



Louisiana Transportation Research Center



#### Eric Kalivoda, Ph.D. DOTD Secretary



#### William F. Tate IV, Ph.D. LSU President

The Louisiana Transportation Research Center (LTRC) is a research, technology transfer, and training center administered jointly by the Louisiana Department of Transportation and Development (DOTD) and Louisiana State University (LSU). LTRC provides a setting in which the thresholds of technology can be explored and applied in practical ways. By merging the resources of DOTD and LSU, a versatile core of facilities and expertise addresses the rapidly evolving challenges in the transportation field.

In addition to its affiliation with LSU, LTRC participates fully with other universities in Louisiana that house engineering programs: Louisiana Tech University, McNeese State University, Southern University, Tulane University, University of Louisiana at Lafayette, and University of New Orleans. By combining their resources with those of DOTD, the center eliminates duplication of effort and provides a broader base of support. The center also provides an avenue for multi-disciplinary support from universities to meet the practical and academic needs of the transportation industry in such areas as engineering, law, business

and management, basic sciences, planning, environmental studies, safety, ITS, and technology transfer.

Since its creation by the Louisiana legislature in 1986, LTRC has gained national recognition through its efforts to improve transportation systems in Louisiana. The center conducts short- and long-term research while providing technical assistance, training, continuing education, technology transfer, and problem-solving services to DOTD and the transportation community at large. The center is largely supported through funding authorized by DOTD and the Federal Highway Administration (FHWA).

The LTRC Foundation, a non-profit organization, enhances the center as the focus for transportationrelated research, technology transfer, and education in Louisiana. The foundation provides an excellent partnership opportunity for DOTD, state universities, and the private sector.

In these and other ways, LTRC is paving the way for more efficient and beneficial research and training, thanks to a combination of modern techniques, locally available resources, and a wide pool of support.

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Located on the LSU campus in Baton Rouge, LTRC provides researchers and students access to excellent laboratories and state-of-the-art research equipment. The full resources of LSU as a Carnegie Designated Doctoral/ Research Extensive Institution are also available. The unique position of LTRC provides access to virtually all of DOTD and LSU's resources to pursue the center's mission.

LTRC houses more than 90 employees and up to 30 students in two adjacent facilities. The LTRC Administration building is a 25,300-squarefoot facility that includes five research laboratories, a conference room, and offices. The laboratories are used to conduct advanced research into asphalt, concrete, soils, pavements, and ITS topics. The 14,000-square-foot Transportation Training and Education Center (TTEC) houses a lecture hall, computer-based training classroom, two general classrooms, and conference room that are all equipped with advanced education and training equipment and distance learning/video-conferencing capabilities. A comprehensive transportation library office is also included.

TTEC greatly enhances LTRC's mission by facilitating the delivery of training, professional development opportunities, and technology transfer to engineers, technicians, undergraduate and graduate students, and professionals from both the public and private domains.

LTRC has identified research areas of strategic importance and has developed expanded capabilities for concentration in several areas: the Engineering Materials Characterization Research Facility (EMCRF), a laboratory facility specializing in fundamental materials characterization; the Geotechnical Engineering Research Laboratory (GERL), a laboratory focusing on transportation earthworks, structural foundations, and geosynthetics; and the Intelligent Transportation Systems (ITS) lab, designed to evaluate traffic data collected from Louisiana's traffic management centers. Although remote from the center, the Louisiana Pavement Research Facility is an important facility that streamlines pavement loading research by compressing years of road wear into months of testing. The six-acre facility is located on the west side of the Mississippi River and incorporates an Accelerated Loading Facility (ALF<sup>™</sup>) for testing flexible pavements and the ATLaS30 for testing rigid pavements.

LTRC is a budget division of the Louisiana Department of Transportation and Development. Funding is a combination of State Planning and Research (Part B, Federal), Innovative Bridge Research and Deployment (Federal), Surface Transportation Program (STP-Federal), and external contracts and grants, such as the National Cooperative Highway Research Program, Federal Agency Grants, and the National Science Foundation.







# Director's Message



Inside this report, you will find featured articles on the research program, technology transfer and training, and technology transfer activities. In addition, you will find completed and active research projects, training accomplishments, and support of higher education, publications, and presentations.

LTRC has and will continue its committed support of higher education and solving Louisiana's transportation problems. LTRC supported 35 undergraduate and graduate students through research projects during fiscal year 2022-2023. Also, LTRC completed 14 research projects and has 49 active on-going research projects. LTRC research projects were

associated with 8 theses or dissertations this reporting period. In addition, LTRC staff and contract researchers published 72 journal articles and completed 84 presentations.

In March of this fiscal year, Louisiana hosted the 2023 Louisiana Transportation Conference (LTC) in an in-person format. The 2023 LTC conference had 1,700 participants and was held over 3 days, which included 80 sessions. The theme of the conference was "Partnerships for Delivering a Safe, Equitable, and Sustainable Transportation System." DOTD Secretary Dr. Eric Kalivoda provided welcoming remarks and the State of the Department Address. In addition, Chief Engineer Christopher Knotts discussed the impacts of construction inflation while Connie Betts, Deputy Assistant Secretary of Planning, provided an update on the Louisiana Statewide Transportation Plan. Governor John Bel Edwards provided the keynote as he presented the State of Louisiana Address.

This fiscal year, the Office of Technology Services (OTS) selected a new Learning Management System (LMS) called "Success Factors." LTRC was heavily involved with the implementation of Success Factors. The Success Factors implementation required LTRC to complete a comprehensive review and restructuring of DOTD's approach to training. The conversion over to Success Factors required over 10 months of focused and continuous effort by LTRC training staff. During the conversion, all historical records for active employees and training courses were manually uploaded to complete DOTD training records. DOTD's 4,120 employees were manually assigned to their appropriate training and certification programs. In addition, hundreds of web-based training courses and legacy training courses were completely restructured/modified and manually uploaded into the new LMS.

Additional highlights shown in the 2022-2023 LTRC annual report are as follows:

- Workforce Development completed 36 course revisions, has 5 on-going projects, 76 new courses being developed, and 9 presentations/classes were given.
- External Training Program impacted over 8,000 individuals (departmental, state, local, and transportation community partners) through over 500 programmatic initiatives.
- The Louisiana Local Technical Assistance Program (LTAP) impacted over 1,900 individuals through various in-person and virtual training platforms, which included 63 classes this program year. In addition, LTAP hosted 2 conferences and 3 virtual showcases this reporting period. Also, LTAP gave 11 presentations at national and statewide conference meetings. LTAP provided over 10,000 hours of in-person training as well as over 130 hours of virtual training to our departmental, state, local, and transportation community partners.
- In the area of Technology Transfer, LTRC published 12 final reports and technical summaries, 7 project capsules, 1 technical assistance reports, 1 annual report, and 4 Technology Today newsletters. In addition, LTRC film and production initiatives included 18 various DOTD projects.

Respectfully submitted, Samuel B. Cooper, Jr., Ph.D., P.E. Director



The LTRC research program emphasizes applied research and technology transfer to further knowledge in the field of transportation and to solve transportation problems encountered by DOTD and the general transportation community. Input for research programs is solicited from state and local government, universities, and private industry. Click on the project titles below to view the related publication online.

# **Completed Research**

# Concrete

20-3C: Feasibility and Advantages of Accepting Concrete Other Than 28 Days Samuel Cooper, III, LTRC

# Geotechnical

19-1GT: Maintenance of Roadway Edge Drop-Off Utilizing Readily Available Materials Gavin Gautreau, LTRC

16-6GT: Incorporating the Site Variability and Laboratory/In-situ Testing Variability of Soil Properties in Geotechnical Engineering Design Murad Abu-Farsakh, LTRC

# Safety

20-3SA: Minimum Intersection Illumination Hany Hassan, LTRC

20-1SA: Evaluation of Traffic Crash Characteristics on Elevated Sections of Interstates in Louisiana Julius Codjoe, LTRC

19-3SA: Pedestrians and Bicyclists Count, Phase 2: Implementing and Applying Multimodal Demand Data

Tara Tolford, UNO

22-1SA: Safety Effectiveness of Cable Median Barriers in Louisiana Elisabeta Mitran, LTRC

# Special Studies

20-1SS: The Future of the Louisiana Waterways Transportation System: A System Analysis and Plan to Move Commerce by Water Ricardo Cruz, Moffatt & Nichol

20-2SS: Provision of Transportation Data Analytics to the Louisiana Department of Transportation and Development Michael Pack, University of Maryland

21-3SS: Evaluating Permitted/Protected versus Protected Left Turn Signals in Louisiana Raju Thapa, LTRC

21-2SS: Evaluate the Impacts of Complete Street Policy in Louisiana Ruijie "Rebecca" Bian, LTRC

# Structures

16-2ST: Field Monitoring and Measurements Education: A Model for Civil and Environmental Engineering Vijaya Gopu, LTRC

22-1ST: Investigating and Developing a MASH Compliant Contraflow Ramp Closure Gate Maysam Kiani, Texas A&M Transportation Institute (TTI)

23-1ST: MASH TL-4 Engineering Analyses and Detailing of 36-Inch and 42-Inch High Median Barriers for LADOTD William Williams, Texas A&M Transportation Institute (TTI)

# **Active Research**

# Bituminous

17-4B: Development of a 4.75-mm Asphalt Mixture Design Saman Salari, LTRC

20-4B: Low and Intermediate Temperature Evaluation of Binders through Dynamic Shear Rheometer-Support Study Nazimuddin Wasiuddin, LTU

20-3B: Low and Intermediate Temperature Evaluation of Binders through Dynamic Shear Rheometer Saman Salari, LTRC

20-1B: Evaluate Performance and Life Cycle Cost of Asphalt (8/18 Specifications) Corey Mayeux, LTRC

21-6B: A New Generation of Porous Asphalt Pavement— OGFC Support Study Mostafa Elseifi, LSU

21-5B: Improvement of Open-Graded Friction Course (OGFC) Performance and Durability through Materials, Design, and Maintenance Corey Mayeux, LTRC

21-4B: Development of a Standard Practice for the Design of Durable Open-Graded Friction Course (OGFC) Mixtures with Epoxy Asphalt-Support Study Louay Mohammad, LTRC

21-3B: Use of an Innovative Recycling Agent for Improving the Sustainability and Durability of Asphalt Pavements Louay Mohammad, LTRC

# Student Support

21-1B: Development of a Cyclic Semi-Circular Bend Test to Evaluate Asphalt Mixture Cracking Resistance at Intermediate Temperature Louay Mohammad, LTRC

19-4B: Implementation of Semi Circular Bend Test for QC/QA of Asphalt Mixtures Louay Mohammad, LTRC

19-2B: Development of a Moisture Sensitivity Test for Asphalt Mixtures Louay Mohammad, LTRC

22-1B: Evaluation of Saturates/Aromatics/Resins/ Asphaltenes (SARA) Fractionation of Asphalt Binders in Louisiana Saman Salari, LTRC

23-1B: Effect of Mineral Fillers on the Moisture Resistance and Performance of HMA Mostafa Elseifi, LSU

23-2B: Evaluation of Non-Destructive Test Pilot Projects Moses Akentuna, LTRC

23-3B: Effect of Longitudinal Joint Construction and Density on Asphalt Pavement Performance—Phase I-State of the Practice Moses Akentuna, LTRC

During fiscal year 2022-23, 35 students (undergraduate and graduate) were supported by LTRC research projects. LTRC staff and contract researchers published 72 journal articles and completed 84 presentations. LTRC research projects were associated with 8 dissertations or theses. View a complete listing of items at www.ltrc.lsu.edu/pdf/22\_23.pdf.

# **Active Research**

# Concrete

20-2C: Using the Portable XRF to Identify/Verify Field Material Properties Zhen Liu, LTRC

20-1C: Evaluation of the Miniature Concrete Prism Test (MCPT) for Use in LADOTD Zhen Liu, LTRC

22-1C: Influence of Internal Curing on Concrete's Permeability in Simulated Field Conditions Zhen Liu, LTRC

22-2C: Influence of Aggregate Gradation to Reduce Concrete's Permeability Zhen Liu, LTRC

# Geotechnical

17-2GT: Update the Pile Design by CPT Software to Incorporate Newly Developed Pile-CPT Methods and Other Design Features Murad Abu-Farsakh, LTRC

20-3GT: Development of a Design Methodology for Geosynthetic Reinforced Pavement using Finite Element Numerical Modeling Murad Abu-Farsakh, LTRC

20-2GT: Instrumentation and Modeling of Geosynthetic Load Transfer Platform Performance Murad Abu-Farsakh, LTRC

21-1GT: Internal Friction Angle of Sands with High Fines Content Murad Abu-Farsakh, LTRC

21-1GT: Internal Friction Angle of Sands with High Fines Content Murad Abu-Farsakh, LTRC

23-2GT: Field Evaluation of Geophysical Applications for DOTD Nicholas Ferguson, LTRC

23-1GT: LiDAR for Geotechnical Applications Gavin Gautreau, LTRC

# Pavement

18-1P: Exploration of Drone and Remote Sensing Technologies in Highway Embankment Monitoring and Management Zhongjie Zhang, LTRC

18-2P: Mitigating Joint Reflective Cracks using Stone Interlayers: Case Study on Louisiana Highway 5, Desoto Parish Qiming Chen, LTRC

19-2P: Mechanistic Characterization of Asphalt Overlays for Pavement Rehabilitation and Preservation using Pavement ME Approach Zhong Wu, LTRC

20-4P: Assessment of DOTD's Friction Aggregate Sources through Laboratory and Accelerated Testing Zhong Wu, LTRC

21-2P: Correlation of Rut Depths Measured by the Profilers of LTRC and DOTD PMS Qiming Chen, LTRC

21-1P: Prediction of Road Conditions and Smoothness For Flexible and Rigid Pavements in Louisiana Using Neural Networks Zhong Wu, LTRC

22-1P: Performance Index Rating and Maintenance Cost Assignment for Ramps, Acceleration and Deceleration Lanes in Louisiana Moses Akentuna, LTRC

# **Active Research**

# Safety

21-1SA: Highway Safety Culture Assessment through Louisiana's Regions Helmut Schneider, LSU

22-3SA: Development of Statewide Design Guidelines for Improving Pedestrian Safety on High-Speed Arterials in Louisiana Hany Hassan, LSU

# Structures

20-1ST: Developing The Load Distribution Formula for Louisiana Culverts Ayman Okeil, LSU

22-3ST: Evaluation of Embedded Pile Resistance on Scour Critical Bridges Murad Abu-Farsakh, LTRC

22-2ST: Skew Detection System Replacement on Vertical Lift Bridges Phase 2 Gareth Rees, Wiss, Janney, Elstner Associates, Inc.

# Social Media

Follow LTRC social media channels to receive updates on new and completed research projects.



# Special Studies

19-5SS: Assessing the Economic Benefits of the TIMED Program Chester Wilmot, LSU/LTRC

22-1SS: Portable WIM Installation and Site-Specific Traffic Data Collection for DOTD Lubinda Walubita, Texas A&M Transportation Institute

22-5SS: Analyzing Human Mobility for Active Transportation Planning in Louisiana Ruijie "Rebecca" Bian, LTRC, and Tara Tolford, UNO

22-2SS: Economic Evaluation of Applications to the Port Construction and Development Priority Program Stephen Barnes, ULL

22-3SS: Testing the Hurricane Evacuation Modeling Package (HEMP) Ruijie "Rebecca" Bian, LTRC

22-4SS: Economic Impact of Access Management Treatments Stephen Barnes, ULL

23-1SS: Safety and Traffic Operations at Cloverleaf Interchanges Hany Hassan, LSU

23-3SS: Estimating HCM Default Parameters for Louisiana Ashifur Rahman, ULL

23-4SS: Statewide Non-Motorized Traffic Monitoring Study Ruijie "Rebecca" Bian, LTRC

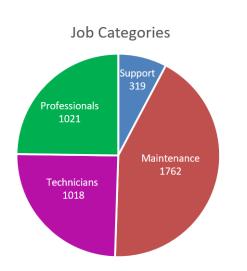
23-5SS: Improved Incident Response through Coordinated, Interoperable Communications Milhan Moomen, LTRC

23-8SS: Best Practices for Maintenance of Control Access Fencing Milhan Moomen, LTRC

# Workforce Development

# **DOTD Training Overview**

DOTD established the philosophy that all employees must be trained to execute their job responsibilities safely and efficiently. The Specialized Training Program (STP) supports and promotes a learning environment that emphasizes the necessity of training as an integral component of career progression. Section 33 develops work-related training courses and designs STPs at the Civil Service job code level that include safety awareness training, technical skills training, on-the-job training, professional development, and continuing education. The section synchronizes and implements training and workforce development for agency personnel in construction, laboratories, maintenance and operations, administrative support, and supervisory positions, utilizing an effective network comprised of district training personnel and section training liaisons to ensure compliance with agency training requirements. The broad job communities within DOTD and the corresponding number of employees assigned to each are depicted in the chart below:



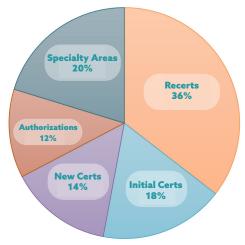
The types of training assigned to each job community include:

- Administrative Support—Safety and Specialized Training, and PC
   Computer Programs
- Maintenance—Safety and Specialized Training, and the Equipment Operator Certification Program
- Technicians—Safety and Specialized Training, Technical Training, and PC Computer Programs
- Leadership Development Program for senior level technicians
- Professionals—Safety and Specialized Training, and the Leadership Development Program
- All employees are required to complete Civil Service and DOTD HR mandated training
- All supervisors are required to complete the Civil Service Comprehensive Public Training Program (CPTP) Supervisory Training Program

# **Construction and Materials Training Program**

The Construction and Materials Training Program supervises the Inspector/ Technician Certification Program for DOTD and the Louisiana transportation industry. This program develops training materials and coordinates the training, testing, authorization, certification, and re-certification of inspectors and technicians on a statewide level in the 7 agency specialty areas of construction. During the fiscal year the program processed:

- 108 requests for new certifications
- 266 requests for re-certifications



# **Maintenance and Operations Training Programs**

The Maintenance and Operations Training Programs focuses on the revision or development of courses related to safety, job functions, work processes, work zone safety, and the safe, effective operation of equipment used by field maintenance personnel. These courses promote a recognition and understanding of the safe practices and situational awareness required to maximize job performance. Training records for the Equipment Operator Certification Program (EOCP) are maintained to ensure that proper equipment certification and operation result in timely preventive maintenance practices and reduced maintenance costs.

# Workforce Development Program

# Headquarters Training Support

LTRC is assigned responsibility to assist agency section heads and section training liaisons to ensure Headquarters employees meet all training requirements.



## Orientation

Training personnel support the monthly New Employee Orientation and quarterly New Supervisor Orientation programs presented by Human Resources. Our staff provided new employees with information about training programs and individual responsibilities as well as provided new supervisors with information about the managerial responsibilities for unit training and professional development and the training requirements for the Performance Evaluation System (PES).

# Testing

Testing sessions are scheduled 3 times per month to support the completion of self-study courses.

83 exams 36 testing sessions



# **Training Substitution Requests**

An employee assigned to a specialized training program (STP) may submit a training substitution request, with appropriate academic transcripts or training certificates, to LTRC for review and adjudication. LTRC received requests from 15 employees resulting in 53 approved training course substitutions in various STPs.

# **Instructor-led Training**

These classses and evaluations were provided to train or certify employees in various topics to include Facilitation Skills for Managers, Basic Flagging, Traffic Control Through Maintenance Work Areas, and forklift operator certifications.



# Transportation Curriculum Council

The LTRC Transportation Curriculum Council (TCC) is an active council consisting of 13 members comprised of senior DOTD leadership, Louisiana State University faculty, and transportation industry partners. There are 6 subcommittees that include Engineering, Operations, Multimodal Transportation, Management and Finance, Leadership and Outreach, and Core Skills. The purpose of the TCC and its related subcommittees is to advise and assist DOTD in the identification, prioritization, development, evaluation, and implementation of transportationrelated training, workforce development, educational services, and effective technology transfer for the agency and its transportation industry partners. Workforce Development has the responsibility of planning and scheduling each TCC meeting and additional responsibilities to schedule and facilitate subcommittee meetings, maintain detailed meeting minutes, and provide additional support as required.

# Learning Management System

During the fiscal year the Office of Technology Services (OTS) selected a new Learning Management system (LMS), Success Factors, for use by all state agencies to facilitate training and to report training compliance. While Success Factors has provided dramatic improvement in many areas, the implementation required a complete review and restructure of the agency's long established approach to training. The conversion to Success Factors required focused and sustained effort for over 10 months of the fiscal year. During that time, several challenges were successfully mitigated to achieve full operational capability:

- Minimal system familiarization necessitated research and experimentation to determine how to maximize the capabilities of the new LMS.
- Only training records for active employees and active courses were migrated by OTS. Historical records for employees and courses required manual upload to complete agency training records.
- Content for 117 web based training courses was modified and manually uploaded to the new LMS.
- 119 legacy training programs were completely restructured for implementation in the new LMS, resulting in the creation of 116 assignment profiles, 113 programs, 28 curricula to support agency training and certification.
- 4120 agency employees required assignment to the appropriate training and certification programs.
- Conducted multiple training sessions and planning meetings to share information updates and emerging best practices with district training offices and headquarters training liaisons.
- Developed an agency reporting capability to mitigate the reporting shortfalls of the new LMS.

Successfully completing the agency transition to Success Factors will remain the highest priority for the new fiscal year. Refining and improving training and certification assignments, updating PPM #59 (Workforce Development), updating the DOTD Training Course Catalog, and incorporating improvements to the LMS will continue to require focused and sustained effort for the foreseeable future.

# Leadership Development Program

The DOTD Leadership Development (LD) Program is a training program designed for professional series employees and supervisors, and the LD Technician (LD Tech) Program is designed for senior and supervisory engineer

DOTD employees assigned to LD Programs during the fiscal year:		
LD Group 1 – Entry	99	
LD Group 2 – Staff	338	
LD Group 3 – Manager	193	
LD Group 4 - Administrative	75	
LD Technician	381	

technicians. All employees are required to complete their assigned LD programs. Due to the implementation of Success Factors during the fiscal year, all employees were assigned a new 36-month window, ending in 2026, to complete required training.

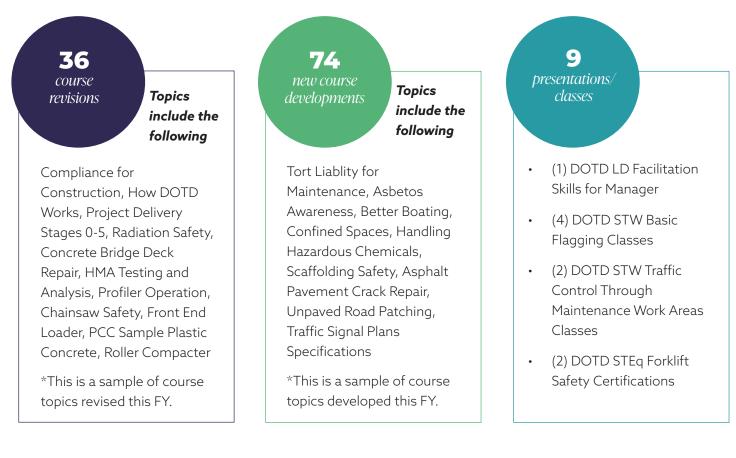
# Comprehensive Public Training Program (CPTP) Supervisory Group Training Program

The state Civil Service Commission has established minimum supervisory training requirements in accordance with Civil Service Rule 22.10 for all employees who occupy jobs

DOTD employees in CPTP S	upervisory Group Programs during the fiscal year:
CPTP Supervisory Group 1	370
CPTP Supervisory Group 2	216
CPTP Supervisory Group 3	NA (not assigned by CPTP at this time)

that are designated as part of a Supervisory Group. All agency supervisors are required to complete their assigned CPTP Supervisory Group training programs. Due to the implementation of Success Factors during the fiscal year, all employees were assigned a new 36-month window, ending in 2026, to complete required training.

# Completed Projects



# **Ongoing Projects**



- Facilitation Skill for Managers
- STC Administrative Manual for Inspector/ Technician Training Program
- STW Traffic Control Through Maintenance
   Work Areas—ILT
- PPM#59—Workforce Development
- DOTD Training Course Catalog



- HR EEO Biennial Meeting 2024-2025
- HR Substance Abuse
   Supervisors

# Compliance with State Mandated Training in Calendar Year 2022

LTRC utilizes the LMS to ensure that DOTD meets all state-mandated training requirements. LTRC, in partnership with the district training offices and section training liaisons, assigns training to the workforce and reports training compliance to DOTD Headquarters. Approximately 70% of the DOTD workforce does not have access to a computer workstation as part of their daily work activities, so outreach and coordination with the training community is essential to successfully achieve compliance. Despite these challenges, DOTD achieved a 99.5% compliance rate for the following mandated training courses:

- DOTD HR 2022 Code of Ethics for Public Servants
- DOTD HR Preventing Sexual Harassment 2022
- DOTD HR Preventing Sexual Harassment for Supervisors 2022
- DOTD HR ADA Compliance for Supervisors

# Statewide Strategic Program

# **Needs Assessment**

Along with the new Success Factors integration, LTRC assessed the structured training programs (100+) and offered courses throughout DOTD. All STPs were reviewed with the help of the DOTD training coordinators, section heads, and a cross sections of employees within each STP. This review looked at the frequency of courses taken, updates needed, impact of the trainings and STPs, consistency of trainings and positions, and more. Once completed, STPs were updated in the new learning management system.

# **EDC-7** Initiative

LTRC, LTAP, DOTD, and FHWA are working towards meeting the goals of the Every Day Counts 7: Strategic Workforce Development initiative. In communication with the committee and other local agencies and contractors, Louisiana DOTD will identify, train, and place current and future needs for the highway construction field.

# **Competency Model**

Through the Competency Model project, LTRC individually meets with the various sections throughout DOTD in order to develop a comprehensive list of technical competencies unique to each section. This list is created through interviews, reviewing necessary literature, and in-depth research. Then, training initiatives are matched to each competency to help meet any deficiency of knowledge or practice that may exist. Any competencies with gaps or minimal matches may help support a need for future training to be developed. Ultimately, LTRC helps the section create a structure of knowledge transfer that will help flatten any learning curve for employees in their section.

In progress: Section 24–Road Design; Section 80–Contract Services On deck: Section 22–Materials Testing; Section 17–QCIP

# External Training Programs Overview

# 8,000+

Individuals (departmental, state, local, and transportation community partners)

# 500+

## **Programmatic initiatives**

### **DOTD National Highway Institute Program**

The National Highway Institute Program covers programmatic areas that are offered statewide to DOTD employees, municipal employees, private engineering firms, and other transportation partners. This program has various courses that are required in departmental structured training programs. These courses address Louisiana-specific material while also incorporating the necessary federal guidelines as well.

NHI Courses FY 22-23	Participants
No. 142005 NEPA and the Transportation Decision making Process	26
No. 130092 Load and Resistance Factor Rating of Highway Bridges	27
No. 130126 Strut-and-Tie Modeling (STM) for Concrete Structures	22
No. 130053 – Bridge Inspection Refresher Training	19
No. 380095 Geometric Design: Applying Flexibility and Risk Management	27
No. 131139 Constructing and Inspecting Asphalt Paving Projects	33
No. 142045 Pedestrian Facility Design	30
No. 135055 Safety Inspection of In-Service Bridges	30

## Other Courses, Workshops, and Events FY 21-22

Title	Participants
Professionalism and Ethics	727
TRAC and Rides	15
PE Review 2023	16
Individual Registration( 160 courses/events)	596
Traffic Engineering Process and Report (TEPR)	51
Crane Rigging and Signaling—UTA	57
Crane Operator—Southern Hydraulics	49
Dynamic Friction Tester and Circular Track	16
Indirect Cost	7
Traffic Engineering Process and Report (TEPR)	38
Vision Roadware	23
Vision 5	62

# Library Services

During the fiscal year, the LTRC Library cataloged 229 titles and updated 2,889 titles. The library offers services to members of the DOTD and LSU communities, as well as other agencies, and the general public, for assistance in transportation-related research. Visit **www.ltrc.lsu.edu/library.html** to learn more.

# 425 participants in 17 courses



11

courses

**556** participants in **65** courses

## **DOTD Work Zone Safety**

Through the DOTD Work Zone Safety Program, the following Louisianaspecific courses are required for departmental employees and any other non-departmental entity that will work on a departmental project: Louisiana Traffic Control Technician, Louisiana Traffic Control Supervisor, Louisiana Traffic Control Design Specialist, Louisiana Guardrail Installation Training, and Louisiana Nighttime Traffic Control.

Work Zone Safety classes are required for contractor, consultant, and DOTD personnel, enabling highway workers to provide for the safety of motorists, workers, and pedestrians. In contract documents for the contractors and consultants, the verbiage specifically states they must have Louisiana-specific training as it relates to the MUTCD, and the DOTD Work Zone Safety Program provides this specific training through a contract with ATSSA, the only organization that offers this Louisiana-specific training.

# **DOTD District Sign Specialists' Certification**

The DOTD District Sign Specialists' Certification Program plays a critical role in Traffic Operations. Not only must these employees perform manual labor and operate equipment, they must know, understand, and apply critical traffic engineering principles and details of sign installation as outlined in the Manual on Uniform Traffic Control Devices. In addition, district sign specialists are required to testify in court, and this ATSSA certification covers trial and deposition testimony.

## **DOTD ArcGIS**

The DOTD ArcGIS Program is guided by Map 21 and is based on federal regulations. These regulations and Map 21 are moving state transportation agencies into a GIS-based environment for asset management, performance management, inventory, and operations. Transportation-related GIS technologies rely on a linear referencing method to associate legacy data systems with GIS technologies. DOTD has GIS uses in almost all of its engineering and business sections.

# DOTD PC/Microsoft Structured Training

The DOTD PC/Microsoft Structured Training Program is strategically mapped to various employee category structured training programs. These courses are required for departmental engineers, engineering technicians, administrative staff, and support personnel. The course requirements vary by employee category.

#### **DOTD Co-op**

The DOTD Co-op Program is a cooperative endeavor between DOTD and seven Louisiana universities with engineering departments. The Co-op program provides practical experience to students through employment in public sector transportation engineering work. The program is intended to enhance the educational process by providing opportunities for participants to explore their interest in transportation engineering through practical work experience. The program also provides opportunities for DOTD to evaluate participants as potential employees. To participate in the program, the students must have the endorsement of their university and be classified as a junior or senior. The students are employed year round in positions related to their major engineering field of study and must give a presentation at the end of the semester or quarter.

#### **Engineering Rotational Development**

This program provides new engineers with an invaluable introduction to DOTD employment. The ERDP is a 32-week rotation program designed to offer entry-level engineers an opportunity to experience several engineering functional areas within DOTD prior to placement.

After orientation at LTRC, new hires spend 1 to 3 weeks in 19 different sections. To be employed into the ERDP, the applicant has to have successfully passed the Fundamentals of Engineering (FE) exam in and hold an active FE certification.

#### Leadership Development

This program provides participants a process of continuous learning and the ability to apply the leadership methods discussed. In addition, the Leadership Development Program aims for everyone within DOTD to adopt new behaviors and beliefs toward effective leadership and extend them to the highest levels of achievement.

The goal of this program is to introduce and promote competencies that will empower participants to recognize and improve their leadership skills.

#### **DOTD CADD/MicroStation**

MicroStation is a Computer-aided Drafting and Design (CADD) software that allows state agencies to review and design projects with great accuracy. Utilizing GPS coordinates and elevations, designers are able to create threedimensional renderings of proposed work. Effective use of MicroStation depends on survey data collection and processing, for which DOTD is moving to OpenRoads Designer. As survey and design software evolves and becomes more powerful, this training program evaluates the Department's needs to stay current.

# **37** students

new hire/hired in permanent position

381 participants in 30 courses

# 103 participants in 9

courses

# Tech Transfer: Publications and Multimedia Highlights

Through video, publication, and web development, this office expands LTRC's reach by disseminating information and sharing knowledge that spans from emerging research and technology to the grass-roots level of application.

- Managed attendee, sponsorship, and exhibitor registration, event marketing, event photo/video, and mobile app for 2023 LTC
- Designed LTC program, conference signs, agenda, and social media sponsorship postings
- Created social media-friendly content for LTAP through Adobe Spark
- Designed 4 issues of Technology Exchange for LTAP
- Implemented new online calendar for LTAP website
- Provided web support for NSF project: Field Monitoring and Measurements (FMM) Education
- Managed online SASHTO scholarship application process
- Compiled and produced LTRC annual report
- Maintained regular posting of all LTRC publications on website and social media channels
- Support for all Section 33 users managing the Registration Management System
- Designed and printed DOTD Employee Survey final reports
- Created pilot accessibility training for DOTD Environmental Section
- Published 4 Tech Today Newsletters
- Created Adobe Spark pages to share on social media
- Edited 13 Final Reports/Technical Summaries
- Published 7 Project Capsules
- Published 12 Final Reports/Technical Summaries
- Edited 2 training manuals
- Continued to apply accessibility requirements for all newly published work
- Continued to implement new Word template
- Continued to maintain document information form for library liaison
- Printed 16 TRB posters for LTRC participants at annual meeting; 3 additional posters for other conferences

#### Film and Production Projects:

- DOTD Fly Louisiana Airport Program
- AASHTO Post Spring Meeting Promotional Video
- DOTD Essence Fest Safety Message
- DOTD E.V. Infrastructure Plan
- DOTD Atterberg Limits Procedure
- DOTD Work Zone Awareness
- DOTD Innovations Showcase
- DOTD Customer Service Training
- DOTD LA1 Groundbreaking
- DOTD Mississippi River Bridge Inspection
- DOTD ROADEO Promotional
- DOTD Scenario Planning
- DOTD CMAR Promo
- DOTD DDI Secretary Message
- LTRC Heavyweight Deflector Maintenance
- Post Production- 5 Google Map Animations
- Event Photography
- Southeast Regional ROADEO
- 1,560 Subscribers on YouTube





# 2023 Louisiana Transportation Conference Convenes in Person Again

Following last year's virtual LTC, the 2023 Louisiana Transportation Conference finally convened in person again at the Raising Cane's River Center, drawing in over 1,700 transportation professionals, academia, retirees, and students. With the theme Partnerships for Delivering a Safe, Equitable, and Sustainable Transportation System, attendees were able to choose from over 80 sessions, attend networking events, and visit a variety of exhibition booths and displays.

DOTD Secretary Eric Kalivoda, Ph.D., gave welcoming remarks as well as the State of the Department Address. Chief Engineer Christopher P. Knotts spoke on the impacts of construction inflation, while Deputy Assistant Secretary of Planning Connie Betts gave an update on the Louisiana Statewide Transportation Plan. Following the Transportation Awards Ceremony, Governor John Bel Edwards delivered the keynote as he presented his state address marking the beginning of the conference.

With three days of concurrent sessions, conference attendees had many topics of interest to choose from—the most popular being the "I-10 Baton Rouge Corridor" session. Presenters Bob Schmidt (Huval & Associates), Sherri LeBas (GEC), and GJ Schexnayder (Boh Bros. Construction Co., LLC) discussed the I-10 widening and reconstruction from six to eight lanes, including bridge replacement and rehabilitation, interchange and ramp modifications, shoulder widening, and auxiliary lanes from LA 415 to Essen Lane. I-10 and I-12 College Drive Exit improvements were also presented.

Session 2's "CMAR—Benefits and Lessons Learned on Two Multimodal Projects" also gained a lot of attention from attendees. Presenters discussed the benefits of and lessons learned using the Construction Management at Risk (CMAR) process on two dock projects: one at the Lake Charles Port, Harbor and Terminal District and another at the St. Bernard Port, Harbor and Terminal District.

The third most-attended session was "Drones and DOTD—The Possibilities" where presenters shared some of DOTD's Location and Survey Section's recently incorporated drone projects, including imagery, elevation data, and stockpile volume calculations. A short demo flight field demonstration was also given.

Additional sessions of interest to note included "Critical Projects," "Complete Streets at DOTD," and the Construction Roundtable.

LTRC would like to thank our sponsors, speakers, moderators, exhibitors, and attendees for making this in-person event a success—it would not be possible without such investments and contributions.



# 1,700+ participants in 80+ technical sessions



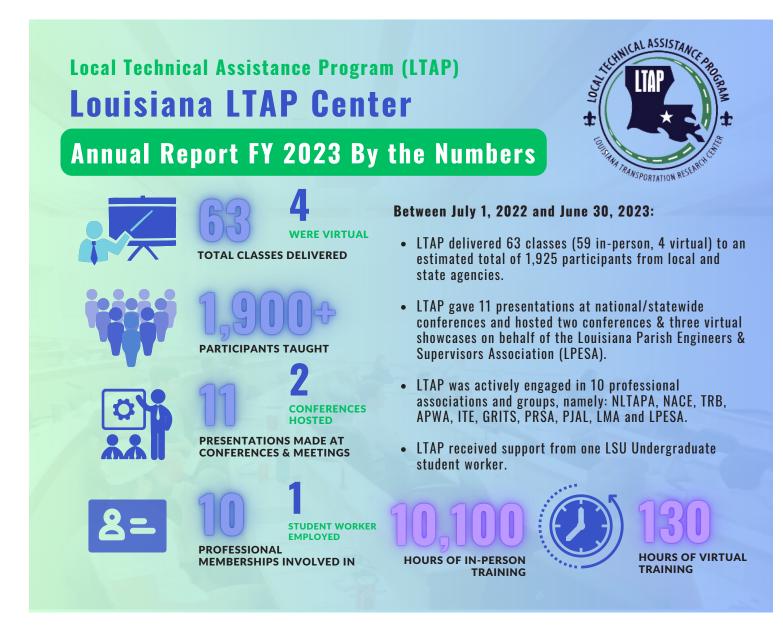








The Louisiana Local Technical Assistance Program (LTAP) is one of 52 centers around the United States dedicated to providing cost-effective training, technical assistance, and organizational support to local government public works and transportation agencies. Based at LTRC, LTAP is jointly supported by DOTD and FHWA. LTAP also supports the DOTD Local Road Safety Program, which provides assistance with regional and local agency road safety activities as part of the Louisiana Strategic Highway Safety Program.





Over 50 individuals attended LPA Core Training May 23-24, 2023, which is a record-breaking number for any class in our LPA series.

# History-breakers!



Tractor Mower Safety Training (instructed by Dwight Hutchinson) was the most attended with 573 participants.



LTAP offered a new course on Combating Rural Roadway Departures where locals were taught to use ballbank indicator devices to determine speed limits at curves.

#### **In-person Training**

LTAP conducted the follow in-person Road Scholar classes and other courses:

RS #2: Maintenace of Asphalt Roads RS #4: Temporary Traffic Control for Local Agencies RS #6: Heavy Equipment Safety & Maintenance RS #13: Inspection of Local Bridges RS #14: Bridge Maintenance and Repair Train the Trainer: Basics of Work Zone Safety Local Agency Safety Meeting Combating Rural Roadway Departures Local Public Agency Core Training LPA Construction, Engineering & Inspection Tractor Mower Safety

#### **Exhibitions & Expos**

LTAP exhibited and provided information at the following conventions and summits:

Louisiana Transportation Conference 2023 Police Jury Association of LA Convention 2023 LA Municipal Association Convention 2023 Rural Community Funding Summit 2023

> Virtual Learning LTAP hosted the following eLearning opportunities:

LPESA Virtual Showcases SHSP Regional Safet Coalitions' Rules of the Road for Driving Schools

### **Presentations**

LTAP presented at these conferences and meetings:

LPESA Fall Conference LPESA Spring Conference NLTAPA Annual Conference DSITE Fall Meeting LTC 2023 FHWA FoRRRwD Peer Exchange NACE Annual Meeting NLTAPA SC Regional Meeting SW LA Regional Safety Coalition I&O Meeting RSC Safety Workshop for Driving Schools LSU ITE Student Chapter

# Professional Memberships

# Transportation Research Board (TRB) Affiliations

- ABG20-Transportation Education and Training
- AFF40-Testing and Evaluation of Transportation Structures
- AFF80-Structural Fiber Reinforced Plastics
- AFP30-Soil and Rock Properties
- AFS20-Geotechnical Instrumentation and Modeling
- AFS70-Geosynthetics
- AJE15-Workforce Development and Organizational Excellence
- AJE35-Research Innovation Implementation
- Management Committee
- AJE45-Information and Knowledge Management Committee
- AKB10-Innovative Highway Structures and Appurtenances
- AKB30-Concrete Bridges
- AKD20-Roadside Safety
- AKG40-Mechanics and Drainage of Saturated and Unsaturated Geomaterials
- AKG70-Foundations of Bridges and Other Structures
- AKG80-Geosynthetics
- AKM10-Production and Use of Asphalt
- AKM30-Asphalt Materials Selection and Mix Design
- AKM40-Asphalt Mixture Evaluation and Performance
- AKM50-Advanced Concrete Materials and Characterization
- AME20-Women and Gender in Transportation
- AMR20-Standing Committee on Disaster Response, Emergency Evacuations, and Business Continuity
- TRT-Transportation Research Thesaurus Subcommittee
- Information Services Committee
- AFK20-Characteristics of Asphalt Materials
- AFK40-Surface Requirements of Asphalt Mixtures
- AFK50-Structural Requirements of Asphalt Mixtures
- AKP10-Pavement Condition Evaluation
- AKP40-Pavement Structure Testing and Evaluation
   Vehicle Interaction
- AKP 50-Pavement Surface Properties and
- ACH40-Human Factors of Infrastructure Design and Operation
- ACP30-Vehicle-Highway Automation
- ACP15-Intelligent Transportation Systems

- AKR50-Road Weather
- ACH30-Human Factors of Vehicles
- ACH60-Vehicle User Education, Training, and Licensing
- ACS10-Transportation Safety Management Systems
- ACS60–Truck and Bus Safety
- AKD20-Roadside Safety Design
- ACH10-Pedestrians
- AME20-Women and Gender in Transportation
- ACS20-Safety Performance and Analysis
- AED60-Statistical Methods
- AKD30-Low-Volume Roads
- ACP40-Highway Capacity and Quality of Service

# American Association of State Highway Transportation Officials (AASHTO) Affiliations

- Research Advisory Committee (RAC)
- RAC Value of Research Task Force
- Innovation Community of Practice
- Transportation Knowledge Networks
- TRAC and RIDES Advisory Board
- Coordination and Collaboration Task Force



LTRC's delegation at the 2023 TRB Annual Meeting in Washington, DC.

# American Society of Civil Engineers Affiliations

- ASCE Louisiana
- Transportation and Infrastructure in Cold Regions Engineering Division
- Transportation and Development Institute (T&DI)
   Executive Committee Member and Past Chairman
- Committee on Monitoring Structural Performance
- Committee on Wood
- Committee on Timber Bridges
- Committee on Wood Engineering Education
- Committee on Bridge Management, Inspection and Rehabilitation Committee Wood

# American Society for Testing and Materials Affiliations

- D04.20-Empirical Tests of Bituminous Mixtures
- D04.21-Specific Gravity and Density of Asphalt Mixtures
- D04.22-Effect of Water and Other Elements on Bituminous Coated Aggregates
- D04.24-Bituminous Surface Treatments
- D04.25-Analysis of Bituminous Mixtures
- D04.26-Fundamental/Mechanistic Tests
- D04.44-Rheological Tests
- D04.45-Specifications for Modified Asphalt
- D04.46-Durability and Distillation Tests
- D04.99-Sustainable Asphalt Pavement Materials and Construction

# National Cooperative Highway Research Program (NCHRP) Affiliations

- 10-104: Recommendations for Revision of AASHTO M 295 Standard Specification to Include Marginal and Unconventional Source Coal Fly Ashes
- 10-110: 3D Modeling Guide for Construction Inspection
- 14-48: Construction Guide Specifications for Pavement Treatments—Sand Seals and Ultra-thin Bonded Surface Treatments
- 20-24 (131): Mapping the Common Interests of AASHTO Committees
- 20-44 (40): Ensuring Essential Capability for the Future Transportation Agency
- 08-164: Institutional Integration of Active Transportation
- 07-33: Evaluate the Benefits of Increasing Clear Zone at Higher Speed/Traffic Volume/Crash Locations

- 17-111: Speed Management Solutions and Strategies to Improve Pedestrian and Bicyclist Safety on Arterial Roadways
- 09-66: Performance Properties of Laboratory Produced Recycled Plastic Modified (RPM) Asphalt Binders and Mixtures
- TFPE 04: TRB/FHWA Performance Evaluations: Evaluation of FHWA's Every Day Counts Program
- 01-62: Impact of Flooding on the Resiliency of Pavement Systems
- 10-124: Development of a Field Test to Determine Chip Seal Aggregate Embedment

# **Other Memberships**

- American Concrete Institute
- American Institute of Steel Construction
- American Planning Association
- American Public Transportation Association
- American Public Works Association
- American Railway Engineering and Maintenance-of-Way Association (AREMA)
- American Traffic Safety Services Association
- Association of Asphalt Paving Technologists
- Association of Modified Asphalt Producers
- Association of Transportation Safety Information
   Professionals (ATSIP)
- Association for Talent Development
- Behavioral Traffic Safety Cooperative Research Program
- CAAL Technical Committee
- Construction Certification Committee
- Deep Foundation Institute, DFI
- DOTD Work Zone Task Force
- Equipment Operation Certification Committee
- FHWA Sustainable Pavements Technical Working Group
- Geo-Institute: Engineering Geology and Site Characterization Committee, Geosynthetics Committee, Deep Foundation Committee
- Gulf Region Intelligent Transportation Society (GRITS)
- Heavy Movable Structures
- Higher Education Technology Manager's Association
- Industrial Advisory Board, NSF Center for Integration of
   Composites in Infrastructure
- Institution of Engineering and Technology (IET)
- Institute of Transportation Engineers (ITE)
- International Association of Foundation Drilling
- ITI Technical College, Construction Management Curriculum Council
- Louisiana Association for Talent and Organizational Development (LATOD)



### **Office of the Director**

Sam Cooper, Jr., Ph.D., P.E., Director Sheri Hughes, Executive Services Assistant

#### **External Programs**

Vijaya (V.J.) Gopu, Ph.D., P.E., Associate Director

#### **Research and Development**

Tyson Rupnow, Ph.D., P.E., Associate Director Melissa Neyland, Executive Services Assistant Theresa Rankin, Business Office Manager Tina Kleinpeter, Business Office Accountant

# Pavement and Geotechnical Research

Zhongjie "Doc" Zhang, Ph.D., P.E., Pavement & Geotechnical Research Administrator

#### **Pavement Research**

Qiming Chen, Ph.D., P.E., Pavement Research Manager Terrell Gorham, Engineering Technician DCL Biyuan Zhen, Engineering Technician 5 Ray Kimble, Engineering Technician 5

#### Pavement Research Facility - ALF

Zhong Wu, Ph.D., P.E., Professor-Research, Accelerated Pavement Research Manager Moinul Mahdi, Ph.D., PRF Manager

#### **Geotechnical Research**

Gavin Gautreau, P.E., Senior Geotechnical Research Engineer Nick Ferguson, P.E., Geotechnical Research Engineer Chris Mertz, Engineering Technician DCL Hend Alyousef, Engineering Technician 4

#### Geotechnical Engineering Research Laboratory

Murad Abu-Farsakh, Ph.D., P.E., Professor, Research, GERL Manager Masoud Nobahar, Research Associate

#### Materials Research

Samuel B. Cooper, III, Ph.D., P.E., Materials Research Administrator

#### Asphalt Research

Moses Akentuna, Ph.D., P.E., Asphalt Research Manager Saman Salari, P.E., Asphalt Engineer Hannah Boggs, Engineering Technician 5 Angela LeMay, Engineering Technician 5 Jeremy Icenogle, Engineering Technician DCL

#### **Concrete Research**

Zhen Liu, Concrete Research Manager Norris Rosser, Engineering Technician DCL Austin Gueho, Engineering Technician 5 Aaron Brown, Engineering Technician 4

#### Sustainable and Resilient Pavement Materials and Technologies Center

Louay Mohammad, Ph.D., P.E. (WY), Professor, SRPC Director Richard Simmons, Research Specialist Jun Liu, Research Associate

# Special Studies Research

Julius A. Codjoe, Ph.D., P.E., Special Studies Research Administrator

#### Planning/Intermodal

Rujie "Rebecca" Rian, Ph.D., Assistant Professor, Planning/Intermodal Research Manager

#### ITS & Traffic Research

Milhan Moomen, Ph.D., ITS/Traffic Research Manager M. Ashifur Rahman, Ph.D., Research Associate 5

#### Safety

Elisabeta Mitran, Ph.D., Assistant Professor, Safety Research Manager

#### Structures Research

Walid Alaywan, Ph.D., P.E., Senior Structures Research Engineer

# **Technology Transfer and Training**

Mary Leah Coco, Ph.D., Associate Director Garrett Wheat, Ph.D., Statewide Strategic Program Manager

## Information Technology

Paul Hendricks, Computer Manager David Jumper, Technology Transfer Support Services

*Technology Transfer* Corey Mayeux, P.E., Technology Transfer Engineer

## Publications & Digital Media Development

Emily Wolfe, Public Information Director Jenny Gilbert, Multi-Media Specialist Chris Melton, Photographer/Videographer

## Structured Training Programs

Kirk Wales, DOTD Structured Training Director Ted Ball, Management Development Program Manager Patrick Frazier, Construction and Materials Training

Program Manager

Heather Huval, Pre-Construction Training Program Manager Dimetrie Chopin, PCC/Structural Training Program Manager Claire Dixon, Engineering Technician Training Program Manager Keith Antee, Maintenance Training Program Manager/District

Training Liaison Susan Nichols, Training Records Program Manager

## External Educational Resources

Rebecca Rizzutto, DOTD External Training Director Allison Landry, NHI/Individual Registration/Special Event Program Manager Melissa Lee, Microsoft/CADD/Special Training Program Manager Stacey Wilton, Education Outreach Program Manager Marcus Sylvas, Leadership Development Program Manager Sandy Brady, Librarian Brenda Wolfe, Administrative Assistant Patrick Mehaffey, Audio Visual Manager Layne Brown, Training Program Coordinator

# Local Technical Assistance Program

Steve Strength, P.E., P.T.O.E., Director Courtney Dupre, LTAP Program Manager Victor Lockwood, LTAP and LRSP Business Manager Leonard P. Marretta, LRSP and LPA Program Manager Rudynah E. Capone, Innovation & Technology Transfer Manager Haley Ortiz, Training Program Manager Peter Allain, P.E., P.T.O.E., LTAP and LRSP Crash Data Engineer Congratulations to

#### **Michael Boudreaux,**

Technology Transfer Engineer, on his retirement with 32 years of service,

and to

## John Dean,

Construction and Materials Training Program Manager, on his retirement with 33 years of service.

# **Other Memberships** (cont.)

- Louisiana Complete Streets Advisory Committee
- Louisiana Engineering Society (State Board, Continuing Professional Development Committee Chair, Secretary/Treasurer)
- Louisiana Governor's Climate Task Force
  Transportation Committee
- LOOP (Louisiana Offshore Oil Port) Project Review
   Committee
- Louisiana Parish Engineers and Supervisors Association
- Louisiana Professional Engineering and Land Surveying Board
- National Association of County Engineers
- National LTAP Association
- National Transportation Knowledge Network (NTKN)
- National Transportation Training Directors
- Public Relations Society of America
- SimCap Louisiana, Chair
- Society of Government Meeting Professionals (SGMP), First Vice President, Treasurer
- Society for Human Resource Management (SHRM)
- Southeast Task Force on Technician Training and Qualification
- Southeastern Asphalt User Producer Group
- Southern Plains Transportation CenterSteering
   Committee
- Special Libraries Association (SLA), Transportation Division
- Traffic Safety Culture Transportation Pooled Fund, Board Member
- Transportation Curriculum Coordination Council
- US Universities Council on Geotechnical Engineering Research (USUCGER)



### **Christopher P. Knotts, P.E.**

Chief Engineer DOTD

#### Sam Cooper, Jr., Ph.D., P.E.

Director LTRC (ex-officio)

#### Tyson Rupnow, Ph.D., P.E.

Associate Director, Research LTRC (ex-officio)

#### Mary Leah Coco, Ph.D.

Associate Director, Technology Transfer & Training LTRC (ex-officio)

#### Norma Jean Mattei, Ph.D., P.E.

Civil Engineering Chairman University of New Orleans

#### Katherine Raymond, Ph.D.

Professor of Practice School of Science & Engineering Tulane University

**Eric Kalivoda, Ph.D., P.E.** Secretary, DOTD

# M. Todd Donmyer, P.E.

Deputy Assistant Secretary of Operations DOTD

## Nazimuddin "Wasi" Wasiuddin, Ph.D., P.E.

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## George Voyiadjis, Ph.D.

Boyd Professor Civil and Environmental Engineering Chairman Louisiana State University

## Ken McManis, Ph.D., P.E.

Professor Head of Department of Civil Engineering University of Louisiana at Lafayette

## Firouz Rosti, Ph.D., P.E.

Assistant Professor Department of Civil Engineering McNeese State University

## Alex Hak-Chul Shin, Ph.D., P.E.

Professor and Interim Chair Department of Civil and Environmental Engineering Southern University

#### Laura Phillips, Observer

Federal Highway Administration