

Annual Report

2023-2024





Terrence J. Donahue, Jr.
DOTD Secretary



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

The Louisiana Transportation Research Center (LTRC), a division of the Louisiana Department of Transportation and Development (DOTD), functions as a regional center for research, technology transfer, and training, and is located on the campus of 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.

LTRC also participates fully with 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, leadership development, 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 is dedicated to conducting short- and long-term research; providing training, continuing education, and technology transfer; and offering problem-solving services and technical assistance to DOTD and the broader transportation community. 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 transportation-related 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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Facilities

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-square-foot facility that includes five research laboratories, a conference room, and offices. The laboratories are used to conduct advanced research in asphalt, concrete, soils, pavements, and ITS. 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 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: Sustainable and Resilient Pavement Materials and Technologies Center (SRPC), a center focused on the evaluation and implementation of resilient and sustainable technologies in the transportation industry; 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™) 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, technology transfer, and training programs. In addition, you will find information on 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. Within this reporting period, LTRC supported 51 undergraduate and graduate students through research projects during fiscal year 2023-2024. LTRC also completed 16 research projects and has 50 active ongoing research projects. LTRC research projects were associated with 9 theses or dissertations during this reporting period. In addition, LTRC staff and contract researchers published 61 journal articles and completed 84 presentations.

After 15 years, LTRC redesigned its branding for both LTRC and the Louisiana Transportation Conference. Multimedia Producer Chris Melton was the creator of the previous and updated versions of the revitalized brandings. In the rebranded LTRC logo, Chris hid a fleur-de-lis, which ensures our history continues to be part of our future.

LTRC received a \$25,000 grant this year from Bentley Systems, Inc. for our STEM outreach for grades K-12 and higher education. These funds will be distributed to Louisiana STEM teachers who have previously attended our STEM outreach program to replenish their consumable supplies utilized in hands-on classroom activities. In addition, these funds will be awarded to Louisiana engineering graduate students to offset travel costs associated with conferences where they were invited to present on transportation-related research.

Additional highlights shown in the 2023-2024 LTRC annual report include:

- The Internal Training Program revised 13 courses, manuals, and forms. In addition, after the successful implementation of SuccessFactors, 641 items were developed, including 124 WBT courses, 55 ILT courses, and 22 self-study courses.
- External Training Programs impacted over 8,000 individuals (departmental, state, local, and transportation community partners) through over 600 programmatic initiatives.
- The Louisiana Local Technical Assistance Program (LTAP) impacted over 2,100 individuals (77% from local public agencies) through various in-person and virtual training platforms, which featured 64 classes, including 5 virtual classes, this program year. In addition, LTAP hosted 2 conferences and 4 virtual showcases during this reporting period. LTAP provided over 12,000 hours of in-person training to our departmental, state, local, and transportation community partners. In addition, LTAP published 4 Technology Exchange newsletters and 12 digital monthly bulletins.
- In the area of Technology Transfer, LTRC published 12 final reports and technical summaries, 12 project capsules, 1 annual report, and 4 Technology Today newsletters. In addition, LTRC's film and production initiative included 16 various DOTD projects.

Please feel free to follow LTRC's latest news via our website, www.ltrc.lsu.edu, and through our social media channels.

Respectfully submitted,

A handwritten signature in black ink, reading "Samuel B. Cooper, Jr.".

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.

Completed Research

Bituminous

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

Corey Mayeux, LTRC

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

Louay Mohammad, LTRC

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

Moses Akentuna, LTRC

Concrete

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

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

Structures

20-1ST: Developing The Load Distribution Formula for Louisiana Culverts

Ayman Okeil, LSU

Pavement

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

Zhongjie Zhang, LTRC

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

Zhong Wu, LTRC

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

Qiming Chen, LTRC

Safety

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

Hany Hassan, LSU

21-1SA: Highway Safety Culture Assessment through Louisiana's Regions

Helmut Schneider, LSU

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

M. Ashifur Rahman, LTRC

Read more on page 23



Special Studies

22-4SS: Economic Impact of Access Management Treatments

Stephen Barnes, ULL

22-5SS: Analyzing Human Mobility for Active Transportation Planning in Louisiana

Ruijie "Rebecca" Bian, LTRC, and Tara Tolford, UNO

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

Active Research

Bituminous

17-4B: Development of a 4.75-mm Asphalt Mixture Design

Saman Salari, LTRC

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

Corey Mayeux, 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

23-4B: Literature Review of IDEAL-CT and IDEAL-RT Tests Methods for Balanced Mix Design

Saman Salari, LTRC

24-1B: Sustainability through Development of Life-Cycle Information Models for Pavements in Louisiana

Louay Mohammad, 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

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

Mostafa Elseifi, LSU

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

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

Louay Mohammad, LTRC

19-2B: Development of a Moisture Sensitivity Test for Asphalt Mixtures

Louay Mohammad, LTRC

Concrete

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

Zhen Liu, LTRC

24-1C: Investigation of Piezoelectric and Other Advanced Sensors in Concrete

Tyson Rupnow, LTRC

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

Zhen Liu, LTRC

22-2C: Influence of Aggregate Gradation to Reduce Concrete's Permeability

Zhen Liu, LTRC

Geotechnical

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

23-2GT: Field Evaluation of Geophysical Applications for DOTD

Nicholas Ferguson, LTRC

23-1GT: LiDAR for Geotechnical Applications

Gavin Gautreau, LTRC

24-3GT: Statewide Calibration of CPT Direct Design Methods Using Static Load Test Data

Murad Abu-Farsakh, LTRC

24-2GT: Web-Based Tool to Advance Geotechnical Data Interchange and Reliability-Based Site Characterization

Gavin Gautreau, LTRC

24-1GT: Evaluation and Incorporation of Site and Laboratory Variability into LRFD Design of Pile Foundations—Phase 2

Murad Abu-Farsakh, LTRC

Pavement

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

24-2P: Developing a Methodology for Pavement Drainage System Rating

Qiming Chen, LTRC

24-1P: Evaluation of Louisiana Maintenance and Rehabilitation Treatment Decision Matrix for Cost-effective and Timely Pavement Preservation

Zhong Wu, LTRC

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

Jun Liu, LTRC

Safety

24-2SA: Older Road Users Safety in Louisiana:
Understanding the Crash Contributing Factors
Julius Codjoe, LTRC

24-1SA: Ground-in Edge and Centerline Rumble Strip/
Rumble Stripe Evaluation and Best Practices
Elisabeta Mitran, LTRC

Structures

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.

24-2ST: Redesign of Innovative Gate Arms (Ramp
Closure Gate)
Sofokli Cakalli, Texas A&M Transportation Institute

24-1ST: Ultra High Performance Concrete Application In
Link Slabs For Crack Mitigation
Ayman Okeil, LSU

Special Studies

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

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

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

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

24-6SS: Statewide Lane Reconfiguration "Road Diet"
Screening for Louisiana
Ruijie "Rebecca" Bian, LTRC

24-4SS: Improved Signalized Intersection Performance
Using Computer Vision and Artificial Intelligence
Milhan Moomen, LTRC

24-3SS: Evaluating Practical Applications of Unmanned
Aerial Vehicles (UAVs) for Traffic Incident Response and
Management.
Milhan Moomen, LTRC

24-2SS: Trip Generation for Various Sites
Ruijie "Rebecca" Bian, LTRC

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

Additional Publications and Presentations

LTRC staff and contract
researchers published 61 journal
articles and completed 84
presentations. LTRC research
projects were associated with 9
dissertations or theses.

View a complete listing of items at
www.ltrc.lsu.edu/pdf/2024/23_24.pdf





Workforce Development

4,232 DOTD employees*
Assigned to **319** job titles

(*at the time of publication)

Construction and Materials Training Program

7 Specialty Areas	6 Certifications	5 Authorizations	59 Performance Evaluations	7 Specialty Area Exams
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5

Revised Courses and Performance Evaluations

- » DOTD STC Embankment & Base Course Certification Performance Evaluation
- » DOTD STC HMA Paving Certification Performance Evaluation
- » DOTD STC HMA Plant Certification Performance Evaluation
- » DOTD STC HMA Plant PowerPoint Presentation
- » DOTD STC In-Place Density Authorization Performance Evaluation

4

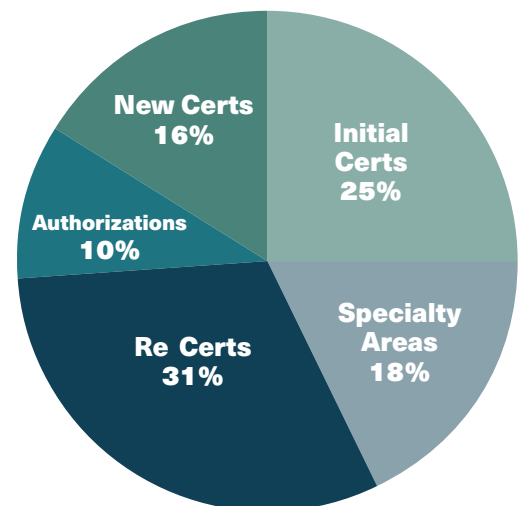
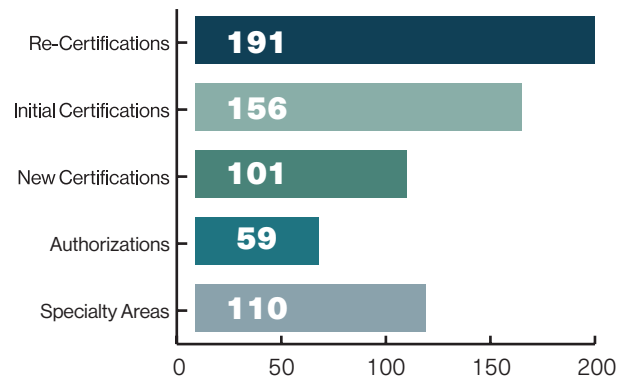
Revised Manuals

- » DOTD STC HMA Test Analysis Volume 1
- » DOTD STC HMA Test Analysis Volume 2
- » DOTD STC PCC Structural Concrete Inspection Volume 1
- » DOTD STC PCC Structural Concrete Inspection Volume 2

4

Revised Forms

- » DOTD Authorization For Inspection Form
- » DOTD Certification For Inspection Form
- » DOTD Initial Certification Form
- » DOTD Request to Transfer from Department to Non-Departmental Status Form



617 total

(DOTD and other transportation professionals)

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.

7

Exams added to Test.com

- » DOTD STC HMA Plant Recertification Exam
- » DOTD STC PCC Paving Introduction Exam
- » DOTD STM Duties and Responsibilities of Personnel Assigned To Movable Bridges Exam
- » DOTD STM Electrical Maintenance 203: Transformer A/C Exam
- » DOTD STM Electrical Safety and Protection STT 205 Exam
- » DOTD STM Maintenance Plan Study Guide Exam
- » DOTD STP English/Grammar Exam

10

Exams revised in Test.com

- » DOTD STC Embankment and Base Course Specialty Area Exam
- » DOTD STC HMA Plant Specialty Area Exam
- » DOTD STC PCC Paving Recertification Exam
- » DOTD STC PCC Plant Recertification Exam
- » DOTD STC PCC Paving Specialty Area Exam
- » DOTD STC PCC Plant Specialty Area Exam
- » DOTD STC Structural Concrete Specialty Area Exam
- » DOTD STM Maintenance of Small Traffic Signs Exam
- » DOTD STM Understanding Basic Electricity and Electronics Exam
- » DOTD STP Maintenance Math Exam

Testing Information

- » 24 testing sessions
- » 92 employees tested
- » 99 exams administered

Course Substitution Requests

- » 27 employees requested substitutions
- » 66 course substitutions approved

Instructor-led Training Courses Facilitated

- » DOTD HR New Employee Orientation
150 employees trained
- » DOTD HR New Supervisor Orientation
153 supervisors trained
- » DOTD STM Basic Flagging ILT
4 courses/59 employees/4.8 course average
- » DOTD LD Facilitation Skills for Managers ILT
3 courses/47 employees/4.8 course average
- » DOTD STM Traffic Control TMWA ILT
1 course/26 employees/4.7 course average



Leadership Development Program Support

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 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.

DOTD Employees Completing LD Training Programs during FY 24

126	LD 1 – Entry
234	LD 2 – Staff
114	LD 3 – Manager
54	LD 4 – Administrative
178	LD Technician

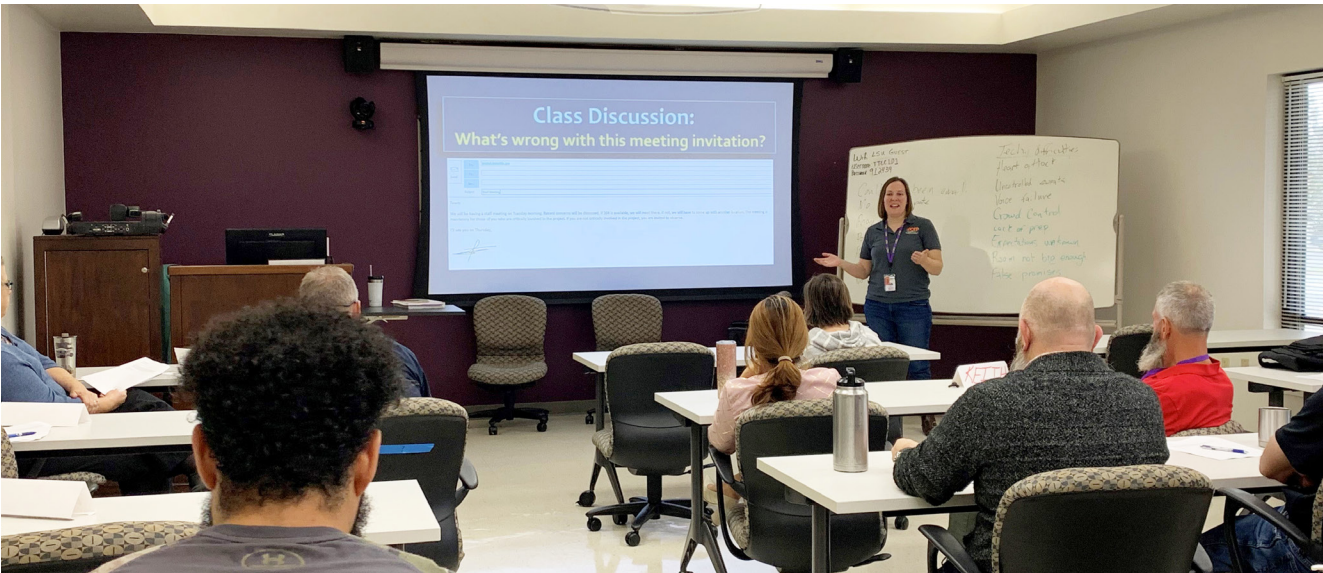
DOTD Training Compliance

LTRC utilizes the SuccessFactors 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. A large percentage 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 100% compliance rate for mandated training courses as noted below:

100% CY 23 Compliance Training Report (12/31/2023)

99.976% FY 24 Annual Training Report (06/30/2024)

3 Training Exemptions Approved



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 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.

DOTD Employees Completing SCS CPTP Supervisory Group Programs during FY 24	
PES for Supervisors	129
Group 1	178
Group 2	105
Group 3	N/A (not assigned by CPTP at this time)
Continuing Education	672

Completed and Ongoing Projects

2

Revised Policies, Catalogs, and Forms

- » DOTD Course Catalog
- » DOTD PPM 59, Workforce Development Policy

4

New Policies, Catalogs, and Forms

- » DOTD Course Substitution Request Form
- » DOTD Training Requirements Catalog
- » DOTD Employee Training Status Check Form
- » DOTD Training Publications Order Form (in progress)

6

Revised Training Courses

- » DOTD 2024 Ethics – Louisiana Board of Ethics WBT
- » DOTD 2024 Preventing Sexual Harassment for Employees WBT
- » DOTD 2024 Preventing Sexual Harassment for Supervisors WBT
- » DOTD HR EEO 2024 – 25 Biennial Meeting WBT
- » DOTD LP Hazardous Materials Annual Refresher WBT
- » DOTD STC PCC Paving Introduction WBT

3

New Training Courses

- » DOTD LD Facilitation Skills for Managers ILT
- » DOTD STEq Trailer Mounted Attenuator WBT
- » DOTD STP English/Grammar



Learning Management System

Success Factors

- » **641 Items**
- » **116 Curricula**
- » **100 Programs**
- » **166 Assignment Profiles**
- » **124 WBT courses**
- » **55 ILT courses**
- » **22 self-study courses**
that require a proctored exam (13 Test.com/9 Penn-Foster)



Successfully completing the agency transition to Success Factors remained the highest priority for this 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.

Student Support

During the 2023-24 fiscal year, a total of 51 students, both undergraduate and graduate, contributed to various research projects and provided support in areas such as publication preparation, office tasks, laboratory assistance, and building/event operations. Their involvement played a vital role in the success of our initiatives.



Statewide Strategic Program

Competency Model

Through the Competency Model project, LTRC individually meets with 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. Training initiatives are then matched to each competency to meet any deficiencies of knowledge or practice that may exist. Any competencies with gaps or minimal matches may support a need for future training to be developed. Ultimately, LTRC helps the section create a structure of knowledge transfer that will flatten any learning curve for employees in their section.

Almost complete: Section 24 – Road Design; Section 80 – Contract Services

In progress: Section 25 – Bridge Design; Section 36 – Plan Quality Unit

Up next: Section 22 – Materials Testing; Section 17 – QCIP

EDC-7 Initiative

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

External Training Programs

8,000+

Individuals

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

600+

Programmatic initiatives

Programs Led by External Training Group

DOTD National Highway Institute Program; DOTD CADD/MicroStation Structured Training Program; DOTD Work Zone Safety Program and DOTD District Sign Specialists' Certification Program; DOTD Nuclear Gauge and Radiation Program; DOTD ArcGIS Program; DOTD Mechanics Courses; DOTD PC/Microsoft Structured Training Program; DOTD Co-op Program; DOTD Engineering Rotational Development Program (ERDP); DOTD Leadership Development Program; DOTD Customized Training Programs; AASHTO STEM Outreach Solutions



DOTD National Highway Institute Program

The National Highway Institute Program offers courses in an extensive variety of program areas ranging from Highway Safety to Hydraulics to Financial Management. The program is 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. A sample listing of these required courses include, but are not limited to: Bridge Inspection Refresher; Fracture Critical Inspection of Steel Bridges; Managing Highway Contract Claims; Safety Inspection of In-Service Bridges; Writing Highway Construction Specifications. These courses address Louisiana-specific material while also incorporating the necessary federal guidelines.

NHI Courses FY 23-24	Participants
No. 130078 – Fracture Critical Inspection Techniques for Steel Bridges	29
No. 134001 – Principles and Applications of Highway Construction Specifications	29
No. 142005 – NEPA and the Transportation Decisionmaking Process	30
No. 130108 – Bridge Maintenance	24
No. 132033 – Soil Slope Embankment Design and Construction	34
No. 380032A – Roadside Safety Design	33
No. 130102 – Engineering for Structural Stability in Bridge Construction	26
No. 130053 – Bridge Inspection Refresher	26

231 total

Library Services

During the fiscal year, the LTRC Library **cataloged 330 titles** and **updated 446 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.](http://www.ltrc.lsu.edu/library.html)



138

participants in

12

courses

DOTD CADD Structured Training Program

Through the DOTD CADD/MicroStation Structured Training Program, this has developed the Department's current process for obtaining surveying information that utilizes MicroStation, Inroads, and Inroads Survey. This process of coding and capturing data continues to evolve as departmental and federal regulations change. MicroStation and Inroads are the software backbones for the department's plan development.

It is imperative that the Department identifies current trends and how new software reacts to current data collection processes. The Department is required to train and test new versions of the software to give guidance to both DOTD staff and the consultants who work for the Department. DOTD is one of the few state departments that utilize this product series, and the only industry partners using these products are companies working for DOTD.



560

participants in

19

courses

DOTD Work Zone Safety Program and DOTD District Sign Specialists' Certification Program

Through the DOTD Work Zone Safety Program, these Louisiana-specific courses are required for departmental employees and any other non-departmental entities working on a departmental project: *Louisiana Traffic Control Technician and Louisiana Traffic Control Supervisor*; *Traffic Control Design Specialist*; *Guardrail Installation Training*; and *Nighttime Traffic Control*. Work Zone Safety classes are mandatory for contractors, consultants, and DOTD personnel to improve worker knowledge and ensure the safety of motorists, workers, and pedestrians. Contractors and consultants must have Louisiana-specific training per contract documents, in line with the *Manual on Uniform Traffic Control Devices (MUTCD)*. The DOTD Work Zone Safety Program provides this specific training through ATSSA. The contract for services contains language on the Louisiana Standard Specifications, the Special Provisions, the Supplemental Specifications, and the Louisiana Specific Traffic Control Details. The DOTD District Sign Specialists' Certification Program, including *Louisiana Sign Technician I* and *Louisiana Sign Technician II* is critical for Traffic Operations. Employees must perform manual labor, operate equipment, and apply critical traffic engineering principles and details of sign installation as outlined in the MUTCD.

207

participants in

16

courses

DOTD ArcGIS

The DOTD ArcGIS Program is guided by MAP-21, All Roads Network of Linear Referenced Data (ARNOLD), Highway Performance Monitoring System (HPMS), and Model Inventory of Roadway Elements (MIRE), which are federal regulations for digital delivery of highway data to FHWA, as well as the state-mandated Louisiana Topographic Mapping Program. By following the regulations and guidelines provided through these programs, DOTD is building a robust GIS-based environment for asset management, performance management, inventory, and operations as well as digital mapping for the State of Louisiana. Transportation-related GIS technologies rely on a linear referencing method to associate legacy data systems with GIS technologies. Topographic Mapping provides foundational data commonly used on base maps, giving users access to digital representations of Louisiana's landscape. DOTD has GIS users 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.

548

participants in

60

courses

DOTD Co-op

The DOTD Co-op Program is a joint endeavor between DOTD and seven Louisiana universities with engineering departments. The Co-op program provides practical experience to civil, mechanical, environmental, electrical, industrial, and chemical engineering 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.

2 *students in summer*

14 *students in fall*

14 *students in spring*

7 *students hired full-time
by the Department after
graduation*

Engineering Rotational Development (ERDP)

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 must successfully pass the Fundamentals of Engineering (FE) exam and hold an active Engineering Intern License through LAPELS.

1

new hire from ERDP

1

*hired into a permanent
DOTD position*

Leadership Development Program

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. The courses include: *Foundations of Leadership, Emotional Intelligence, Organizational Culture, Transformational Leadership and Managing Across Generations, Professional Writing, and Conflict Management.*



728

participants in

51

courses

Louisiana Transportation Conference

Every two years, representatives from all sectors of the transportation community come together to learn about the latest technologies and share best practices at DOTD/LTRC's Louisiana Transportation Conference. This biennial conference is held in Baton Rouge and represents a premier technology transfer opportunity for LTRC, which is charged with planning, coordinating, and managing the event that attracts professionals from the entire nation.

LTRC is currently planning the 2025 LTC that will be held at the Raising Cane's River Center in March of 2025.



DOTD—Other Programs

All specialized Title 48 and 39 programs are managed via contract with various vendors through the External Training Programs. A small listing of the contracts that are directed through the DOTD External Training Programs are included here:

- » Traffic Engineering Process & Report; LANTEC Microsoft Power BI Data Analyst; MTS TestSuite™ TWE; Sidra; IMSA Traffic Signal Technician Level 2

Other Courses, Workshops, and Events

Fiscal Year 2023– 2024 Course Offerings	Participants
Highway Capacity Analysis	30
AASHTO STEM Outreach Solutions Programs	19
PE Review 2024	12
Individual Registrations	473 (218 courses/events)
Traffic Engineering Process and Report (TEPR)	9
MTS TestSuite™ TWE	7
Sidra Roundabouts and Design Analysis	23
IMSA Traffic Signal Technician Level 2	24
LANTEC Microsoft Power BI Data Analyst	12
CPR/AED	19

628 total

Additional Accomplishments

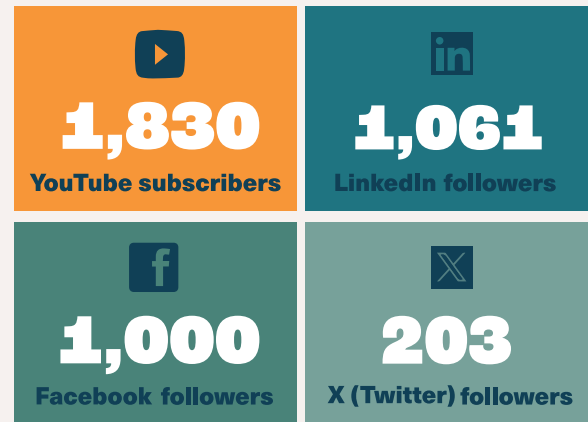
- » FHWA grant awarded in the amount of \$52,085. Implementation and evaluation of AASHTO STEM Outreach Solutions Programs in Schools in the State of Louisiana. This was a federally funded grant from 8/1/2023-06/30/2024.
- » Updated lighting in TTEC Executive Conference Room, Computer Lab, Classroom 175, and Classroom 179
- » Projector upgrade in auditorium
- » Overhead camera upgrade in training classrooms



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 grassroots level of application.

4 LTAP Tech Exchange Newsletters
4 LTRC Tech Today Newsletters
12 Project Capsules
12 Final Reports/Tech Summaries
1 Annual Report
12 Large Format Posters
16 Videos Produced
78 Social Media Posts
82,730 Impressions on LinkedIn



Project Highlights

- » Software management and purchasing for Section 19 and 33
- » Scholarship application management and press releases (SASHTO, ASCE, LAPA)
- » Document accessibility
 - Enforced Section 508 requirements on document templates
 - Created training for Section 33 on accessibility requirements
 - Created an accessible Word template for DOTD's Office of Operations; developed and taught workshop on how to use template
 - Managed disclaimer watermarks and requirements
 - Maintained document information form for library liaison
- » Managed LTRC Registration Management System
- » Updated structured training web/intranet presence
- » Updated LTRC's historical timeline
- » Created Adobe Express pages to share on social media for LTRC and LTAP
- » Created and designed Constant Contact emails to disseminate Tech Today electronically; manage interdepartmental mailing list to reflect new leadership and section heads
- » Special Event Photography: ROADEO, LTRC employee headshots

Film and Production Projects

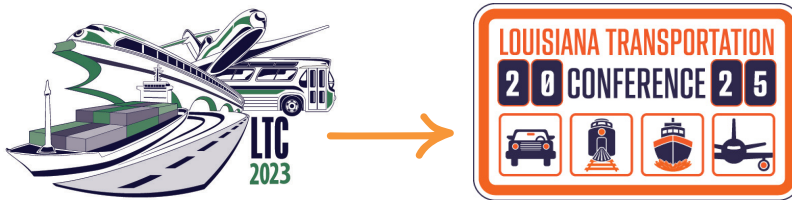
- » DOTD Human Resources Recruitment Video
- » LTRC Training–AASHTO T-85 Specific Gravity and Absorption of Course Aggregate
- » LTRC Training–AASHTO T-84 Specific Gravity and Absorption of Fine Aggregate
- » LTRC Training–TR327 Theoretical Maximum Specific Gravity of Asphaltic Concrete Mixture
- » LTAP–Basic Flagger Instruction Updates
- » LTRC Infomercial–Recycling Waste Plastics in Asphalt Mixture
- » Post Production–LTRC/West Virginia University-Intro to FRP Composite Materials- Webinar Series
- » Post Production–LTAP Zoom Edits: Flashing Yellow Arrows, Roundabout
- » Post Production–6 custom map animations
- » Post Production–2 DOTD pre-rolls

Logo Design

Completed Louisiana Transportation Conference and LTRC brand updates; updated all corresponding document templates and website



Out with the Old, In with the New: Redesign of Long-term Branding



After 15 years of proudly representing our brand with the fleur-de-lis LTRC logo and multi-vehicle LTC logo, designers at LTRC unveiled a fresh look in June 2024. This rebranding effort includes a modernized version of our LTRC logo and a revitalized Louisiana Transportation Conference logo. Designer Chris Melton was the creator of the previous and updated versions. As a subtle homage to our legacy, Melton hid a fleur-de-lis into the new LTRC logo, ensuring our history continues to be part of our future.

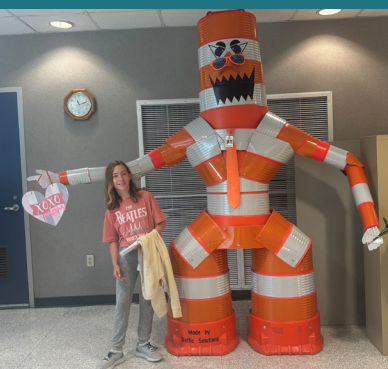


Take Your Kids to Work Day 2024

On April 25, 2024, LTRC joined the national "Take Our Daughters and Sons to Work Day." Employees who welcomed their "mini-me" to the workplace included Hannah Boggs, Claire Dixon, and Keith Antee. The event, open to children ages 8 to 18, featured a formal program at DOTD Headquarters, including a live equipment display and a drone demonstration.



After returning from DOTD, students were given an LTRC lab tour.



Bentley Systems Awards LTRC \$25,000 Grant

We honor the memory and legacy of the late Mo Harmon, whose vision and commitment to education and transportation have left a lasting impact. LTRC is deeply grateful for the \$25,000 grant from Bentley Systems, Inc., which will enhance our outreach initiatives in K-12 and higher education across Louisiana. The funds will be utilized in the following ways: \$15,000 will be distributed as \$500 awards to Louisiana STEM teachers, many who have previously participated in LTRC's AASHTO STEM Outreach Solutions program. These funds can be used to replenish the consumable supplies used in the hands-on classroom activities.

The remaining \$10,000 will be allotted to Louisiana engineering graduate students who are invited to present their research at academic conferences across the nation. Selected students will be awarded up to \$1,000 scholarships to defray the travel costs associated with these presentations.

LTRC's Sam Cooper, Ph.D., P.E., Tyson Rupnow, Ph.D., P.E., and Stacey Wilton were on hand to receive the award from Harmon before his untimely passing.

The influence of the Bentley Grant will be felt across the entire state of Louisiana, from our K-12 STEM educators to graduate students and researchers at our Louisiana universities. Our heartfelt thanks to Bentley Systems for their generous support and to Mo for his enduring influence.



*Featured in
Tech Today!*

TTEC Upgrade



LTRC's Transportation Training and Education Center (TTEC) recently got an upgrade in functionality and technology. Rooms 101, 160, 175, and 179 received updated audio, including overhead microphones, speakers, and digital signal processors or DSP. In addition, rolling tables are now offered in both classrooms (Rooms 175 and 179), allowing the opportunity for multiple configurations with a tailored use of the space to meet various training needs.





Louisiana LTAP not only underwent a brand refresh this past year, but also had several staffing changes following the retirement of former director, Steven Strength. LTAP's former Communications and Technology Transfer Manager, Rudynah "Dynah" Entera Capone, assumed directorship on May 1, 2024. LTAP's former Training Coordinator, Haley Ortiz, transitioned into Capone's previous role as Communications and Technology Transfer Manager. Our most recent student worker, Emma Ball, departed LTAP to pursue a graduate degree.

LTAP secured additional technical expertise with engineers on contract, Peter Allain and Prasanth Malisetty, supporting Local Road Safety Program (LRSP) efforts. LTAP also brought in a new instructor, Michael Duplantis, to teach Work Zone Safety with Basic Flagging mini-workshops.

Completed Projects

- » A Project Selection Meeting was conducted for the Local Road Safety Program (LRSP), which endorsed the **approval of 7 LRSP project applications**.
- » LTAP provided technical assistance to develop a pavement preservation program for the City of Central.
- » 23 U.S.C. 148 note (Public Law 117-58) requires the USDOT to update the High-Risk Rural Roads Study, Report to Congress, and Best Practices Manual. NACE's Technical Oversight Working Group was charged with providing FHWA with local government entities willing to participate in the survey. Louisiana LTAP worked with Desoto and Franklin parishes, providing technical assistance in preparing Louisiana's contributions to NACE's efforts.
- » LTAP hosted the APWA Public Works Week: Worker Safety Training, which was **attended by 70 participants**.
- » LTAP provided a review and ranking of applications for Federal Lands Access Program (FLAP) involving

four of Louisiana's parishes.

- » LTAP's former director Steve Strength taught seven Work Zone Safety with Basic Flagging mini-workshops to **a total of 151 participants** from local public agencies in Lake Charles, Hammond, Baton Rouge, and Gonzales.
- » As the membership and outreach arm for the Louisiana Parish Engineers and Supervisors Association (LPESA), Louisiana LTAP organized two conferences attended by **121 participants** (Fall 2023) and **111 participants** (Spring 2024) from **60 agencies/organizations**.
- » LTAP also hosted four quarterly LPESA Virtual Showcases that reached a total of **79 learners via Zoom**.
- » From July 1, 2023 to June 30, 2024, Louisiana LTAP conducted a total of **64 classes**—5 virtual and 59 in-person—which totaled **12,702 contact hours**, reaching approximately **2,109 participants**, of which **77% were from local public agencies**.



2,109 class participants

77% from local public agencies

Partnerships, Outreach, and Publications

LTAP staff continues to engage actively with stakeholders through professional associations and groups, including: NLTAPA, NACE, TRB, APWA, ITE, WTS, PJAL, LMA, APA, and LPESA.

- » LTAP Director **Dynah Capone** initiated an international research collaboration between LTRC and Philippine-based University of San Jose Recoletos.
- » Three LTAP staff members presented and moderated sessions at the National LTAP Association Conference on July 16-20, 2023, in Columbus, Ohio.
- » LTAP Program Manager **Courtney Dupre** served as one of the moderators in Virtual LTAP/TTAP-U workshop facilitating a break-out session on June 26, 2024.
- » LTAP's LRSP Manager **Leo Marretta** presented and engaged local stakeholders at the Rural Complete Streets Summit on June 12, 2024, in Baton Rouge and June 26, 2024, in Ruston.
- » LTAP Training Coordinator **Haley Ortiz** wrote an article titled "Walk, Bike, or Roll: LTAP's Initiative to Enhance Pedestrian and Bicycle Safety in Louisiana," featured in LTRC's Technology Today Volume 36, Number 2.
- » LTAP published **4 Technology Exchange newsletters** and distributed **12 digital monthly bulletins** to share valuable information on our program efforts, reaching approximately **3,000 of our stakeholder contacts**.
- » LTAP conducted program promotions and outreach at LPESA Fall 2023 and Spring 2024 conferences, reaching a total of **236 stakeholders**.

Current and Upcoming Efforts

LTAP Advisory Committee Meeting



Roads Scholar 8A: Successful Supervision for Local Road Supervisors



LPESA Conference



Local Road Safety Plan Implementation Workshops

Local Public Agency Training, Chainsaw Safety, and Work Zone Safety Mini-workshops

Louisiana Transportation Conference (LTC) 2025



Professional Memberships

Transportation Research Board (TRB) Affiliations

- » A0020C–International Coordinating Council
- » ABG20–Transportation Education and Training
- » ACH30–Human Factors of Vehicles
- » ACP15–Intelligent Transportation Systems
- » ACP60–Access Management
- » ACS10–Transportation Safety Management Systems
- » ACS20–Safety Performance and Analysis
- » ACS40–Occupant Protection
- » ACS60–Truck and Bus Safety
- » AED50–Artificial Intelligence and Advanced Computing Applications
- » AEP50–Transportation Demand Forecasting
- » AFD10–Pavement Management Systems
- » AFD40–Full-Scale Accelerated Pavement Testing
- » AFD80–Strength and Deformation Characteristics of Pavement Sections
- » AFK20–Characteristics of Asphalt Materials
- » AFK40–Surface Requirements of Asphalt Mixtures
- » AFP30–Soil and Rock Properties
- » AFS20–Geotechnical Instrumentation and Modeling
- » AJE15–Workforce Development and Organizational Excellence
- » AJE35–Research Innovation Implementation Management (RIIM)
- » AJE40–Public Involvement/Communications
- » AJE45–Information & Knowledge Management
- » AKG 40–Mechanics and Drainage of Saturated and Unsaturated Geomaterials
- » AKG00–Geology and Geotechnical Engineering
- » AKG70–Foundations of Bridges & Other Structures
- » AKG80–Geosynthetics
- » AKM10–Committee Research Coordinator
- » AKM20–Binders for Flexible Pavement
- » AKM30–Asphalt Materials Selection and Mix Design
- » AKP40–Pavement Structural Testing and Evaluation
- » AKR10–Maintenance and Operations Management
- » AME20–Women and Gender in Transportation
- » AME40–Transportation in the Developing Countries
- » AMR20–Disaster Response, Emergency Evacuations, and Business Continuity
- » TRB E0006–Information Services Committee
- » TRB E0006(1)–Transportation Research Thesaurus Subcommittee

American Society of Civil Engineers Affiliations

- » ASCE Louisiana
- » Geo-Institute Committee on Geology and Site Characterization
- » Geo-Institute Committee on Geosynthetics

- » Geo-Institute Committee on Deep Foundation
- » Transportation and Development Institute
- » Transportation and Infrastructure Committee, Cold Regions

National Cooperative Highway Research Program (NCHRP) Affiliations

- » 01-52: A Mechanistic-Empirical Model for Top-Down Cracking of Asphalt Pavement Layers
- » 01-53: Proposed Enhancements to Pavement ME Design: Improved Consideration of the Influence of Subgrade and Unbound Layers on Pavement Performance
- » 01-62: Impact of Flooding on the Resiliency of Pavement Systems
- » 08-164: Institutional Integration of Active Transportation
- » 08-181: Understand How Climate Change and Extreme Weather Impacts the Mobility of Socially Vulnerable Populations
- » 09-66: Performance Properties of Laboratory Produced Recycled Plastic Modified (RPM) Asphalt Binders and Mixtures
- » 09-70: Guidelines for Incorporating Aging Effects on Balanced Mix Design for Quality Assurance
- » 10-124: Development of a Field Test to Determine Chip Seal Aggregate Embedment
- » 10-131: Laboratory Test Method for Estimating the Contribution of Geosynthetics to Pavement Performance
- » 20-44(40): Ensuring Essential Capability for the Future Transportation Agency
- » 56-22: Practices for Identifying, Developing, and Retaining Project Managers within State DOTs
- » Behavioral Traffic Safety Cooperative Research Program, BTS-23
- » D0733: Evaluate the Benefits of Increasing Clear Zone at Higher Speed/Traffic Volume/Crash Locations
- » D17111: Speed Management Solutions and Strategies to Improve Pedestrian and Bicyclist Safety on Arterial Roadways

American Association of State Highway Transportation Officials (AASHTO) Affiliations

- » AASHTO RAC CCTF TKNWG (Coordination and Collaboration Task Force)
- » AASHTO STEM Outreach Solutions Advisory Board
- » AASHTO Transportation Curriculum Coordination Council (TC3)
- » Transportation Knowledge Networks

Other Memberships

- » AMAP–State Advisory Board
- » American Planning Association (APA)
- » American Public Works Association (APWA) Louisiana
- » Association for Talent Development (ATD)
- » Association of Asphalt Paving Technologists (AAPT)
- » ASTM International
- » Avixa
- » Board Member for Traffic Safety Culture Transportation
- » Pooled Fund
- » Cooperative Education and Internship Association
- » Deep Foundation Institute, DFI
- » DOTD Construction and Materials Certification Committee
- » DOTD Equipment Operator Certification Program Committee
- » DOTD Transportation Curriculum Council
- » DOTD Work Zone Task Force
- » FHWA Asphalt Performance Technical Feedback Group
- » FHWA Sustainability Technical Working Group
- » Gulf Region Intelligent Transportation Society (GRITS)
- » Higher Education Technology Manager's Association (HETMA)
- » Institute of Transportation Engineers (ITE)
- » Louisiana Association for Talent and Organizational Development (LATOD)
- » Louisiana Complete Streets Advisory Council (CSAC)
- » Louisiana Engineering Society
- » Louisiana Municipal Association (LMA)
- » Louisiana Parish Engineers and Supervisors Association (LPESA)
- » Louisiana Strategic Highway Safety Plan (SHSP) Infrastructure & Operations/Implementation Teams
- » National Association of County Engineers (NACE)
- » National Local and Tribal Technical Assistance Program Association (NLTAPA)
- » National Transportation Knowledge Network (NTKN)
- » National Transportation Training Directors (NTTD)
- » Police Jury Association of Louisiana (PJA)
- » Public Relations Society of America (PRSA) National and Baton Rouge chapters
- » SEAUPG Board–DOTD Rep
- » Society for Human Resource Management (SHRM)
- » Society of Government Meeting Professionals (SGMP)
- » Southeast Task Force on Technician Training and Qualification
- » Special Libraries Association, Transportation Division
- » The International Association of Foundation Drilling, ADSC-IAFD
- » US Universities Council on Geotechnical Engineering Research (USUCGER)
- » Women in Transportation Seminar (WTS) Greater Baton Rouge

Researchers Explore Crash Characteristics and Speed Limits on Elevated Interstate Sections

M. Ashifur Rahman, Ph.D., and Elisabeta Mitran, Ph.D., spearheaded the study “Evaluation of Traffic Crash Characteristics on Elevated Sections of Interstates in Louisiana,” where they investigated the truck lane compliance rates on the Atchafalaya Basin Bridge, using video footage analysis through DeepMetrics software. The results revealed truck lane compliance rates ranging from 77.1% to 82.3% at selected locations. “The project utilized various approaches to analyze crash characteristics and hotspots as well as collect speed data on eight elevated interstate sections in Louisiana,” said Dr. Mitran. “A comprehensive analysis of 10,022 crashes from 2015 to 2020 on all eight sites revealed a collision distribution of 47% rear-end, 20% single-vehicle, and 16% sideswipe.” Individual elevated section sites exhibited distinct crash characteristics, with rural sites having higher single-vehicle crash percentages and urban sites having higher rear-end crashes.

Based on the results of the speed analysis using the Regional Integrated Transportation Information System (RITIS) probe data platform, non-compliance with posted speed limits remains a common issue for both passenger vehicles and trucks throughout elevated interstate sections in the state. “Speeding up to 10 mph above the posted limit on average was observed on the segments of elevated sections that are directly connected to the higher speed limit non-elevated sections,” mentioned Dr. Rahman. “Speeding was lower in areas with sharp curvature and in areas with relatively high-traffic volume where vehicles were merging or diverging.”

The results of this study can guide DOTD in developing strategic safety countermeasures for elevated interstate sections.



*Featured in
Tech Today!*

**23 U.S.C. §407
Disclaimer**
This document, and the information contained herein, is prepared for the purpose of identifying, evaluating, and planning safety improvements on public roads, which may be implemented utilizing federal aid highway funds. This information shall not be subject to discovery or admitted into evidence in a Federal or State court pursuant to 23 U.S.C. §407.

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Haley Ortiz, Communications and
Technology Transfer Manager

Peter Allain, P.E., PTOE, LTAP and
LRSP Crash Data Engineer

Prasanth Malisetty, P.E., PTOE, LTAP and
LRSP Crash Data Engineer

Congratulations to

Steve Strength

LTAP Director,
on his retirement with 42 years of service,

and to

Ted Ball

Management Development Program Manager,
on his retirement with 32 years of service.



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Barker Dirmann

ACEC of Louisiana



Annual Report

2023-2024