implemented an administrative reorganization, which is illustrated in the organizational chart below. In the past, LTRC has had two Associate Directors—one responsible for the Research section and one for the Technology Transfer section. Both areas will now report to a single Associate Director, and the newly created Workforce Development Administrator position will serve as the appointing authority for Section 33, Tech Transfer and Training. These two new positions were filled over the summer.

Morvant Named Associate Director

Effective May 24, 2006, Mark Morvant was appointed as LTRC's Associate

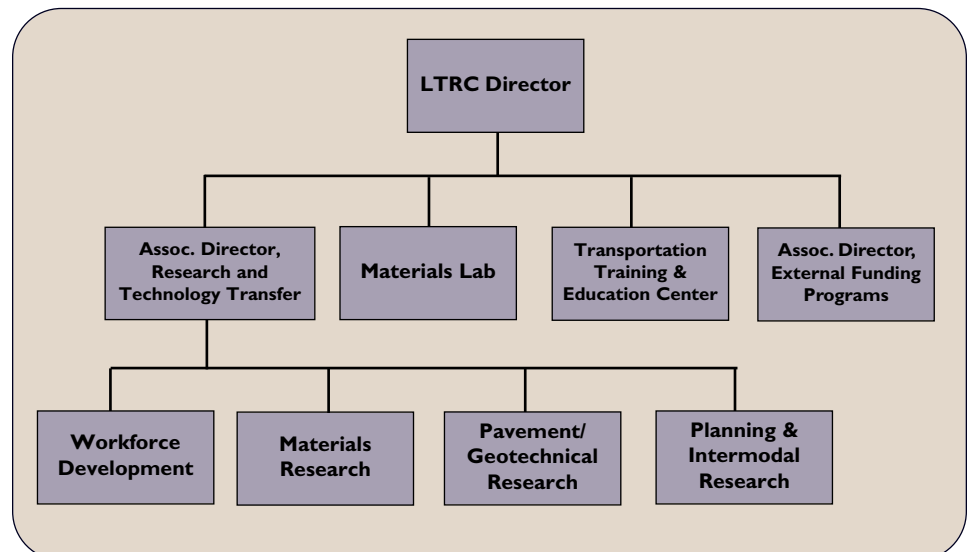
Director of Research and Technology Transfer. Morvant had been detailed to the Associate Director, Tech Transfer position since February 2005.

Morvant was LTRC's Pavement and Geotechnical Research Administrator from 2001 to 2005, and his past experience includes 14 years in the pavement and geotechnical design section, 5 years in geotechnical research, and 1 year in construction.

Cooper Appointed Workforce Development Administrator

Effective July 24, 2006, Sam B. Cooper, Jr., was named as LTRC's new Workforce Development Administrator.

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Louisiana Takes Advantage of FHWA's Innovative Bridge Research and Construction Program

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What is the IBRC program?

The Innovative Bridge Research and Construction program, or IBRC, is an initiative of the Federal Highway Administration (FHWA). Its purpose is to provide direction and funding to help state, county, and local bridge owners incorporate innovative materials and materials technologies in their bridge projects. The intent of the program is to reduce congestion associated with bridge construction and maintenance projects, to increase productivity by lowering the life-cycle costs of bridges, to keep Americans and America's commerce moving, and to enhance safety. The IBRC program is administered by FHWA's Office of Bridge Technology, Infrastructure Core Business Unit. (Source: FHWA Web site, www.fhwa.dot.gov/bridge/ibrc)

Has Louisiana benefited from this program?

Yes—Louisiana's 2005/2006 award list is the largest since the state began participating in the IBRC program, which started over 10 years ago. Funds are awarded on a yearly basis, but Louisiana has not always fully taken advantage of this opportunity. Louisiana's first award from the IBRC in the sum of \$400,000 was spent on replacing a severely rotted and decayed timber fender system with a Fiber Reinforced Polymer (FRP) system.

In its support for research in Louisiana, the LADOTD Bridge Design section requested that LTRC manage this program. In 2003, Louisiana took a new approach when LTRC started soliciting related research applications from Louisiana universities. After the applications are submitted to LTRC, a joint LTRC-Bridge Design group ranks the applications based on LA DOTD's needs. Applications are then sent to the FHWA-LA office where they are submitted to the FHWA for assessment and ranking. Since LTRC assumed management of the program, applicant participation and Louisiana's rate of award have increased because of the cooperation between the FHWA-LA office, LADOTD Bridge Design Section, and LTRC.

In the first year, three applications were submitted and one awarded; the following year, four applications were submitted and one was awarded. For fiscal year 2005/2006, a record twelve applications were submitted and four awarded for a total of \$1 million.

The awarded projects are briefly described as follows:

Bridge Deck Replacement Using FRP Materials

The objective of this study is to replace a deteriorating steel deck grating with an FRP Deck. The new deck will be instrumented with strain gauges for long-term monitoring.

Louisiana's 2005/2006 award is its largest since the state began participating in the IBRC program.

Year	Topic Awarded	Amount
2003-2004	Bridge Deck Replacement Using FRP Materials	\$400,000
2004-2005	Development of Advanced Grid Stiffened (AGS) FRP Tube-Encased Concrete Columns	\$225,000
2005-2006	Monitoring System for Bridges Subject to Heavy Loads	\$200,000
	Total Prefabricated Bridge for Rapid Construction Using Advanced Materials	\$200,000
	Use of Fiber Reinforced Polymer (FRP) Bars in Highway Concrete Bridges	\$200,000
	Integral Abutment Bridge for Louisiana's Soft Soil	\$400,000

Development of Advanced Grid Stiffened (AGS) FRP Tube-Encased Concrete Columns

The objective of this project is to develop a formwork-free, steel-free, maintenance-free, high strength, and high ductility Advanced Grid Stiffened (AGS) Fiber Reinforced Polymer (FRP) tube-encased concrete column (AGS ECC) to meet the needs of new construction of bridge piers/piles or replacement of damaged piers.

Monitoring System for Bridges Subject to Heavy Loads

The objective of this research is to develop an integrated system for monitoring live loads and verifying the live load carrying capacity of highway bridges in Louisiana that have experienced significant damage from trucks hauling timber and sugar cane. The data collected by the proposed monitoring system will be shared and incorporated with systems at Rutgers University, the University of Cincinnati, and other infrastructures.

Sharing and comparing data from different parts of United States will allow the studies to verify the bridge rating practices and policies for overweight vehicles and the load factors as stated in AASHTO design recommendations.

Total Prefabricated Bridge for Rapid Construction Using Advanced Materials

The goals of this project are to implement the best practices in bridge design and construction in order to reduce the impacts of construction projects on the end users and the traveling public. Researchers will conduct literature reviews and then select and develop a technique for implementation in total prefabricated bridge systems for rapid bridge construction. This research will focus on the design and construction of bridge substructure, superstructure, and contract issues.

SGMP Awareness Meeting Held at TTEC

The Society of Governmental Meeting Professionals (SGMP) is a non-profit professional organization of persons involved in planning governmental meetings—either on a full or part-time basis—and those individuals who supply services to government planners. The society's objectives are to improve the quality and promote the cost-effectiveness of government meetings. Established in 1981, SGMP now has over 3,000 members and 26 chapters nationwide. Although it is not mandatory, chapter affiliation is encouraged so that members can realize the full benefits of SGMP's educational and networking opportunities.

Sandy Romero, DOTD's Training Events Manager, is a member of the society. Along with Stefan Maronge, National Sales Manager of the Astor Crowne Plaza in New Orleans, she is working to initiate the formation of a Louisiana Chapter of the SGMP. Currently, the closest chapters are the North Texas and Texas Lone Star Capital Chapters.

A Louisiana Chapter awareness meeting was held in June at TTEC. Ruth Harris, SGMP First Vice President, attended the gathering to discuss the history of SGMP, chapter formation guidelines, how to form a chapter steering committee, and various other chapter formation matters. Harris is a meeting planner for the Centers for Disease Control and Prevention in Atlanta.

A chapter must have 45 members to be recognized by SGMP, and each chapter must maintain a balance of planners and suppliers. Suppliers are organizations providing facilities and services to government planners. These organizations may include hotels, travel services, convention and exhibition services, trade publications, and caterers, among others.

At the awareness meeting for the Louisiana Chapter, Maronge was chosen as the steering committee chairperson. Membership, finance, and program subcommittee chairs were also selected and future meeting topics discussed. The Louisiana Chapter's goal is to be chartered at the 2007 SGMP annual meeting next May.

For more information on joining SGMP and becoming active with the Louisiana Chapter, please contact Sandy Romero at (225) 767-9167 or SandraRomero@dotd.la.gov.



Ruth Harris and Stefan Maronge field questions from potential SGMP members.

2007 Louisiana Transportation Engineering Conference: “Navigating the Waves of Change”



Plans are in full swing for the upcoming 2007 Louisiana Transportation Engineering Conference, which will be held February 11-14, 2007, at the Baton Rouge River Center. The 2006 conference was postponed due to the after-effects of Hurricanes Katrina and Rita. Committees originally assigned for the 2006 conference have met over the summer to re-start the planning process.

The conference is held on a biennial basis to foster a better relationship and understanding among DOTD, FHWA, and the transportation industry (contractors, consultants, universities, suppliers, parish/local agencies) by providing for interchange between the public and private sectors relative to transportation policy, practice, and problems. It provides a forum for interchange among DOTD

personnel and the public and private sector to allow the DOTD Secretary and other DOTD administrative officials an opportunity to relate their vision, direction, and expectations.

The conference also provides for the educational enhancement of the transportation engineering community by relating the engineering activities, progress, and special projects of the department; as well as presenting information on innovative technologies, and offering professional development opportunities. Conference attendees can receive credit for up to 16 Professional Development Hours (PDH), including one hour in Professional Ethics required biennially for Professional Engineers.

For the 2007 conference, the Program Committee has planned nearly 60 technical sessions, several how-to clinics, and alternative sessions dealing with various management and workplace issues.

A conference Web site with online registration will be available in September (http://www.ltrc.lsu.edu/tec_07/). As the conference draws closer, program information will be available on the site as well.

Staff News

Chris Abadie, Materials Research Administrator, spoke to the American Concrete Paving Association of Oklahoma and Arkansas on August 15 in Little Rock regarding the Louisiana highway recovery from Hurricanes Katrina and Rita.

Former LTRC Policy Committee member and LSU Georgia Gulf Distinguished Professor Emeritus **Mehmet Tumay** was recently honored by his peers at the GeioShanghai International Conference for his contributions to the field of geotechnical engineering. The conference was held in Shanghai, China, June 6-8.

Tumay was honored by colleagues and former students for his professional vision, rigor and integrity as an educator. He was commended for his vision and leadership in creating a nationally and internationally recognized geotechnical engineering program at LSU, as one of the many highlights of his professional career. He also contributed to the field during his year of service to the National Science Foundation, Transportation Research Board, U.S. Universities Council for Geotechnical Education and Research and Geotechnical Institute of American Society of Civil Engineers, or ASCE.

Tumay served as a charter member of the Academic Research Council of the Civil Engineering Research Foundation, or CERF, and represented the Louisiana Transportation Research Center on the National Council for Civil Engineering Research of CERF. He was selected as LSU's recipient of the Louisiana Engineering Foundation Faculty Professionalism Award for 2001. His scholarly activities include more than 150 published scientific articles and contributions to numerous conferences and symposia. He has presented invited papers worldwide on technical topics and general research, education and policy issues in geotechnical engineering, and general civil infrastructure.

LTRC Reorganization (continued from page 1)

Cooper received a B.S. in Civil Engineering from LSU in 1980, and then began his DOTD service in District 08 Construction. After obtaining his PE license in 1984, Cooper was promoted to Project Engineer in District 08, where he served until 1992. From 1992 to 1999, he was the Bituminous Construction Engineer and Area Engineer at the Headquarters Construction Section.

In 1999, Cooper left state service to work in private industry. During this time, he worked for an asphalt cement supplier in Louisiana and then for a major road building contractor as their Asphalt Manager, managing the QC program, laydown crews, and hot mix plants operations in Orlando, Florida. He returned to LADOTD State Service in May 2002 as a Project Engineer in District 02 and was later promoted to the position of Senior Asphalt Research Engineer in March 2003 at LTRC.

IBRC Program (continued from page 3)



Use of Fiber Reinforced Polymer (FRP) Bars in Highway Concrete Bridges

The purpose of this study is to experiment with the use of FRP bars in concrete girders. Prestressed FRP bars will be used in flexure instead of the conventional prestressed steel strands.

Integral Abutment Bridge for Louisiana's Soft Soil

In this project, investigators will design a full integral abutment bridge for Louisiana's soft soil condition and use a new fiber optic sensor (FOS) system (embedded instrumentations) to monitor and evaluate the long-term performance of the Integral Abutment Bridges. This project will incorporate the use of smart materials or embedded instrumentation for future continuous monitoring of operational performance of such bridges.

This IBRC program helps LTRC foster one of its basic goals, which is to link Louisiana university resources to LADOTD-identified problems and then demonstrate solutions through pilot research projects.

Recently the FHWA modified the title of the program. The letter "C" in Construction was replaced by the letter "D" for deployment. The program is now called the IBRD, Innovative Bridge Research and Deployment.

Walid Alaywan is the IBRC(D) program manager in Louisiana. He may be reached at (225) 767-9106 or walaywan@dotd.la.gov.

Recently Published

The following can be viewed at

http://www.ltrc.lsu.edu/pubs_tar.html

Technical Assistance Report 07-ITA: Effect of Speed Limit Increase on Crash Rate on Rural Two-Lane Highways in Louisiana by Chester G. Wilmot, Ph.D. and Athira S. Jayadevan

The following can be viewed at

[http://www.ltrc.lsu.edu/](http://www.ltrc.lsu.edu/pubs_projectcapsules.html)

[pubs_projectcapsules.html](http://www.ltrc.lsu.edu/pubs_projectcapsules.html)

Project Capsule 04-5B: Implementation of New OGFC Specification

Project Capsule 06-1B: Implementation of Testing Equipment for Asphalt Materials

Project Capsule 06-1ST: Feasibility of Tubular Fender Units for Pier Protection against Vessel Collision

Project Capsule 06-2P: Mechanistic Flexible Pavement Overlay Design Program

Project Capsule 06-2ST: Elimination of Deck Joints Using a Corrosion-Resistant FRP Approach

Project Capsule 06-3ST: Field Verification for the Effectiveness of Continuity Diaphragms for Skewed Continuous Precast Prestressed Concrete Girder Bridges



Learn more about LTRC's research program from project capsules, which provide an overview of the objectives and implementation potential of each project sponsored by the center.

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