

**AUBURN UNIVERSITY  
SAMUEL GINN COLLEGE OF ENGINEERING**

**Department of Civil and Environmental Engineering  
Highway Research Center  
Alabama Transportation Assistance Program**

**64<sup>th</sup> Annual Alabama  
Transportation Conference  
February 9-11, 2021**



***Program Developed by:***

*Alabama Department of Transportation*

*Federal Highway Administration*

*Auburn University*

*Alabama Road Builders Association*

*Alabama Asphalt Pavement Association*

*Alabama Concrete Industries Association*

*American Society of Civil Engineers, Alabama Section*

*Association of County Engineers of Alabama*

*Institute of Transportation Engineers, Alabama Section*

*American Council of Engineering Companies of Alabama*

*Alabama Bridge Contractors Association*

*Precast/Pre-stressed Concrete Institute, Gulf South Region*

## ABOUT THE CONFERENCE

The 64<sup>th</sup> Annual Alabama Transportation Conference will be held virtually February 9-11, 2021. The Alabama Transportation Conference is developed by the Department of Civil and Environmental Engineering at Auburn University and the Alabama Department of Transportation. This event provides an opportunity to share innovative advances in transportation planning, design, construction, operations, and maintenance. Technical sessions create a forum for the exchange of ideas among transportation professionals.

## REGISTRATION FEES

Conference registration is required for all attendees. Registration includes access to all technical sessions as well as virtual vendor booths.

Regular	\$40
ALDOT	\$40
Student	\$10
ALDOT Retiree	\$10

Please register for the conference online at [aub.ie/registerATC2021](http://aub.ie/registerATC2021)

## PROFESSIONAL DEVELOPMENT HOURS

Participants at this virtual conference will be able to attend up to seventeen (17) hours of Professional Development Hours (PDHs). Auburn University makes every effort to ensure that its technical programs conform to the requirements of the State of Alabama Board of Licensure for Professional Engineers and Land Surveyors for the award of PDHs to support the annual renewal of professional licensure.

## SPONSORSHIP OPPORTUNITIES

### Premium Sponsorship - \$1000

- Promotional Video of Products and Services
- Virtual Sponsor Booth
- Recognition in between sessions
- Banner Ad in Event Application
- **Two** Complimentary Registrations

### Standard Sponsorship - \$500

- Virtual Sponsor Booth
- Recognition in between sessions
- Banner Ad in Event Application
- **One** Complimentary Registration

For registration and additional information, please visit [aub.ie/sponsorregisterATC2021](http://aub.ie/sponsorregisterATC2021)

## PROGRAM COMMITTEE

### Alabama Department of Transportation

John R. Cooper	Edward Austin
George Conner	Maxine Wheeler
William Adams	Willie Bradley
Tim Colquett	John Eagerton
Scott George	Stacey Glass
Robert Lee	Brad Lindsey
Matt Leverette	Clay McBrien
Michelle Owens	Phillip Shamburger
John-Michael Walker	Steve Walker

### Auburn University

Brian Anderson	Ben Bowers
Kim Brumeloe	Veronica Ramirez
Justin Marshall	Mike Perez
Anton Schindler	Carla Story
Rod Turochy	Jose Vasconcelos
Hugo Zhou	

### Federal Highway Administration

Mark Bartlett, Montgomery, AL  
Kristy Harris, Montgomery, AL

**American Society of Civil Engineers, Alabama Section**  
Maggie Weems, Birmingham, AL

**Institute of Transportation Engineers, Alabama Section**  
Blair Perry, Birmingham, AL

**Association of County Engineers of Alabama**  
Greg Bodley, Hartselle, AL

**American Council of Engineering Companies of Alabama**  
Renée Casillas, Montgomery, AL

**Alabama Road Builders Association**  
Tom Layfield, Montgomery, AL

**Alabama Asphalt Pavement Association**  
Mel Monk, Montgomery, AL

**Alabama Concrete Industries Association**  
John Sorrell, Montgomery, AL

**Alabama Bridge Contractors Association**  
Clay McInnis, Montgomery, AL

**Precast/Pre-stressed Concrete Institute, Gulf South Region**  
Dan Eckenrode, Gulfport, MS

# 64<sup>th</sup> Annual Alabama Transportation Conference

## Agenda

### Tuesday, February 9, 2021

8:30am – 10:00am

#### **Opening General Session**

Presiding: Dr. Rod Turochy, Professor and ATAP Director  
Department of Civil and Environmental Engineering, Auburn University, AL

#### **Opening Remarks**

**The Honorable Kay Ivey, Governor (Invited)**  
State of Alabama

**John R. Cooper, Transportation Director**  
ALDOT, Montgomery, AL

10:30am – 12:00pm

#### **Spotlight Session**

##### **Accelerated Bridge Construction (ABC) for Alabama**

Presiding: Paul Froede, Miscellaneous Structures & Bridge Design, ALDOT, Montgomery, AL

##### **Design of PennDot's First Self-propelled Modular Transporter Bridge Move: Shaler Street Bridge**

Lou Ruzzi, WSP, Pittsburgh, PA  
Matt Cochran, H.W. Lochner, Pittsburgh, PA

##### **Construction of PennDot's First Self-propelled Modular Transporter Bridge Move: Shaler Street Bridge**

Shane Szalankiewicz, Pennsylvania DOT, Bridgeville, PA  
Patrick Heer, Mammoet Northern USA, Inc., Swedesboro, NJ

##### **Use of Accelerated Bridge Construction for the University Boulevard Bridge over US-82 in Tuscaloosa, Alabama**

Kevin McAlister, Barge Design Solutions, Inc., Nashville, TN  
Jack Kimbrough, Barge Design Solutions, Inc., Huntsville, AL

1:00pm – 2:30pm

#### **Highway Safety**

Presiding: Steve Walker, State Design Engineer, ALDOT, Montgomery, AL

##### **TDOT's Story on Improving Worker Safety**

James C. Norris, Tennessee DOT, Nashville, TN

##### **MASH Update and Potential Impact on Current Practices**

Chiara Silvestri Dobrovolsky, Ph.D., Texas A&M Transportation Institute, College Station, TX

##### **Wrong-Way Driving Mitigation: Case Studies in Alabama**

Hugo Zhou, Ph.D., Department of Civil and Environmental Engineering, Auburn University, AL

3:00pm – 4:30pm

#### **Construction**

Presiding: Matt Leverette, State Construction Engineer, ALDOT, Montgomery, AL

##### **Construction of a Diverging Diamond Interchange in Baldwin County**

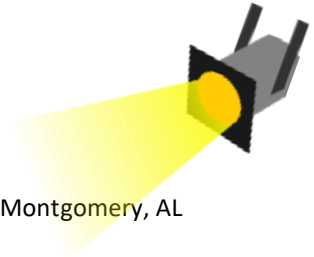
Jennifer Eubanks, ALDOT, Southwest Region, Mobile, AL

##### **Alabama's First ABC Culvert Using All Precast Elements**

Wesley Fulmer, ALDOT, Southeast Region, Montgomery, AL

##### **Do The Right Thing #buildsafetogether**

Scott Overby, McInnis Construction, Summerdale, AL



# Wednesday, February 10, 2021

8:30am – 10:00am

## Roadway Design

Presiding: Maggie Weems, President, American Society of Civil Engineers, Alabama Section

### ALDOT's New Performance-Based Practical Design Guide

Steve Walker, ALDOT, Design Bureau, Montgomery, AL

### Lessons Learned from Alabama's First DDI: I-10 at SR 181

Liz Johnson, Kimley-Horn Associates, Birmingham, AL

### Southern Boulevard: From Conceptualization to Implementation

Aaron White, ALDOT, Southeast Region, Troy, AL

Justin Palmer, ALDOT, Southeast Region, Montgomery, AL

10:30am – 12:00pm

## Geotechnical Engineering

Presiding: Kaye Chancellor Davis, Deputy Materials and Tests Engineer, ALDOT, Montgomery, AL

### Geotechnical and Geophysical Investigations of the US-231 Landslide

Jack Montgomery, Ph.D., Department of Civil and Environmental Engineering, Auburn University, AL

Brannon MacDonald, ALDOT, Materials and Tests Bureau, Montgomery, AL

### Using a Drilled Shaft Supported Bridge for Emergency Slide Repair, US 231

Robert Thompson, Dan Brown and Associates, Montgomery, AL

### Advanced Geotechnical Methods for Exploration

Ben Rivers, Federal Highway Administration, Atlanta, GA

1:00pm – 2:30pm

## Emerging Technologies

Presiding: Chris Hilyer, State TSM&O Administrator, ALDOT, Montgomery, AL

### Focus in a Blissful Environment: Systems and Standards Which Reduce Distracted AV Operation

Patrick Weber, Mercedes-Benz U.S. International, Inc., Vance, AL

### Electric Vehicle Infrastructure for the Future Demand

Cedric Daniels, Alabama Power Company, Birmingham, AL

### West Central Region Connected Vehicle Pilot Deployment Update

Alex Hainen, Ph.D., Department of Civil, Construction, and Environmental Engineering,

The University of Alabama, Tuscaloosa, AL

3:00pm – 4:30pm

## Asphalt: Balanced and Recyclable

Presiding: Scott George, State Materials and Tests Engineer, ALDOT, Montgomery, AL

### Balanced Mix Design: The County Experience

Buzz Powell, Ph.D., National Center for Asphalt Technology, Auburn University, AL

### Virginia's Road to BMD Implementation

Stacey Diefenderfer, Ph.D., Virginia Transportation Research Council, Charlottesville, VA

### Cold Recycling: Can We Use It Here?

Stephen Cross, Ph.D., S. Cross & Associates, LLC, Stillwater, OK

# Thursday, February 11, 2021

8:30am – 10:00am

## City and County Engineering

Presiding: Greg Bodley, President, Association of County Engineers of Alabama

### New LPA Design Policies for City and County Projects

Adam Sanford, ALDOT, Local Transportation Bureau, Montgomery, AL

### Local Government Transportation Project Funding Guide

James Boyer, ALDOT, Local Transportation Bureau, Montgomery, AL

### Upcoming Changes to Survey Measurements and Coordinates

Bill Hazelton, Ph.D., Department of Geospatial Informatics, Troy University, Troy, AL

10:30am – 12:00pm

## Bridges

Presiding: Tim Colquett, State Bridge Engineer, ALDOT, Montgomery, AL

### Design of the New Mentone Arch Bridge

Nick Walker, ALDOT, Bridge Bureau, Montgomery, AL

### Rapid Replacement of CSX's Bayou Sara Bridge Swing Span

Kevin Kane, Brasfield & Gorrie, LLC, Birmingham, AL

David Knickerbocker, Ph.D., HDR, Inc., Charlotte, NC

### Experimental Determination of Horizontal Braking Force Distribution in Pile Bent Bridges

Justin Marshall, Ph.D., Department of Civil and Environmental Engineering, Auburn University, AL

1:00pm – 2:30pm

## Maintenance

Presiding: Stacey Glass, State Maintenance Engineer, ALDOT, Montgomery, AL

### ALDOT's Response to the Sodium Hydrosulfide Spill on I-59

Roddy Mitchell, ALDOT, East Central Region, Birmingham, AL

Adam Anderson, ALDOT, Materials and Tests Bureau, Montgomery, AL

### Cleanup After Hurricane Sally

Don Powell, ALDOT, Southwest Region, Mobile, AL

Corey Thomas, Thompson Engineering, Mobile, AL

### Data Collection for ALDOT's Maintenance Quality Assurance Program with ArcGIS 123

Jeremy Barnes, ALDOT, Maintenance Bureau, Montgomery, AL

Morgan Musick, ALDOT, Maintenance Bureau, Montgomery, AL

3:00pm – 4:30pm

## Natural and Cultural Resources

Presiding: Wade Henry, Assistant State Design Engineer, ALDOT, Montgomery, AL

### Georgia's Section 106 Programmatic Agreement: A Partnership of Agencies & Tribes

Sandy Lawrence, Georgia DOT, Atlanta, GA

### Integrated Project Delivery at NCDOT – Improving Delivery from Concept to Construction

Christopher M. Werner, North Carolina DOT, Raleigh, NC

### ALDOT's Public Response to COVID

Natasha Clay, ALDOT, Design Bureau, Montgomery, AL

FEBRUARY 9-11, 2021



64<sup>th</sup> Annual  
Alabama Transportation Conference



AUBURN  
UNIVERSITY

Alabama Transportation Assistance Program  
Department of Civil and Environmental Engineering  
202 Ramsay Hall  
1161 W. Samford Ave., Bldg. 8  
Auburn University, AL 36849-5375

Non-Profit Org.  
U.S. Postage Paid  
Permit #530  
Montgomery, AL