



# TECHNOLOGY TODAY

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## UPCOMING EVENTS

**TRB Webinar: Using Pavement Management to Set and Analyze Targets for Federal Reporting**

July 10  
TTEC Auditorium – Room 179

**2018 National LTAP/TTAP Conference**

July 23-26  
New Orleans, LA

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

## TECH TRANSFER

### 2018 Louisiana Transportation Conference Hits Record Attendance

*Roundabout and flood sessions draw largest crowds*

Attracting the largest crowd yet, the 2018 Louisiana Transportation Conference (LTC) brought together 1,877 transportation professionals, industry partners, and academics from across the nation. This year's theme was *Transportation Infrastructure: Driving the Economy* and took place February 25-28, 2018, at the Raising Cane's River Center.

The conference's general session included key speeches by DOTD Secretary Shawn Wilson, Ph.D., LTRC Director Sam Cooper, Ph.D., P.E., and Commissioner of Administration Jay Dardenne. This year's featured speaker was Tennessee Department of Transportation Commissioner and AASHTO President John C. Schroer.

With over 80 sessions offered at this year's LTC, a wide-range of topics were featured from traffic engineering to water resources. One attendee said, "Nothing compares nationwide to the DOTD transportation conference. It is always an excellent exchanging of ideas with many sessions to choose from." Two sessions featuring presentations on the 2016 flood and roundabouts attracted the most interest during the three-day conference.

*continued on page 2*



### Flood Impacts and Lessons

The most popular session was titled “2016 Flood Events” and presented by Chad Vosburg, DOTD Baton Rouge District Engineer Administrator. The session focused on the unexpected events from the Louisiana flood, the impacts on local roads and travel time, and how DOTD coordinated forces with limited resources. Vosburg expanded on the challenges the Department faced, which included working with only 50% of the workforce, road closures, communication, work units flooding, debris removal, among others. Session attendees were also able to see how DOTD was able to utilize aquadams, tigerdams, temporary

signals, and the largest pump available to keep as many lanes open as possible during the weeks to follow. Looking back on lessons learned during the 2016 flood, Vosburg explained, “Mother Nature will always throw you a curveball—the best of plans will always need to be modified. Communication with the public and sister agencies is critical. Be open to new unconventional ideas, be prepared for a long battle with whatever workforce you available, and take care of your workforce.”

### Compact Roundabouts

Washington State Traffic Design Engineer Brian Walsh, P.E., led the next highly attended session entitled “Compact Roundabouts.” He explained that roundabout design does not have to be a one-size fits-all approach. Walsh expanded on right-sizing roundabouts and the use of Washington State DOT “compacts,” which are smaller roundabouts designed as a fully mountable central island with raised splitter islands to define entry and provide additional deflection. Walsh said, “Compact roundabouts are designed with the idea of containing passenger cars while allowing trucks to negotiate however they need to.” The session also included a roundtable panel discussion where design and construction personnel discussed what works and what to avoid in roundabout construction plans.

To close out this year’s transportation conference, attendees gathered in River Center Ballroom for the transportation excellence awards ceremony. Special achievements and best projects were honored as well as students receiving scholarships and design awards. Most notably, the first DOTD Innovations Showcase award winners were recognized and received a budget transfer ranging from \$2,500 to \$10,000 to their respective district/gang from the HQ maintenance division.

### IMPORTANT LINKS

**View the 2018 LTC photo gallery** at <https://ltrc.smugmug.com/2018-Louisiana-Transportation-Conference>

**View 2018 LTC presentations** at [http://www.ltrc.lsu.edu/ltrc\\_18/presentations.html](http://www.ltrc.lsu.edu/ltrc_18/presentations.html)



The next Louisiana Transportation Conference is already in the works and scheduled for **March 1-4, 2020.**

# Transportation Awards and Recipients

The following list of awards is part of the ongoing recognition of special achievement in engineering and construction projects by DOTD and their transportation partners. This competition recognizes the “best of the best” projects, demonstrating the dedication to providing the highest quality in transportation infrastructure to their customers, the citizens of Louisiana, and the users of state highways, transit systems, airports, ports, and other public works.

## Louisiana Work Zone Excellence Awards

### Zero job infractions (2016-2017)

|             |                               |
|-------------|-------------------------------|
| District 04 | Bernie Sincavage and Gang 254 |
| District 58 | Bridget Ellerbe and Gang 221  |
| District 03 | Jeff Faust and Gang 203       |
| District 07 | Seth Woods and Gang 283       |

### Honorable Mention

|             |                          |
|-------------|--------------------------|
| District 05 | Matt French and Gang 215 |
|-------------|--------------------------|

### The Work Zone Excellence Urban Project Award

|  |                         |
|--|-------------------------|
| District 03  | Jeff Faust and Gang 203 |
| J B James Construction for the Verot School Road Project |                         |

### The Contractor Work Zone Excellence Award

Gilchrist Construction

### The Rural Contractor Work Zone Excellence Award

W L Bass

## Louisiana DOTD Transportation Excellence Awards

### Roadway/Bridge Construction Project under \$10 Million

Sasol North America – Heavy Haul Road  
Mike Thomas, Sasol North America

### Bridge Design Project Development

Ouachita River Bridge @ Harrisonburg Bridge Replacement  
Paul Fossier, Bridge Design Engineer Administrator, Section 25

### Road Design Project Development

I-10 Widening (I-49 to Atchafalaya Floodway Bridge)  
Brian Kendrick, Project Management Director, Section 34

### Intermodal/Public Works Project Development

North General Aviation Development Multiplex Facilities  
Baton Rouge Metropolitan Airport



### Context Sensitive Solution/Public Involvement

US 190: Guardrail/Rutting Replacement  
Andrew Judice, Engineer 6 DCL, Section 24

### Use of Innovative Product or Technology

Sasol North America – Adaptive Traffic Signal Systems  
Mike Thomas, Sasol North America

### Special Achievement in Customer Service

Improving Tolling Operations One Tag at a Time  
Scott Rundell, Director of Tolling Operations, Section 70

## 2018 SASHTO Scholarship Award Recipients

**LA TECH:** Dillon Benoit, Blaine Roussell, John Brooks, Seth Mosley, Olivia Gremillion, Samuel Bourgeois, M. Lane Brister, Brian Elkins, Dayne Ghormley, Colton May, Devin Silvestri, Matthew Upshaw, and Jodie Witcher

**LSU:** Colleen Atkins, Denzel Flores, Madeline Priest

Southern: Faren Spooner and Jameese McCray

**ULL:** Joshua Laborde and Julia Ross

**UNO:** Crystal Suggs

**McNeese:** John Ange





Photo source: SayCheeeeeese [Public domain], from Wikimedia Commons

## RESEARCH

# New Crash Countermeasures Found to Reduce Crash Rates and Severity

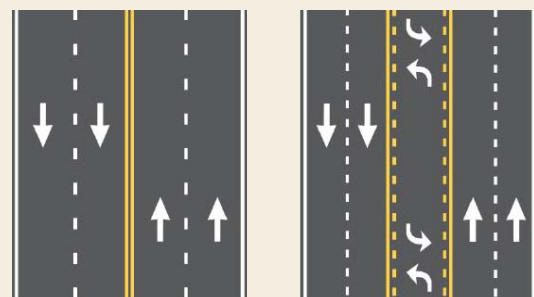
In partnership with “Destination Zero Deaths,” DOTD has been continually implementing crash countermeasures. Over the past several years, a few relatively new crash countermeasures were implemented on state highways. These include centerline rumble strips (CLRS) on rural two-lane highways and restriping four-lane undivided roadways (4U) in urban and suburban areas to create three-lane (3T) or five-lane (5T) roadways with center turn lane. To evaluate the effectiveness of these crash countermeasures, LTRC launched a project that investigated the safety impact of center line rumble strips and lane conversions on Louisiana highways.

Spearheaded by Xiaoduan Sun, Ph.D., P.E., and M. Ashifur Rahman, the research team performed a before-and-after crash characteristics analysis, developed crash modification factors (CMFs), and performed benefit-cost analyses for all the investigated safety features.

Dr. Sun and her team used Google Maps to verify the locations and construction years of each countermeasure. The crash analysis was done by crash severity, manner of collision, user type, time of the day, alcohol involvement, and distracted driver condition. Dr. Sun explained, “To capture all intersection-related crashes, the research team investigated all crashes

within at least a 150-ft. radius of intersection. For few intersections with high AADT, crashes that occurred a half mile away from the intersections were also investigated considering potential traffic queues at the intersections.” The team also used original crash reports to further validate and verify crash characteristics in lane conversions.

Dr. Sun and Rahman’s study comes at a crucial time. Despite Louisiana making strides to reduce the number of highway crashes in recent years, the state still ranks worse than the national average in all highway traffic fatality rate measures. Dr. Sun explained, “Based on the results, the project recommends that the state may consider implementing CLRS and lane conversion at locations where targeted crash rate is higher than the state average.”



Before/after image of restriping a typical four- to five-lane highway section [reproduced from road diet informational guide]

Overall, researchers found that each crash countermeasure evaluated in this project reduces crashes by number and severity as well as targeted types of crashes for a particular roadway facility:



**Centerline rumble strips** are an effective measure for rural two-lane highways. The observed crash reductions were 15.1%, 31.2% and 22.1% for total, fatal and injury crashes, respectively.



Based on the small sample size evaluated in this study, the results indicate that **lane conversions** could be an effective and low-cost crash countermeasure for urban and suburban four-lane undivided roadways with driveway density higher than 36 (studied sections have driveway density varies from 36 to 68 driveways per mile).

To learn more about the results from this study, please contact Dr. Xiaoduan Sun, P.E., at 338-482-6514 or xsun@louisiana.edu.

## New Employee Spotlight: Shirley Mamou



**Serving as the new Training and Development Specialist 3 for Section 33**, Mamou will evaluate training needs and design, develop, and teach training materials for DOTD Maintenance and the Construction and Materials Training Program.

As a former 4th grade social studies teacher for Avoyelles Parish, Mamou is no stranger to the classroom or creating quality

material for her students. In her new role at LTRC, she will also organize draft manuscripts to provide an orderly plan for the preparation of text, validate training materials, and serve as a specialized expert on a project basis for individual technical areas.

Mamou is eager to meet new people from the many different facets of DOTD. “Long before I began teaching, I immersed myself in reading and research. I absolutely love to learn new information. I have never been satisfied with just knowing what I already know. Although it became necessary for me to leave the school environment, I quickly realized that the passion remained within me to grow in knowledge and to continue passing along that knowledge to others. LTRC is the conduit that is making it possible for me to accomplish that.”



### Certifications and Honors

- Bachelor of Science – Criminal Justice
- Master of Business Administration
- Master of Management and Human Resource Management
- Associate, Customer Service Certificate – LOMA (Life Office Management Skills)



### Fun Facts

- Loves to spend time with son
- Enjoys writing and bowling in her spare time



**Senior Design Project Presentation Award Recipients**  
**1st Place** University of Louisiana at Lafayette; **2nd Place** Louisiana State University; **3rd Place** Louisiana Tech University

**DOTD Innovations Showcase Winners**

**1st Place**

*Rut Buster*

District 08 – Brent Ray, Shannon Parker, Roger Moore, and Kerry Lemoine

**2nd Place**

*Disc Blade Attachment*

District 58 – Ben Purvis, Gary Panterria, Allen Linder, Vincent Smith, and Neal Emfinger

**3rd Place**

*Culvert Inspection Vehicle*

District 02 – Robert Alford



**STAFF NEWS**

# Staff Updates and Accomplishments

LSU Professor and EMCRF Manager **Louay N. Mohammad**, Ph.D., P.E., (WY) was appointed, for a three-year term to the National Academies of Science, Engineering, and Medicine Transportation Research Board (TRB) AFK 50 Standing Committee on Structural Requirements of Asphalt Mixtures.

Congratulations to our employees recognized for their many years of service!

**10 Years**—Keith Beard and Patrick Frazier

**15 Years**—Gavin Gautreau, P.E.; Jenny Speights, Kirk Zeringue, P.E., and Tina Blanchard Kleinpeter

**20 Years**—Renee Cosse

**25 Years**—Allison Landry

**30 Years**—Kevin Gaspard, P.E.

**35 Years**—Mitchell Terrell





LTRC would like to welcome new Concrete Research Engineer **Jose Milla**, Ph.D., E.I.

The Louisiana Parish Engineers and Supervisors Association honored LTAP Office Manager **Bob Breaux** at their annual Spring Conference in Opelousas on April 12 in light of his upcoming retirement. LTAP Director Marie Walsh told the crowd that Bob has worked at LTAP for 25 years and wanted to thank him on behalf of LPESA for his sincere appreciation for 20 years of dedicated service to the association. LPESA President Carl Thompson thanked Bob in front of conference attendees for all the hard work he's done and presented him with a plaque.



## PUBLICATIONS

# Recently Published

### Project Capsule 18-6C

“Influence of Internal Curing on Measured Resistivity”

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

### Project Capsule 18-3P

“Best Practices for Assessing Roadway Damages Caused by Flooding”

*Mingjiang Tao, Ph.D., P.E.*

### Technical Summary and Final Report 595

“Evaluation of Dowel Bar Alignment and Effect on Long-term Performance of Jointed Pavement”

*Tyson Rupnow, Ph.D., P.E.; Patrick Icenogle, P.E.; and Zachary Collier, E.I.*

### Technical Summary and Final Report 586

“Development of a Simulation Test Bed for Connected Vehicles using the LSU Driving Simulator”

*Sherif Ishak, Ph.D., P.E.; Osama A. Osman, Ph.D.; Matthew Theriot, Peter Bakhit, Sogand Karbalaieali, and Saleh Mousa*



## VIEW ONLINE

To download a complete list of LTRC publications, visit the website at [www.ltrc.lsu.edu](http://www.ltrc.lsu.edu).



## LOUISIANA TRANSPORTATION RESEARCH CENTER

4101 Gourrier Avenue  
Baton Rouge, LA 70808-4443  
DOTD Section 33

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For additional information on material included in this newsletter, contact the public information director at 225-767-9183.

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### LTRC Administration and Publications Staff

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**Sam Cooper, Ph.D., P.E.**, Director

**Tyson Rupnow, Ph.D., P.E.**, Associate Director, Research

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

**Mary Leah Coco, Ph.D.**, Associate Director, Technology Transfer & Training

**Jenny Speights**, Public Information Director

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**Chris Melton**, Multi-Media Producer

**Jenny Gilbert**, Editor/Technical Writer

**Laura Williams**, Editorial Assistant

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