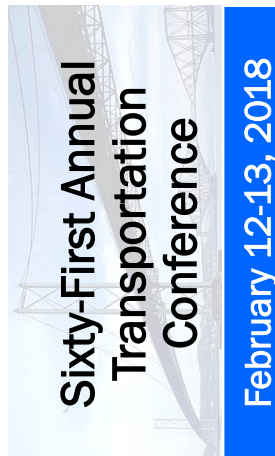




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SAMUEL GINN COLLEGE  
OF ENGINEERING**

**Engineering Continuing Education  
Department of Civil Engineering  
Alabama Technology Transfer Center**

*present the*



**Sixty-First Annual  
Transportation  
Conference**

**February 12-13, 2018**

**Sponsored by:**

*Alabama Department of Transportation  
Federal Highway Administration  
Auburn University  
Alabama Road Builders Association  
Alabama Asphalt Pavement Association  
Alabama Concrete Industries Association  
ASCE, 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

Auburn's Civil Engineering Department and the Program Committee have designed the Sixty-First Annual Transportation Conference for federal and state highway personnel, road building contractors, general contractors, heavy construction contractors, utility contractors, county engineers, consulting engineers, construction material vendors, researchers, professional society representatives, and University faculty members. It provides an opportunity for these individuals to share innovative advances in transportation planning, engineering design, and construction.

The conference presents technical presentations to provide a forum for the exchange of ideas within the highway engineering and construction professions. The sponsorship of the annual conference is indicative of the broad cross section of interest in the programs of this one and a half day continuing education event.

## Location and Schedule

The conference will be held at the Renaissance Montgomery Hotel & Spa at The Convention Center, located at 201 Tallapoosa Street, Montgomery, Alabama. Final registration and check-in will be held from 8:30 a.m. to 10:30 a.m. in the Main Lobby on Monday, February 12, 2018. The Opening General Session begins at 10:30 a.m. in the Performing Arts Center on the second floor. The conference will adjourn Tuesday afternoon, February 13, 2018.

## Registration and Fee

All persons attending the conference must register. The registration fee of \$200 includes all sessions, program materials, refreshment breaks, and luncheons. Additional luncheon tickets are available at the registration desk. Student and ALDOT retiree registration is \$50. To register, please complete the attached registration form and return it by mail to the address indicated, by FAX 334-844-5715, or by calling Engineering Continuing Education at 800-446-0382 or 334-844-4370. On-line registration is available at [www.engce.auburn.edu](http://www.engce.auburn.edu).

## Accommodations

Participants are responsible for making their own lodging arrangements. A block of rooms have been reserved at the conference hotel. The room block is listed under "Sixty-First Transportation and Engineering Conference". Rate: \$139 plus taxes. Call 877-545-0311.

## Cancellation Policy

Due to commitments to our speakers and facilities, the registration fee is non-refundable if a registrant withdraws less than five business days before the program starts. Substitutions may be made at any time, please notify us in advance if possible. No-shows will be liable for the entire conference fee. Auburn University reserves the right to cancel any program due to insufficient registrations. This decision is usually made no later than five business days prior to the event. If a program is canceled for any reason, all fees will be refunded. Auburn University will not be responsible for travel expenses incurred by a registrant as the result of a canceled program.

## Continuing Education

Participants in this conference will be able to attend up to eight (8) hours of technical programs. 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 Professional Development Hours to support the annual renewal of professional licensure.

## Participants with Disabilities

It is the policy of Auburn University to provide accessibility to its programs and reasonable accommodations for persons defined as having disabilities under the Americans with Disabilities Act of 1990. Please contact us at least two weeks prior to the program so that proper consideration can be given to any special needs.

## Program Handouts

Handouts of the material presented at each session will be available for download approximately two weeks after the conference. Presentations can be downloaded by visiting the following website: <http://www.alabamat2.org>

## Program Committee

### Alabama Department of Transportation

John R. Cooper	Don Arkle
George Conner	Lamar Woodham
William Adams	Willie Bradley
Ed Austin	John Eagerton
Tim Colquett	Skip Powe
Ed Phillips	Steve Walker
Tim Barnett	Stacey Glass
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Jeff LaMondia	Justin Marshall
Larry Sellers	Anton Schindler
Rod Turochy	Wesley Zech
Hugo Zhou	Michael Heitzman

### Federal Highway Administration

Mark Bartlett and Lewis Harden  
Montgomery, Alabama

### Alabama Road Builders Association

Tom Layfield, Montgomery, Alabama

### Alabama Asphalt Pavement Association

Mel Monk, Montgomery, Alabama

### Alabama Concrete Industries Association

John Sorrell, Montgomery, Alabama

### Alabama Section, ASCE

Kendall Kilpatrick, Mobile, Alabama

### Association of County Engineers of Alabama

Josh Harvill, Lafayette, Alabama

### Institute of Transportation Engineers, Alabama Section

Cody Long, Birmingham, Alabama

### American Council of Engineering Companies of Alabama

Renée Casillas, Montgomery, Alabama

### Alabama Bridge Contractors Association

Clay McInnis, Montgomery, Alabama

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

Dan Eckenrode, Gulfport, Mississippi

## 2018 Conference Outline

### Monday, February 12, 2018

8:30 a.m.	<b>Registration Opens</b>
10:30 a.m.	<b>Opening General Session</b> -- Performing Arts Center <i>Presiding:</i> Dr. Rod Turochy, Professor and Director of the Alabama Technology Transfer Center, Department of Civil Engineering, Auburn University, Auburn, AL
	<b>Opening Remarks</b>
	<b>FEMA Preparations and Response to 2017 Hurricanes in the Gulf Coast Region</b> Jeff Byard, Associate Administrator for the Office of Response and Recovery at the Federal Emergency Management Agency (FEMA), Washington, D.C.
	<b>Engineering and Construction Challenges of the Burj Khalifa - the World's Tallest Structure</b> Lawrence C. Novak Senior Director of Structural Engineering and Codes Portland Cement Association, Skokie, IL
12:10 p.m.	<b>Governor's Luncheon</b> -- Exhibit Hall C <i>Presiding:</i> Dr. Steve Taylor, Associate Dean for Research Samuel Ginn College of Engineering Auburn University, Auburn, AL
	<b>The Honorable Kay Ivey, Governor (Invited)</b> State of Alabama
1:30 p.m.	<b>Concurrent Technical Sessions</b>
3:00 p.m.	<b>Break</b>
3:30 p.m.	<b>Concurrent Technical Sessions</b>
5:00 p.m.	<b>Adjourn</b>

### Tuesday, February 13, 2018

8:30 a.m.	<b>Concurrent Technical Sessions</b>
10:00 a.m.	<b>Break</b>
10:30 a.m.	<b>Concurrent Technical Sessions</b>
12:10 p.m.	<b>Transportation Director's Luncheon</b> -- Exhibit Hall C <i>Presiding:</i> Dr. Andy Nowak, Chair and Professor Department of Civil Engineering Auburn University, Auburn, AL
	<b>John R. Cooper, Transportation Director</b> Alabama Department of Transportation
	<b>AASHTO 25-Year Awards of Meritorious Service</b>
1:30 p.m.	<b>Adjourn</b>

# Technical Sessions – Monday, February 12, 2018

1:30 p.m. to 3:00 p.m.

## Traffic Operations and Roadway Design

*Meeting Room: Alabama A*

- Presiding: Cody Long, President  
Alabama Section ITE
- 1:30 p.m. **Performance-Based Practical Design**  
George Merritt  
FHWA, Atlanta, GA
- 2:00 p.m. **Emerging Approaches and Technology Tools for Improving Signal Timing Practices**  
Zong Tian, Ph.D., Department of Civil and Environmental Engineering, University of Nevada, Reno, NV
- 2:30 p.m. **Characterizing Congestion in the Birmingham Region**  
Andy Sullivan, Ph.D.  
University of Alabama at Birmingham, Birmingham, AL

## Paving Quality Advances and Preservation

*Meeting Room: Alabama B*

- Presiding: Lyndi Davis Blackburn, Assistant State Materials & Tests Engineer, ALDOT, Montgomery, AL
- 1:30 p.m. **Quality Control Behind the Paver Using IR Technology**  
Ray Doss  
Midsouth Paving, Oxford, AL
- 2:00 p.m. **Rapid GPR Technology to Measure Asphalt Density**  
Kyle Hoegh, Ph.D.  
MNDOT, Minneapolis, MN
- 2:30 p.m. **NCAT Pavement Preservation Studies Update**  
Adriana Vargas, Ph.D., National Center for Asphalt Technology, Auburn University, Auburn, AL

## Construction

*Meeting Room: Performing Arts Center*

- Presiding: Skip Powe, State Construction Engineer  
ALDOT, Montgomery, AL
- 1:30 p.m. **Reconstruction of I-85 Bridges in Atlanta**  
Bill Duvall and Michael Garner  
Georgia Department of Transportation, Atlanta, GA
- 2:00 p.m. **Work Zone Safety - Lane Intrusion Technology**  
Curtis Davison  
Oldcastle Materials Inc., Orlando, FL
- 2:30 p.m. **E-Construction: Efficiency Through Innovation**  
Hunter Golson  
ALDOT, Construction Bureau, Montgomery, AL

3:30 p.m. to 5:00 p.m.

## Highway Safety

*Meeting Room: Alabama A*

- Presiding: Tim Barnett, State Safety Operations Engineer  
ALDOT, Montgomery, AL
- 3:30 p.m. **Creating a Vision Zero Action Plan**  
Gena Torres  
Hillsborough County MPO, Tampa, FL
- 4:00 p.m. **Digital Advertising Billboards and Traffic Safety**  
Virginia Sisiopiku, Ph.D.  
University of Alabama at Birmingham, Birmingham, AL
- 4:30 p.m. **Interchange Deceleration Lane Design Based on Naturalistic Driving Speed and Deceleration Rates**  
Hugo Zhou, Ph.D.  
Department of Civil Engineering, Auburn University, AL

## Bridges

*Meeting Room: Alabama B*

- Presiding: Tim Colquett, State Bridge Engineer  
ALDOT, Montgomery, AL
- 3:30 p.m. **Investigation on Cross-Frame Behavior in Steel Girder Bridges**  
Wei Song, Ph.D., Department of Civil, Construction, and Environmental Engineering  
University of Alabama, Tuscaloosa, AL
- 4:00 p.m. **P3 Development of the I-10 Mobile River Bridge**  
Patrick Hickox  
HDR, Mobile, AL
- 4:30 p.m. **NEXT Beam Bridge Applications**  
David A. Tomley  
Thompson Engineering, Mobile, AL

## Environmental and Sustainability Solutions

*Meeting Room: Alabama CDE*

- Presiding: Wade Henry, Assistant State Design Engineer  
ALDOT, Montgomery, AL
- 3:30 p.m. **Birmingham's Railroad Park: Reuse of Urban Properties and Associated Economic Benefits**  
Lea Ann Macknally  
Macknally Land Design, Birmingham, AL
- 4:00 p.m. **Strategies to Minimize the Impact of Roadway Culverts on the Mobility of Aquatic Species**  
Jose Vasconcelos, Ph.D.  
Department of Civil Engineering, Auburn University, AL
- 4:30 p.m. **The Infiltration Swale: An ALDOT LID Practice**  
Scott Rogers, Ph.D.,  
ALDOT, Design Bureau, Montgomery, AL  
Wayne Stephens, ALDOT, Guntersville Area

# Technical Sessions – Tuesday,

8:30 a.m. to 10:00 a.m.

## Geotechnical Construction Challenges

*Meeting Room: Alabama A*

- Presiding: Kaye Chancellor Davis, State Geotechnical Engineer  
ALDOT, Montgomery, AL
- 8:30 a.m. **Construction of Alabama's First GRS Bridge in Marshall County**  
J. Brian Anderson, Ph.D., Auburn University, AL  
Robert Pirando, County Engineer, Marshall County, AL
- 9:00 a.m. **Kelly Creek Foundation Problems**  
Stephen M. Revell  
ALDOT, Bureau of Materials & Tests, Montgomery, AL
- 9:30 a.m. **Ground Improvement Support for an MSE Wall**  
William H. Wright, Hayward Baker, Inc., Houston, TX  
Matt Hammett, Hayward Baker, Inc., Knoxville, TN

## Growing Demand for Alternative Modes

*Meeting Room: Alabama B*

- Presiding: Kendall Kilpatrick, President  
Alabama ASCE Section
- 8:30 a.m. **Promoting Cycling, Pedestrian and Bus Rapid Transit in Huntsville**  
James Vandiver and Paige Colburn  
Huntsville Area Metropolitan Planning Organization, Huntsville, AL
- 9:00 a.m. **Cycling in the South**  
John Pucher, Ph.D.  
Rutgers University, Raleigh, North Carolina
- 9:30 a.m. **The Atlanta Beltline**  
Henry Ikwut-Ukwa  
Atlanta Beltline Inc., Atlanta, GA

## Applying New Technologies

*Meeting Room: Performing Arts Center*

- Presiding: Steve Walker, State Design Engineer  
ALDOT, Montgomery, AL
- 8:30 a.m. **Iowa's Automated Corridor**  
Will Sharp  
HDR, Omaha, NE
- 9:00 a.m. **Introducing ALDOT's UAS Section**  
JD D'Arville  
ALDOT, Maintenance Bureau, Montgomery, AL
- 9:30 a.m. **Using Ground Penetrating Radar for Utilities in Birmingham, AL**  
Robert Lee  
ALDOT, Right of Way Bureau, Montgomery, AL

February 13, 2018

10:30 a.m. to 12:00 p.m.

Parking

Innovative Concrete Technology

Meeting Room: Alabama A

Presiding: Dan Eckenrode
Executive Director PCI Gulf South, Gulfport, MS

10:30 a.m. Ultra-High Performance Concrete and its Use for Accelerated Bridge Construction
Benjamin A. Graybeal, Ph.D., FHWA, Turner-Fairbank Highway Research Center, McLean, Virginia

11:00 a.m. Nondestructive Testing to Assess the In-Place Condition of Bridge Decks
Larry D. Olson
Olson Engineering, Inc., Rockville, MD

11:30 a.m. 1st ALDOT Precast Pavement Installation: I-165 SB Service Road at US 90 Ramp
Mike Quaid, Fort Miller Co. Inc., Greenwich, NY
Lyndi Davis Blackburn, ALDOT, Montgomery, AL

Safety and Evaluation

Meeting Room: Alabama B

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

10:30 a.m. Use of an Autonomous Impact Attenuator in Colorado
Kyle Lester
Colorado Department of Transportation, Denver, CO

11:00 a.m. Scour Inspection of Bridges in Houston after Hurricane Harvey
Graham Bettis
Texas Department of Transportation, Austin, TX

11:30 a.m. Work Zone Safety Using Emerging Technologies
Eric Marks, Ph.D., School of Civil and Environmental Engineering, Georgia Institute of Technology
Atlanta, GA

Alternative Contracting

Meeting Room: Performing Arts Center

Presiding: William Adams, Assistant Chief Engineer,
Pre-Construction, ALDOT, Montgomery, AL

10:30 a.m. Alternative Technical Concepts for the CBD Project
Lance Taylor
Assistant Region Engineer, ALDOT, Birmingham, AL

11:00 a.m. Introduction to P3 Project Finance
Tim Wilschetz
U.S. Managing Director, KPMG, Austin, TX

11:30 a.m. Examples of How Other States Implement P3
Greg Schiess
Strategic Initiatives Office, FDOT, Tallahassee, FL

1. Hotel: Renaissance Montgomery Hotel and Spa Parking Deck

The Renaissance Montgomery Hotel and Spa at the Convention Center occupies the entire block bordered by Tallapoosa Street (front), Commerce Street, Moulton Street and Bibb Street. Parking deck entrance is from the Bibb Street side of the hotel. There are 600 parking places (including valet).

Parking deck entrances are into the hotel second floor and the Convention Center first and second floor. The elevators are different and marked.

Rates:
Self Park: 0-30 min. Free; Up to 2 hrs. - \$3.00; 2 to 6 hours \$6.00; 6 to 10 hours \$10.00; Overnight \$10.00
Valet Parking: 0 to 10 hours \$10.00; Overnight \$16.00

2. MATS Parking Deck

Located at the corner of Moulton and Bell Street. Hours & Rates:
Monday-Friday 6:30 a.m. to 6:00 p.m. - \$1.00 per hour.
Monday-Friday 6:30 p.m. to 6:00 a.m. - no charge
Friday 6:00 p.m. to Monday 6:30 p.m. (Weekends) - no charge.
MATS (Montgomery Area Transportation System) 334-241-2203

3. Biscuits / Riverwalk Stadium Parking

Open daily with no attendant and no charge
Game Days: \$4.00
Operated by the Montgomery Kiwanis Club (334-834-7929)

4. Park-ette Parking Area 334-265-7215

Located across Bibb Street between Lee and Commerce.
Private Parking during the week
Free Parking after 6:00 pm Friday through 6:00 pm Sunday
Please note: the permit only lot behind/ southeast of this lot is not available without a permit 24 hours per day, seven days a week.

5. Embassy Suites Hotel

Located across Tallapoosa Street from the Renaissance Hotel.
Rates: \$5.00 per day. Parking charges apply based on demand.

6. Montgomery Chamber of Commerce Visitors Bureau

Located off Water Street under the train station.
Monday - Friday 6:00 a.m. to 5:00 p.m. parking with a permit only.
No charge to park evenings and weekends.

7. Commerce Street / Tallapoosa Street Lot

Located across from the front entrance to the hotel at the Northwest corner of Tallapoosa and Commerce Streets.
Rates: Monday - Friday 6:00 a.m. to 5:00 p.m. parking with a permit only. No charge to park evenings and weekends.

8. Street Parking:

Metered Parking Spaces:
Meters apply Monday through Friday from 8:00 a.m. to 6:00 p.m.
No charge for Evenings, Weekends and Holidays.

Non-Metered Parking Spaces:
Non-metered diagonal spaces and median spaces (on Commerce Street between Tallapoosa and Montgomery Streets)
No restrictions or charges for parking at this time.

Please Note:

Due to the rapidly developing renovation projects throughout downtown Montgomery, there may be changes to this information that are beyond our control.

Sixty-First Annual Transportation Conference

Renaissance Montgomery Hotel and Spa at the Convention Center

February 12-13, 2018

ON LINE REGISTRATION AT: www.engce.auburn.edu

Please print or type; register one person per form; photocopy if more forms are needed.

Name, Employer, DOT Division/Bureau, City, State, Zip+4, Position, Address, Phone, Fax, E-mail

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