



# 104<sup>th</sup> Purdue Road School

*Transportation  
Conference  
& Expo*

**March 5–8, 2018**



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Complimentary Internet service is provided. The network name is "attwifi" and no password is needed.





## Welcome to Purdue Road School Transportation Conference and Expo

Purdue Road School continues to provide participants with opportunities to obtain Professional Development Hours (PDHs) toward licensing requirements. Last year, 2,703 attendees recorded 8,604 PDHs with Purdue Conferences. In 2018, over 175 available sessions with PDH credits are available. We are again offering 4 hours of distance learning for sessions on Indiana Statutes and Ethics for Professional Engineering, scheduled for Monday and Wednesday.

Many of you may have noticed that the impact of the technical program lasts well beyond the 4-day event. Since 2011, we have archived Road School presentations in the Purdue Libraries' online repository, and in 2015 we added Road School proceedings dating back to 1924. To date these proceedings and presentations have been downloaded more than 244,000 times. This impact would not be possible without the strong participation of colleagues and stakeholders who have shaped the program, which this year includes more than 191 presentations involving nearly 375 speakers and moderators.

You will also notice that campus continues to change. Since you were here last, the Wilmeth Active Learning Center, located at the site of the old power plant, opened this past fall with over 2,200 classroom seats in 27 active classrooms. The Bechtel Innovation Design Center opened a few weeks later, providing students with 3D printing, advance machine shops, and garage space for work on vehicles. The semester concluded with the opening of a complete reconstruction of State Street. In addition to attending sessions and meeting with vendors, we hope you take a few minutes to walk around campus and see some of these completed campus projects.

### **Darcy M. Bullock, Ph.D., P.E.**

Professor of Civil Engineering and  
Director of Joint Transportation Research Program  
Purdue University

### **John E. Haddock, Ph.D., P.E.**

Professor of Civil Engineering and  
Director of Indiana Local Technical Assistance Program  
Purdue University

# WELCOME

TO PURDUE ROAD SCHOOL



**Wilmeth Active Learning Center**  
<https://doi.org/10.4231/R75B00D1>



**Bechtel Innovation Design Center**  
<https://www.purdue.edu/bidc/>



**Reconstruction of State Street**  
<https://doi.org/10.4231/R7P55KPG>

# TUESDAY

## SCHEDULE OF EVENTS

# Opening Session

**Tuesday, 9:00–10:50 AM**  
**LOEB Theater, Stewart Center**

### **MODERATOR**

**Mike Piggott**

Director, Community Relations  
Purdue University

### **WELCOME**

**Steve Abel**

Associate Provost for Engagement  
Purdue University

### **INTRODUCTORY REMARKS**

**Darcy Bullock**

Director, Joint Transportation Research Program  
Purdue University

### **KEYNOTE SPEAKERS**

**Joe McGuinness**

Commissioner, Indiana Department of Transportation

**Bill Hanna**

President/CEO, Northwest Indiana  
Regional Development Authority

**Pete Buttigieg**

Mayor of South Bend

# TUESDAY

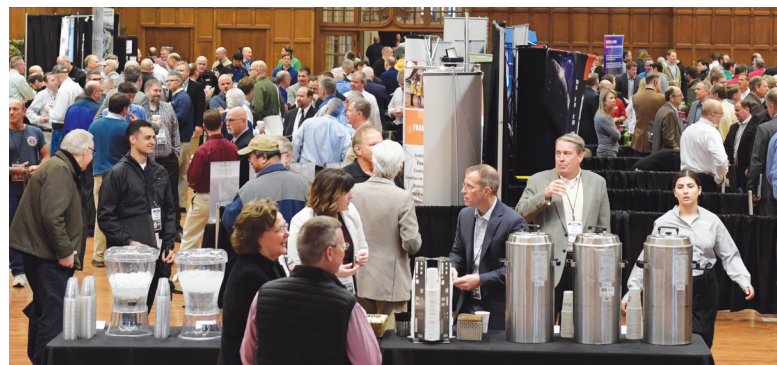
## SCHEDULE OF EVENTS

### **COFFEE WITH EXHIBITORS**

**Tuesday, 7:00–8:45 AM**

**North & South Ballrooms, Purdue Memorial Union**

Please join our exhibitors for coffee prior to the Opening Session.



2017 Coffee With Exhibitors

### **EXHIBITOR LUNCHEON**

**Tuesday, 11:00 AM–1:50 PM**

**North & South Ballrooms, Purdue Memorial Union**

The annual exhibitor luncheon provides an opportunity for attendees to visit with the exhibitors and enjoy a light lunch buffet. Name badges are required for admission.



2017 Exhibitor Luncheon



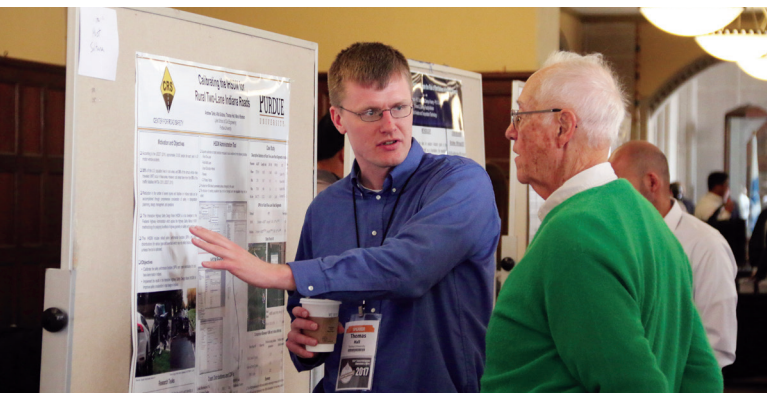
# TUESDAY

## SCHEDULE OF EVENTS

### STUDENT POSTER SESSION

**Tuesday, 11:00 AM–1:50 PM**  
**Purdue Memorial Union**

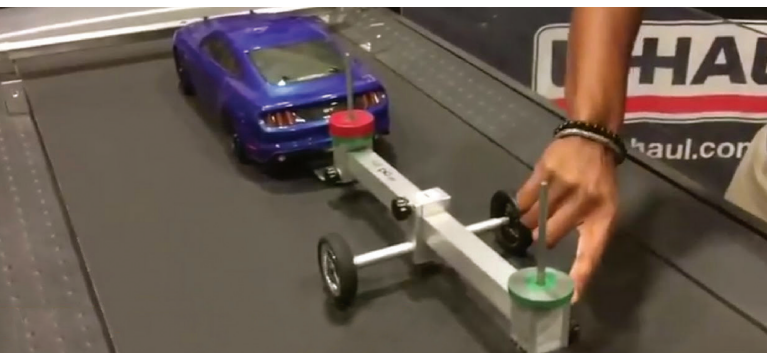
Adjacent to the South Ballroom (in the southwest corner of the Purdue Memorial Union), look for students exhibiting posters that highlight recent research activities.



### SAFETY DEMONSTRATIONS

**Tuesday, 11:00 AM–1:50 PM**  
**Purdue Memorial Union**

Adjacent to the South Ballroom (in the southwest corner of the Purdue Memorial Union), look for the “Safe Trailing” demonstration. This program is aimed to provide important education and prevent injuries, hazards, and fatalities on our roadways:



# WEDNESDAY

## SCHEDULE OF EVENTS

### ROAD SCHOOL LUNCHEON

**Wednesday, 11:00 AM–12:50 PM**  
**North & South Ballrooms, Purdue Memorial Union**

Tickets are sold in advance. A limited number of \$25 tickets may be released at 10:00 AM on the day of the luncheon. Please inquire at the Road School registration desk in the Purdue Memorial Union.

### *Keynote Speaker: Jennifer Rumsey*

Jennifer Rumsey is Vice President and Chief Technical Officer at Cummins, Inc. In this role, she leads the global technical organization of approximately 10,000 employees responsible for research and engineering across Cummins's business segments. As a member of the Cummins Leadership Team, Jennifer helps set the strategy for the company, which includes a commitment to leading in critical technologies and providing a broad portfolio of power solutions for its global customers in diverse industries.

Her early career focused on control systems and system engineering, initially at a fuel processing and fuel cell start-up company in Cambridge, Massachusetts. In 2000 she moved to Cummins and has worked in a variety of engineering roles across its Engine and Components businesses, including advanced technology development, new product development, and current product engineering.



Jennifer is a member of the Society of Women Engineers, Society of Automotive Engineers, and Women in Trucking Association. She holds a Bachelor of Science in Mechanical Engineering from Purdue University and a Master of Science in Mechanical Engineering from Massachusetts Institute of Technology. Jennifer

and her husband, Jim, have two daughters and are active members of First United Methodist Church in Columbus. They enjoy hiking, cycling, and traveling.

# THURSDAY

## SCHEDULE OF EVENTS

### ASSOCIATIONS BREAKFAST & MEETING

**Thursday, 8:00 AM–12:00 PM**  
**South Ballroom, Purdue Memorial Union**

A joint association breakfast meeting will start at 8:00 AM on Thursday in the Purdue Memorial Union South Ballroom. Following the breakfast, associations will convene for their own meetings in the assigned rooms in Stewart Center.

**Speaker: Jeff Brohm, Purdue Football Head Coach**

- **IACT—Indiana Association of Cities and Towns** – Stewart Center, Room 202
- **AIC—Association of Indiana Counties** – Stewart Center, Room 204
- **IACHES—Indiana Association of County Engineers and Highway Supervisors** – Stewart Center, Room 206
- **IACC—Indiana Association of County Commissioners** – Stewart Center, Room 214A
- **Surveyors Association** – Stewart Center, Room 214B
- **Aviation Association Indiana** – Stewart Center, Room 214C
- **Indiana Chapter of American Traffic Safety Services** – Stewart Center, Room 214D
- **APWA—American Public Works Association** – Stewart Center, Room 278
- **ISC—Indiana Street Commissioners** – Stewart Center, Room 279
- **ADA Coordinators' Association** – Stewart Center, Room 218B
- **Indiana Association of City Engineers** – Stewart Center, Room 218A
- **Indiana Chapter of American Planning Association** – Stewart Center, Room 218C
- **Indiana MPO Council** – Stewart Center, Room 218D

# OTHER EVENTS

## OTHER ROAD SCHOOL EVENTS

### INDIANA LTAP

Visit Indiana LTAP in Stewart Center, Room 307, to receive a free print copy of LTAP's 2018 Directory of Indiana State, County, City, and Town Officials. An electronic copy of the directory is also available for download at LTAP's website ([www.purdue.edu/inltap](http://www.purdue.edu/inltap)). The mobile directory app has been updated and is available at the iTunes Store for iPhones and at Google Play for Android phones.

### ITE INDIANA ROAD SCHOOL DINNER/BANQUET

**Wednesday, 6:00–8:00 PM**  
**PMU 240 (East Faculty Lounge), Purdue Memorial Union**

For additional information, please visit <http://www.indianaite.org>.



2017 ITE Midwest/Great Lakes District Student Leadership Summit



# THANK YOU

## ROAD SCHOOL PLANNING



Thank you! During the past six months, hundreds of volunteer hours have been invested in developing the technical program. In addition to expressing our appreciation to the speakers and moderators listed in the program, we would like to thank the following individuals for participating in the planning meetings and reviews that shaped this year's program.

Barb Alder  
Dave Bagnall  
Jessica Ballantyne  
John Beery  
David Benefiel  
Laura Britton  
Bridget Brunton  
Michael Buening  
Darcy Bullock  
Mike Byers  
Elyssa Campodonico-Barr  
Jon Clodfelter  
Pat Conner  
Ed Cox  
Rich Domonkos  
Jay DuMontelle  
Thomas Duncan  
Katie England  
Louis Feagans

Pam Fisher  
Kenny Franklin  
Jeromy Grenard  
John Haddock  
Richard Hedgecock  
Katie Hendryx  
Laura Hilden  
Jeff Hill  
Mike Holowaty  
David Holt  
David Holtz  
Debbie Horton  
Sarah Hubbard  
Jeremy Hunter  
William Knopf  
Bob McCullouch  
Gary Mroczka  
Thomas Murtaugh  
Dan Osborn

Craig Parks  
Kirsten Pauley  
Kym Pelfree  
Alan Plunkett  
Sean Porter  
Jennifer Pyrz  
Anne Rearick  
Brian Rivette  
Michael Rowe  
Michael Schmierer  
Carol Shelby  
Laura Slusher  
Bill Smith  
Doug Valmore  
Jay Wasson  
Ashley Watson  
Tim Wells  
Cliff Wojtalewicz  
Stephanie Yager

# HOURS

## PROFESSIONAL DEVELOPMENT/CONTINUING EDUCATION

Professional Development Hours (PDHs)/Continuing Education Units (CEUs) are available for applicable sessions. Attendance at the entire session is required for credit. Two different options are available for recording/reporting your PDHs/CEUs.

## HOW TO OBTAIN YOUR PDH/CEU STATEMENT

- You may retain a self-reporting, Professional Development Hours Credit Statement for your own records (available at registration).
  - You may modify your registration and receive an event specific PDH/CEU statement from Purdue University. By modifying your registration, you certify that you attended all sessions selected.
  - Below are instructions on how to modify your registration to receive an event specific PDH/CEU statement from Purdue University.
1. Visit <https://tinyurl.com/2018RS-RegModification> at the conclusion of Road School.
  2. Log in and complete the requested fields (First Name, Last Name, Email Address, Confirmation Number) exactly as they are reflected on your registration confirmation.
  3. After logged in, click on the "Modify" button on the "Confirmation" tab.
  4. You will advance to the "Personal Information and Contact Information" page. Scroll to the bottom and click on the "Next" button.
  5. The list of sessions, ordered by Day and Presentation, will appear on the next page. Select the session(s) you attended and then click on the "Next" button at the bottom of the page.
  6. Follow the prompts to continue and complete the PDH/CEU recording process.

An event-specific PDH/CEU statement will be sent to your registration email address on April 18, 2018.

# ARCHIVES

## ROAD SCHOOL PUBLICATIONS ON PURDUE E-PUBS

In 2011 we began digitally archiving Road School presentations with authors' permission in Purdue e-Pubs, the Purdue Libraries' open access repository. In 2015 we archived the proceedings of previous Road Schools dating back to 1924. You may access the presentations and proceedings here: <http://docs.lib.purdue.edu/roadschool/>.

## TOP 10 PRESENTATION DOWNLOADS\*

Presentation	Author	Year	Downloads
Best Practices in Contract Administration	Bren George-Nwabugwu	2013	15,352
Concrete Pavement: Selections of Concrete Materials	Jerry Larson	2011	8,165
Design and Construction of Auger Cast Piles	Malek Smadi	2015	7,830
Dynamic Cone Penetrometer (DCP)	Nayyar Zia Siddiki	2012	4,622
The Importance of Performing Route Surveys in the State of Indiana	Rodney Kelly Chester Parsons Grant Niemeyer	2013	4,491
Drainage Ditches: All Shapes and Sizes	Kent Wamsley	2012	4,194
Proper Design Details for PCC Pavement Performance	Mike Byers	2011	4,099
Sanitary Landfill Method of Solid Waste Disposal	John Bell	1973	4,083
Culvert Slip Lining	Scott Brown Darin Duncan Stephen Ritzler Sam Martin	2011	3,299
Planning for Trail Facilities: Design Standards for Shared Use Paths	Jason Griffin	2012	2,972

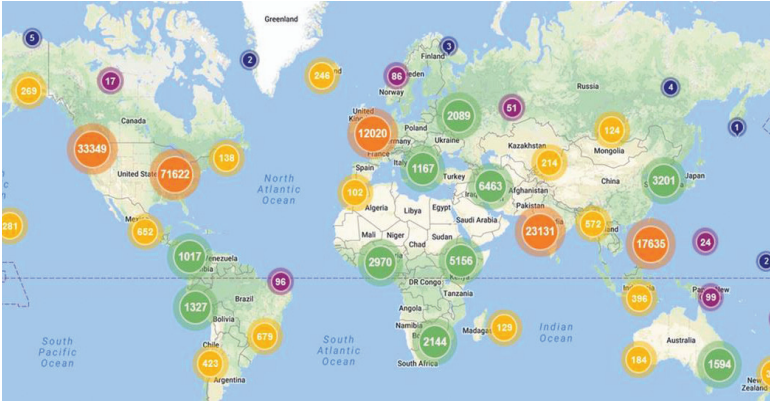
\*As of December 31, 2017.

# ARCHIVES

## ROAD SCHOOL PUBLICATIONS ON PURDUE E-PUBS

2018 Road School presenters can stop by the Purdue Libraries exhibit area on the second floor of Stewart Center to submit their presentations either before or after their session. The archived presentations provide a valuable resource after Purdue Road School is conducted, as demonstrated by the more than 244,000 downloads of the presentations and proceedings to date.

## 2017 ROAD SCHOOL READERSHIP DISTRIBUTION



2017 Purdue Libraries exhibit on second floor of Stewart Center



# At-a-Glance Schedule

Tuesday, 7:00 AM–4:50 PM

**MAR 6**

7:00–8:45 AM  
**Coffee With Exhibitors**  
Purdue Memorial Union  
North & South Ballrooms

9:00–10:50 AM  
**Opening Session**  
Loeb Theater  
Stewart Center

11:00–11:50 AM  
**Technical  
Sessions**

11:00–1:50 PM  
**Exhibitor  
Luncheon  
& Poster  
Session**  
Purdue  
Memorial Union  
North & South  
Ballrooms

1:00–4:50 PM  
**Technical  
Sessions**

Wednesday, 8:00 AM–4:50 PM

**MAR 7**

8:00 AM–10:50 AM  
**Technical Sessions**

11:00–12:50 PM  
**Road School Luncheon**  
Purdue Memorial Union  
North & South Ballrooms

1:00–4:50 PM  
**Technical Sessions**

Thursday, 8:00 AM–12:00 PM

**MAR 8**

8:00 AM–12:00 PM  
**Associations**  
Purdue Memorial Union  
South Ballroom  
Breakfast at 8:00 AM  
*Meetings directly after  
breakfast speaker*

Monday, 3:00–4:50 PM

**MAR 5**

**Ethics Classes**  
Fowler Hall, Stewart Center

Technical session locations and descriptions are listed on the pages that follow.

TIME  
3:00–3:50 PM

ROOM  
FOWLER

PDH: 1

**101A. Indiana Statutes and Rules for Professional Engineers**

This is an updated discussion of the Indiana Code and Indiana Administrative Code applied to the practice of engineering, including pending changes to the rules. Topics: pending changes to the steps to becoming a licensed professional engineer; computer-based testing for the FE, FS, PE, and PS exams; recent information on digital sealing of drawings and reports; new board newsletter; use of NCEES service to track continuing professional development; process for becoming a member of the board.

**SPEAKERS**  
David Kish, Purdue University  
Vincent Drnevich, Purdue University

**MODERATOR**  
Opal Kuhl

TIME  
4:00–4:50 PM

ROOM  
FOWLER

PDH: 1

**102A. Ethics and the Practice of Engineering and Surveying**

In this session we present a comparison of personal codes of ethics, professional society codes of ethics, ethics in the NCEES Model Law and Model Rules, and the Indiana Code and Indiana Administrative Code. Updated guidelines for handling ethical dilemmas will be discussed, along with several new case histories and enforcement in Indiana compared with enforcement in other states.

**SPEAKERS**  
David Kish, Purdue University  
Vincent Drnevich, Purdue University

**MODERATOR**  
Opal Kuhl

TIME  
11:00–11:50 AM

ROOM  
STEW 206

PDH: 1

**1. Identifying and Mitigating Pack Rust in Steel Bridges**

Pack rust, or crevice corrosion, is a type of localized corrosion. When steel surfaces are in contact, or even when a steel surface is in contact with a non-metal, corrosion can initiate and rust starts to pack between the surfaces. This study involves understanding the parameters involved in the initiation process, analyzing pack rust in Indiana bridges, and reviewing existing DOT mitigation strategies and repair procedures. Join us for a discussion.

**SPEAKERS**  
Mark Bowman, Purdue University  
Chintan Patel, Purdue University

**MODERATOR**  
Jose Ortiz, FHWA

**2. I-70 Over SR 121 Bridge Slide**

This presentation details the accelerated construction of the I-70 over Indiana SR 121 bridges and includes a brief history of the funding roles of INDOT and FHWA and the designer contract documents. The construction engineering methodology and step-by-step construction sequence will be detailed, with construction decisions for the slide, bridge demolition, bridge slide operations, and project completion.

**SPEAKERS**  
Kevin Gorak, American Structurepoint, Inc.  
Pete Jerrell, Walsh Construction

**MODERATOR**  
Mike McCool, Beam, Longest & Neff

TIME  
1:00–1:50 PM

ROOM  
STEW 206

PDH: 1



**TIME**  
2:00–2:50 PM

**ROOM**  
STEW 206

**PDH: 1**

### 3. Design and Launching of Redundant Truss Over RR Yard

Five deteriorating trusses over the BNSF Northtown rail yard in Minneapolis need replacement. The new skewed 305-foot truss and two-span steel girder meet the RR's desire to eliminate two piers in their yard. The truss incorporates unique redundancy measures, including eliminating fracture-critical steel truss members and gusset plates and using a post-tensioned concrete bottom chord. Removal of the two existing truss spans and installation of the new truss is accomplished using a launching system. Come learn about this project.

#### SPEAKER

Martin Furrer, Parsons Corporation

#### MODERATOR

Mike McCool, Beam, Longest & Neff

**TIME**  
3:00–3:50 PM

**ROOM**  
STEW 206

**PDH: 1**

### 4. Life-Cycle Cost Analysis for Short-Span Bridges

Life-cycle cost analysis is a tool created to evaluate different alternatives for a project using initial and long-term costs. Short-span bridges (less than 130 feet) represent 57% of the NBI Indiana bridge inventory. We will present analyses for short-span bridges in Indiana based on LCCA for different span ranges. The results will help designers consider the most cost-effective bridge solution for new and existing projects, resulting in cost savings for agencies.

#### SPEAKERS

Stefan Leiva, Purdue University  
Mark Bowman, Purdue University

#### MODERATOR

Mike McCool, Beam, Longest & Neff

**TIME**  
4:00–4:50 PM

**ROOM**  
STEW 206

**PDH: 1**

### 5. Introduction to INDOT Bridge Asset Management Procedures

This session introduces INDOT bridge asset management procedures and asset management tools and provides a general overview of the responsibilities of the INDOT Bridge Asset Management Team, which manages more than 5,700 bridges and nearly 9,000 culverts. This team is responsible for ensuring that a 5-year bridge management budget is developed and implemented.

#### SPEAKERS

Andrew Fitzgerald, INDOT  
Adam Post, INDOT  
Gary Ruck, Deighton Associates, Ltd.

#### MODERATOR

Mike McCool, Beam, Longest & Neff



TIME  
1:00–1:50 PM

ROOM  
FOWLER

PDH: 1

6. An Introduction to Automated Vehicle (Basic 101)

In this session we will discuss the basics of automated vehicle technologies and applications, as well as differences between connected, automated, autonomous, and connected-automated vehicles.

SPEAKER  
Grant Zammit, FHWA

MODERATOR  
Karen Stippich, FHWA

TIME  
2:00–3:50 PM

ROOM  
FOWLER

PDH: 2

7. Electric Vehicle and Connected Autonomous Vehicle Opportunities

This session will address battery technology opportunities for CAV & an overview of CAV research from Argonne National Laboratory.

SPEAKERS  
Ben Wrightsman, Battery Innovation Center  
Tom Stephens, Argonne National Laboratory  
Konstantina Gkritza, Purdue University

MODERATOR  
Karen Stippich, FHWA

TIME  
11:00–11:50 AM

ROOM  
STEW 302

PDH: 1

8. Intersections and Interchanges: Indiana Design Manual Updates

This session presents updates to Indiana Design Manual Chapter 48 (Interchanges) and Chapter 46 (Intersections). Updates to Chapter 48 include the programmatic agreement between INDOT and FHWA for INDOT to assume the responsibility for determining engineering and operational acceptability for certain types of request for changes in Interstate access for expedited FHWA approval. Updates to Chapter 46 include incorporating specific roundabout guidance as well as information on alternate intersection designs.

SPEAKERS  
Dan McCoy, INDOT  
Mark Orton, INDOT

MODERATOR  
Brad Steckler, INDOT

9. Light Weight Deflectometer and Its Updated Deflections on Subgrade Treatments and Aggregates

Light weight deflectometer (LWD) has been widely used for quality assurance in road construction, in particular compaction of both chemically treated subgrade soil and aggregate subbase. However, it has been recognized that LWD measurements vary with many factors. Based on LWD tests in actual road construction, this presentation provides updated information on the LWD deflection measurements for both chemically treated subgrade soil and aggregate subbase.

SPEAKERS  
Nayyar Zia Siddiki, INDOT  
Shuo Li, INDOT  
Yi Jiang, Purdue University

MODERATOR  
Brian Rivette, INDOT

TIME  
1:00–1:50 PM

ROOM  
STEW 302

PDH: 1



TIME  
2:00–2:50 PM

ROOM  
STEW 302

PDH: 1

**10. INDOT Office of Hydraulics Updates and the Upcoming Prequalification Requirements**

INDOT plans to begin requiring hydraulics prequalification for design services. This presentation covers the types of design services that will require prequalification and the process to become prequalified.

**SPEAKERS**  
Mark Bailey, INDOT  
Brett Jones, INDOT

**MODERATOR**  
Brian Rivette, INDOT

TIME  
3:00–3:50 PM

ROOM  
STEW 302

PDH: 1

**11. IRI, INDOT’s New Smoothness Measure**

This presentation provides an overview of INDOT’s move from the use of current smoothness specifications to IRI. Included is a look at the specifications, INDOT test methods, and what will be expected of contractor and INDOT personnel.

**SPEAKERS**  
Ting Nahrwold, INDOT  
Andrew Pangallo, INDOT  
Dwayne Harris, INDOT

**MODERATOR**  
Brian Rivette, INDOT

TIME  
4:00–4:50 PM

ROOM  
STEW 302

PDH: 1

**12. I-69 at 106th Street Interchange**

This first-of-its-kind oval-about interchange was an INDOT project with financial support from both the City of Fishers and Hamilton County, in a combined effort to relieve congestion at the two existing adjacent interchanges of 96th and 116th Streets. We will discuss the extensive traffic analysis completed for the FHWA Interchange Justification Study, modifications in roundabout design, cost savings of two parallel two-lane bridges versus one odd-shaped five-lane bridge, and lessons learned in utility coordination.

**SPEAKERS**  
Jeremy Richardson, United Consulting  
Bill Curtis, United Consulting

**MODERATOR**  
Brian Rivette, INDOT

**13. Today’s Mapping Toolbox**

This session presents advancements in the field of unmanned aircraft systems (UAS) and how they can be applied to transportation engineering projects. We will cover how project scope impacts data collection methods, as well as our process for syncing aerial drone data with mobile LiDAR data and traditional surveys to create topographic and planimetric mapping data. Information will be presented for selecting the appropriate surveying/mapping methods for different projects, looking at accuracy, convenience, cost versus value, and safety with each method.

**SPEAKER**  
Jeff Padgett, Woolpert, Inc.

**MODERATOR**  
Rod Waltman, Rod Waltman & Co., LLC

TIME  
11:00–11:50 AM

ROOM  
STEW 306

PDH: 1

TIME  
1:00–1:50 PM

ROOM  
STEW 306

PDH: 1

**14. Principles of Writing Construction Specifications and Special Provisions**

This presentation will help project managers and designers prepare the necessary information required for department and local public agency contracts with regard to the Standard Specifications and any necessary special provisions. Attendees will be provided examples of the proper way to present a Unique Special Provision, including things to avoid and questions to ask, in order to adhere to legal, moral, and ethical construction standards.

**SPEAKERS**  
Scott Trammell, INDOT  
Melissa Russell, INDOT

**MODERATOR**  
Greg Pankow, INDOT

TIME  
2:00–2:50 PM

ROOM  
STEW 306

PDH: 1

**15. I-465/I-69 Project Update**

This presentation provides an update on the I-465/I-69 Interchange Modification and Added Travel Lanes Design Project in northeast Indianapolis. We will discuss the three final alternatives and the main considerations that led to the selection of the preferred alternative, and present the preferred alternative. Discussion includes the design philosophy, how each proposed ramp movement will improve traffic operations, and the overall project schedule.

**SPEAKERS**  
Mark Perron, Parsons Corporation  
Dan McCoy, INDOT  
Craig Moore, Parsons Corporation

**MODERATOR**  
Greg Pankow, INDOT

TIME  
3:00–3:50 PM

ROOM  
STEW 306

PDH: 1

**16. Practical Overview of Revised Section 918, Geosynthetics**

INDOT Standard Specifications Section 918, Geosynthetics, has been revised and updated, broadening the tools available to designers and contractors challenged with variable soil types and site conditions. The revision effort included harmonizing Section 200, 600, and 900 language relative to the design and use of geosynthetics. Section 918 broadly pertains to geosynthetics, which includes geotextiles, geogrids, geocells, geomembranes, and geocomposites. This session includes a practical discussion about specific changes to geotextile specifications and the addition of geotextile types.

**SPEAKERS**  
Nayyar Zia Siddiki, INDOT  
Santino Piccoli, Ten Cate Mirafi

**MODERATOR**  
Greg Pankow, INDOT

**17. I-64 New Albany Emergency Culvert Repair**

In 2015 a 13-foot diameter corrugated metal pipe collapsed under 50+ feet of fill adjacent to I-64 in New Albany, Indiana. INDOT contracted Parsons to design an emergency geotechnical, structural, and environmental solution. Substantial flow through the pipe was reestablished just 5 weeks after the collapse, mitigating the risk of additional flooding or possible damage to the Interstate. Join us to learn about this project, which is an excellent example of teamwork between owner, engineer, permitting agencies, and contractor.

**SPEAKERS**  
Bob Fisher, Parsons Corporation  
Mike Wigger, Earth Exploration, Inc.  
Greg Carleton, INDOT

**MODERATOR**  
Greg Pankow, INDOT

TIME  
4:00–4:50 PM

ROOM  
STEW 306

PDH: 1

TIME  
1:00–1:50 PM

ROOM  
STEW 214CD

PDH: 1

18. Indiana Bond Bank: A Local Government Funding Option

In this session, attendees will learn how the Indiana Bond Bank (IBB) can be an asset to local government. The IBB provides financing options for essential equipment, short-term infrastructure projects, and fuel budgeting; is set up to assist with debt issuance; and exempts the need to bid the financing. Officials from INDOT and the City of Lafayette will offer their insight on how the IBB may benefit your organization or community.

SPEAKERS

Matt Zimmerman, Indiana Bond Bank  
Joe Gustin, INDOT  
Mike Jones, City of Lafayette

MODERATOR

Stephanie Yager, Assoc. County Commissioners

TIME  
2:00–2:50 PM

ROOM  
STEW 214CD

PDH: 1

19. The Best Decision by Design: Selection of Professional Services

Working with a design professional will give you the advantage of his or her expertise and innovative approaches to your project to provide more successful project outcomes: durable and sustainable facilities, lower construction costs, shorter construction schedules, and lower life-cycle costs. Join us to gain a critical perspective on why owners choose to hire design professionals based on a negotiated procurement process instead of bidding.

SPEAKERS

Adam Burns, Crawford, Murphy & Tilly, Inc.  
Jeff Clanton, INDOT  
Craig Parks, Boone County Highway Department

MODERATOR

Stephanie Yager, Assoc. County Commissioners

TIME  
3:00–3:50 PM

ROOM  
STEW 214CD

PDH: 1

20. Asset Management for Local Elected Officials

Do you understand the pavement treatments your street or highway department is choosing, or why they have decided to chip seal roads that are in good condition? Is your agency using an asset management program to make these types of decisions? After learning the principles of asset management and the techniques that industry professionals are using, you will have the background to communicate pavement maintenance decisions to your constituents, who are eager to understand them.

SPEAKERS

Richard Domonkos, Purdue University  
Pat Conner, Purdue University

MODERATOR

Stephanie Yager, Assoc. County Commissioners

21. LTAP Jeopardy

“This is Jeopardy. Now entering the studio are today’s contestants.” Let play Indiana LTAP Jeopardy! Be prepared to respond with the correct answer to best our LTAP question wizards. This hour will feature four of the smartest teams in Jeopardy history, who will answer some of the toughest questions relating to Indiana local transportation. Categories will include Indiana code, safety, drainage, asset management, MUTCD, GIS, road construction, and plan reading.

SPEAKERS

Richard Domonkos, Purdue University  
Rick Drumm, FHWA  
Laura Slusher, Purdue University

MODERATOR

Stephanie Yager, Assoc. County Commissioners

TIME  
4:00–4:50 PM

ROOM  
STEW 214CD

PDH: 1



TIME  
1:00–1:50 PM

ROOM  
STEW 279

PDH: 1

22. Indiana’s Long Range Infrastructure Funding Drives Performance Metrics

During the past decade, Indiana’s major capital program went from approximately \$300 million to \$1.1 billion as major new capacity was added through investments in traditional projects. During this period, INDOT concurrently developed a formal asset management program to provide the state legislature with a needs assessment. In 2017, the Indiana legislature and governor enacted legislation that will significantly increase state and local funding. Join us to learn about the challenges and opportunities presented.

SPEAKERS

Louis Feagans, INDOT  
Dan Brassard, INDOT

MODERATOR

Jermaine Hannon, FHWA

TIME  
2:00–2:50 PM

ROOM  
STEW 279

PDH: 1

23. Avoiding Contract Audit Citations by Improving Billing Submissions

In this session, INDOT auditors address common billing errors for different contract payment methodologies. Attendees responsible for preparing bills and submitting invoices will gain a better understanding of how contracts are designed and what is accepted for payment. Local agencies will understand how to review a consultant’s billing before making payment, thus avoiding citations. This presentation should be of particular interest to both engineering consulting firms and local agencies who do business with INDOT.

SPEAKERS

David Brewer, INDOT  
Bill Morgan, INDOT

MODERATOR

Jermaine Hannon, FHWA

TIME  
3:00–3:50 PM

ROOM  
STEW 279

PDH: 1

24. Local Federal Aid Funding Topics

Federal mandates surrounding projects include project end dates and inactivity. Mandates went into effect on 12-26-2014, yet we find that many locals are not familiar with the process and have projects lapsing. When projects lapse, funds are no longer available. The ever-changing political atmosphere in which locals work is a major contributor. As politics change, so do staff, and many are caught off guard when federal funds begin disappearing. Join us for a discussion.

SPEAKERS

Karen Hicks, INDOT  
Adam Makuley, FHWA

MODERATOR

Jermaine Hannon, FHWA

TIME  
1:00–1:50 PM

ROOM  
PMU 240/FACE

PDH: 1

25. Changing the Culture Through Logistics

Beginning in FY17, INDOT began a multiyear trial of integrating a logistics/supply chain model into its day-to-day business. Results were positive, though mixed. This presentation focuses on the full change management cycle, from identifying the best opportunities to ensure success to bringing along those late adopters.

SPEAKERS  
Melody Coleman, INDOT  
Clark Packer, INDOT

MODERATOR  
Kyle Winling, City of Fort Wayne

TIME  
2:00–2:50 PM

ROOM  
PMU 240/FACE

PDH: 1

26. Actively Creating the Diverse Workplace of Today

Diversity in the workplace requires champions to challenge the status quo. “Manbassador,” “HeForShe,” and so on are more than mere buzzwords. At their most effective, they reflect behaviors, organizational culture, and programs that lead to creating a climate of hiring, professional development, promotional opportunities, and mentoring for women and men in a cooperative and collaborative environment. Are you ready to be a champion for others in your own career field? Then join this conversation.

SPEAKERS  
Steve Abel, Purdue University  
Audrey Taylor, netlogix  
Tiffany White, Rolls-Royce

MODERATOR  
Barbara Alder, Purdue University

TIME  
3:00–3:50 PM

ROOM  
PMU 240/FACE

PDH: 1

27. Lifting Leadership: Compass, Clarity, and Capacity

Forward movement and increased capacity requires forward thinking and the willingness to tackle the topic of self-leadership. Discover the navigational benefits of examining your leadership compass, how misplaced beliefs in leadership myths may be derailing your influence as a leader, and how implementing practical steps for personal growth can uplevel your capacity as a leader. You will leave with an action plan that you can begin implementing immediately.

SPEAKER  
Amy Barg, The John Maxwell Team

MODERATOR  
Kyle Winling, City of Fort Wayne

28. Connecting Compounds

Connecting. It works in chemistry, and in relationships. And just as chemical bonds are difficult to break, so are those that result when people engage in ways in which all feel seen, heard, and valued. Discover the simple, powerfully practical steps you can take to increase your influence and improve your outcomes by intentionally connecting.

SPEAKER  
Amy Barg, The John Maxwell Team

MODERATOR  
Representative to be identified

TIME  
4:00–4:50 PM

ROOM  
PMU 240/FACE

PDH: 1

TIME  
11:00–11:50 AM

ROOM  
STEW 202

PDH: 1

**29. Transformation of a County Highway Department**

In this session we present steps taken to improve the public image and employee culture at the Boone County Highway Department, including policies, processes, and strategies we implemented successfully and attempted changes that weren't successful. We will discuss challenges we faced and the image we had to overcome at the onset of our transformation, as well as goals established in planning for the future of the department.

**SPEAKERS**

Craig Parks, Boone County Highway Department  
Nick Parr, Boone County Highway Department  
Jeff Wolfe, Boone County

**MODERATOR**

Craig Parks, Boone County Highway Department

TIME  
1:00–2:50 PM

ROOM  
STEW 202

PDH: 2

**30. Doing Business With INDOT: A Comprehensive Guide for Indiana Cities and Towns**

There is a lot to know to coordinate a project or apply for a grant with INDOT: state and federal regulations, training requirements, contracts to sign, websites to check, e-mail lists to join. This year, INDOT aims to simplify this information and present a road map for doing business with us. You will leave this presentation confident that you know what you need to know if you plan to work with us or apply for project funding.

**SPEAKERS**

Erin Hall, INDOT  
Kathy Eaton-McKalip, INDOT

**MODERATOR**

Tim Wells, INDOT

TIME  
3:00–3:50 PM

ROOM  
STEW 202

PDH: 1

**31. Access Equity: A Foundation of Healthy Communities**

For over 25 years the American's with Disabilities Act has required communities to plan for and transition their infrastructure and programs to become accessible. However, many communities still have a long way to go. This presentation takes compliance to the next level and engages community partners in the discussion of what access equity looks like and why it has to be the goal of a solid ADA transition plan.

**SPEAKERS**

Kim Irwin, Health by Design  
Amy Sekhar, Indiana Council on  
Independent Living  
Erin Hall, INDOT

**MODERATOR**

Tim Wells, INDOT

**32. Greensbranch Sewer Rehabilitation Project**

In this session we will discuss the rehabilitation of a century-old section of the 96-inch Greensbranch sewer in Anderson, Indiana, where the interceptor was constructed from vitrified clay sewer brick. The goal of the project was for lateral reinstatement and future storage in the pipe as a cost-effective combined sewer overflow measure. United Consulting Engineers was the designer; Insituform Technologies was the contractor.

**SPEAKER**

Walter Evans, City of Anderson

**MODERATOR**

Tim Wells, INDOT

TIME  
4:00–4:50 PM

ROOM  
STEW 202

PDH: 1



TIME  
11:00–11:50 AM

ROOM  
STEW 218AB

PDH: 1

TIME  
1:00–1:50 PM

ROOM  
STEW 218AB

PDH: 1

**33. LTAP Data Management System**

In this session we will discuss the features of the LTAP Data Management System and the timeline for its development and launch.

**SPEAKER**  
Representative to be identified

**MODERATOR**  
Bob McCullouch, Purdue University

**34. Top 10 Reasons It’s Time to Update Your County’s Land Use Codes**

The seasoned Hoosier planners on this panel present the top ten indicators that your community’s land use codes may be due for an update and suggest various approaches for bringing these codes up to today’s standards. A few of the key points we will explore age, best practices, terminology, a new comprehensive plan, and legal vulnerability.

**SPEAKERS**  
K. K. Gerhart-Fritz, The Planning Workshop, Inc.  
Deborah Luzier, GRW

**MODERATOR**  
Anne Trobaugh, IACT

**35. Navigating the Local Planning Process for Engineers**

Engineers and surveyors involved with development or infrastructure must sometimes interact with a local government’s planning department. In Indiana, state law even requires that city plan commissions include the city engineer and that county plan commissions include the county surveyor. This session provides basic information that engineering professionals need to know to successfully navigate the local planning process and public meetings, including state law requirements.

**SPEAKER**  
K. K. Gerhart-Fritz, The Planning Workshop, Inc.

**MODERATOR**  
Anne Trobaugh, IACT

**36. Three Reasons Your Agency Should Be Incorporating Community Logos on Your Street Name Signs**

Public agencies across the country are incorporating community logos into the design of their street name signs. This presentation covers the benefits agencies are reaping: community pride, improved wayfinding, and improved safety when logos are included with larger and brighter signs. Logos can be incorporated simply, and cost efficiently. Join us to learn how.

**SPEAKER**  
Aaron Means, Avery Dennison

**MODERATOR**  
Anne Trobaugh, IACT

TIME  
2:00–3:50 PM

ROOM  
STEW 218AB

PDH: 2

TIME  
4:00–4:50 PM

ROOM  
STEW 218AB

PDH: 1

TIME  
1:00–1:50 PM

ROOM  
STEW 214AB

PDH: 1

**37. Cured-in-Place Pipe (CIPP) and Culvert Rehabilitation: Minimizing Risks**

**Limiting CIPP and Spray-On Liner Culvert Rehabilitation Water Quality Impacts and Construction Specifications**—Cured-in-place pipe (CIPP) and spray-on liners are used to rehabilitate damaged culverts. Our study objectives were to (1) compile and summarize known CIPP and spray-on lining surface water contamination incidents; (2) provide an overview of water quality impact studies on CIPP and spray-on liners; and (3) compare and contrast current construction practices for 32 transportation agencies. In this session we share what we learned and provide a list of recommended construction specifications to minimize risks to water quality.

**SPEAKERS**  
Kyungyeon Ra, Purdue University  
Mabi Teimouri, Purdue University

**Worksite Chemical Air Emissions and Exposures During Pipe Rehabilitation Using CIPP**—Cured-in-place pipe (CIPP) is the most popular water pipe rehabilitation technology in the U.S. In our study, materials emitted from the CIPP worksites were condensed and characterized in Indiana and California, and results showed that common assumptions about worksite safety were proven incorrect. In this session we share field observations and lessons learned, and provide a list of recommended construction practices to minimize risks to workers, the public, and the environment.

**SPEAKERS**  
Mabi Teimouri, Purdue University  
John Howarter, Purdue University

**MODERATOR**  
Steve Dunlop, Purdue University

TIME  
2:00–2:50 PM

ROOM  
STEW 214AB

PDH: 1

**38. The Planning, Design, and Construction of a New Highway Department Facility in Harrison County**

The session covers everything that went into this award-winning project, from the political collaboration, through the design process, to the successful construction, occupation, and use of the new facility. We've had a lot of interest from other counties visiting our new site.

**SPEAKERS**  
Kevin Russel, Harrison County Highway Department  
Mark Shireman, Shireman Construction  
Ben Shireman, Shireman Construction  
Jason Copperwaite, Paul Primavera & Associates

**MODERATOR**  
Steve Dunlop, Purdue University

**39. Creating Supply Chain Management in an Operations World**

Beginning in FY17, INDOT embarked on a multiyear pilot of carving out logistics/supply chain management from its Operations division. Creating business specialist owners allowed for improved asset conditions, maximizing restrictive budget dollars, and a shift in where and how managers and supervisors spend their limited time. This presentation focuses on defining support from Operations and how to get the best outcomes with experts supporting both sides of that coin.

**SPEAKERS**  
Melody Coleman, INDOT  
Clark Packer, INDOT

**MODERATOR**  
Steve Dunlop, Purdue University

TIME  
3:00–3:50 PM

ROOM  
STEW 214AB

PDH: 1

TIME  
4:00–4:50 PM

ROOM  
STEW 214AB

PDH: 0

**40. From Simple Salt Water to Super Ice Melter**

This presentation teaches snowfighters how to improve the performance of brine for deicing.

**SPEAKER**  
Denver Preston, K-Tech Specialty Coatings, Inc.

**MODERATOR**  
Steve Dunlop, Purdue University



TIME  
11:00–11:50 AM

ROOM  
STEW 278

PDH: 1

**41. Let's Take a Walk: How to Conduct an Effective Walk Audit**

This session provides tools and techniques to facilitate an effective walk audit as a means to make better planning decisions. We will discuss why communities use walk audits, how to organize one, who should participate, and how to plan a route that showcases built environment issues. Attendees will go on a sample walk audit to experience effective techniques for leading a group.

**SPEAKERS**  
Kate Riordan, Health by Design  
Pete Fritz, Indiana State Department of Health

**MODERATOR**  
Jay DuMontelle, FHWA

**42. Analyzing Walkability**

Walkability is a buzzword in the industry. But what does it mean and how do you assess it? This session will examine how walkability is more than providing an accessible path. We will review the factors that influence how walkable a pedestrian facility is, and how walkability can be improved. The discussion includes strategies for assessing individual projects as well as completing community-wide inventories and assessments of pedestrian facilities.

**SPEAKER**  
Cory Whitesell, HWC Engineering

**MODERATOR**  
Kristin Brier, INDOT

TIME  
1:00–1:50 PM

ROOM  
STEW 278

PDH: 1

TIME  
2:00–2:50 PM

ROOM  
STEW 278

PDH: 1

**43. Bicycle Soup: Bike Sharing, Safety Improvements, and Shared Facilities**

**Accessible Bike Share for the Midsized City**—Bike share programs inevitably start in central business districts but often don't reach neighborhood and core service destinations. How can bike share programs better serve communities? Michiana Area Council of Governments, partnering with the City of South Bend, launched a new dockless bike share program in July 2017 that aims to create a truly accessible network of bikes. Learn about the progress of the system and future plans for a complete regional system.

**SPEAKERS**

Zach Dripps, Michiana Area  
Council of Governments  
Caitlin Stevens, Michiana Area  
Council of Governments

**Innovations in Protected Intersections**—This session will provide an overview of the latest in protected intersection planning and design. Building on NCHRP research project 15-63, Guidance to Improve Pedestrian and Bicycle Safety at Intersections, lessons from protected intersections in Berkeley and Salt Lake City illuminate the safest design treatments for bicycles and pedestrians.

**SPEAKER**

Conor Semler, Kittelson & Associates, Inc.

**Bicycle and Pedestrian Facilities: Benefits and Considerations**—This presentation focuses on both commonly used and innovative bicycle and pedestrian facilities and the unique safety, operational, and maintenance benefits and considerations of each based on available national and local research and guidance. We will identify the applicability of a facility based on context and various roadway characteristics and present a matrix developed based on our research that can aid in identifying and comparing facility applicability and impacts.

**SPEAKERS**

Scott VanDerAa, Primera Engineers, Ltd.  
Frank Zurek, Primera Engineers, Ltd.

**MODERATOR**

Kristin Brier, INDOT





TIME  
3:00–3:50 PM

ROOM  
STEW 278

PDH: 1

**44. Rapid Bus Transit Design Challenges, and Are Streetcars a Viable Option?**

**Streetcar Versus Bus Rapid Transit (BRT)**—This presentation delves into the pros and cons of streetcars and bus rapid transit and will help you understand which technology is appropriate for your community and corridor. We'll explore what, why, when, where, and how different systems are studied, designed, and implemented.

**SPEAKER**  
Ashley Booth, HNTB Corporation

**Purple Line Bus Rapid Transit**—The Purple Line is a 14.6-mile bus rapid transit (BRT) line from downtown Indianapolis to Lawrence, Indiana. This presentation covers preliminary design challenges that arose during the preparation of a Small Starts grant application for Federal Transit Administration review.

**SPEAKERS**  
Will Tolbert, WSP USA, Inc.  
Justin Stuehrenberg, IndyGo

**MODERATOR**  
Kristin Brier, INDOT

TIME  
4:00–4:50 PM

ROOM  
STEW 278

PDH: 1

**45. The Nation's First Transit Startup and How the QLINE Became the New Model for Public-Private Partnership**

M-1 RAIL is a nonprofit organization formed in 2007 to lead the design, construction, and operation of a modern streetcar system in Detroit. The unprecedented public-private partnership that made the QLINE a reality is a model for regional collaboration, local commitment, and transportation planning. The QLINE is a 6.6-mile circulating streetcar route serving 12 locations on Woodward Ave. from Downtown Detroit through Midtown, New Center, and the North End. It is the first major transit project led and funded by private businesses and philanthropic organizations, in partnership with local, state, and the federal government. Join us to learn about this project.

**SPEAKER**  
Sommer Woods, M-1 Rail

**MODERATOR**  
Kristin Brier, INDOT



**TIME**  
1:00–1:50 PM

**ROOM**  
PMU 250/FACW

**PDH: 1**

**46A. HMA Specification Revisions and Testing 2018**

INDOT’s HMA specifications and testing procedures are changing for 2018. We will present a summary of those changes, and what to expect.

**SPEAKERS**  
John Leckie, INDOT  
Matt Beeson, INDOT

**MODERATOR**  
Patrick Long, ACPA–Indiana Chapter

**TIME**  
2:00–2:50 PM

**ROOM**  
PMU 250/FACW

**PDH: 1**

**47. Full-Depth Reclamation With Cement Slurry**

Full-depth reclamation (FDR) with cement slurry is a process of recycling an existing road in-place and chemically stabilizing it with cement slurry. The stabilization process not only recycles the old worn-out flexible pavement, but it also provides stability to the underlying soils, all with a single process. The presentation covers the design and construction steps of the entire process, as well as a review of INDOT Standard Specification Section 307.

**SPEAKER**  
Scott Hall, Sagamore Ready Mix

**MODERATOR**  
Patrick Long, ACPA–Indiana Chapter

**TIME**  
3:00–3:50 PM

**ROOM**  
PMU 250/FACW

**PDH: 1**

**48. Thin Concrete Overlays**

In this session we present an overview of the recent INDOT initiative of using thin concrete overlays as an alternative preventative maintenance pavement treatment type to HMA overlays. The presentation will include a review of the INDOT specifications from the Indiana Concrete Association and a case study on SR 161, designed and constructed in 2017, from the perspective of the INDOT PM and designer HNTB.

**SPEAKERS**  
Austin Hastings, HNTB Corporation  
Mike Byers, ACPA–Indiana Chapter

**MODERATOR**  
Patrick Long, ACPA–Indiana Chapter

**49. Void Reducing Asphalt Membrane: Project Review**

This presentation is a follow-up to the March 2016 presentation “Proactive Approach to Longitudinal Joint Problems” and will concentrate on the review of projects in Indiana and neighboring states where VRAM was applied.

**SPEAKERS**  
Tim Zahrn, Asphalt Materials, Inc.  
Marvin Exline, Heritage Research Group

**MODERATOR**  
Patrick Long, ACPA–Indiana Chapter

**TIME**  
4:00–4:50 PM

**ROOM**  
PMU 250/FACW

**PDH: 1**

TIME  
11:00–11:50 AM

ROOM  
LOEB

PDH: 1

**50. Meet Your Environmental Agency/Regulatory Staff**

In this session, representatives from Indiana Department of Environmental Management, Indiana Department of Natural Resources, US Army Corps of Engineers, and US Fish and Wildlife Service will discuss their roles in transportation projects as well as best practices and areas of concern they see when reviewing projects. Agency roles include waterway permitting, endangered species, historic preservation, and biological/floodway concerns.

**SPEAKERS**

Michelle Allen, FHWA  
Matt Buffington, Indiana Department of Natural Resources  
James Turner, Indiana Department of Environmental Management  
Deb Snyder, US Army Corps of Engineers  
Robin McWilliams Munson, US Fish and Wildlife Service  
John Carr, Indiana Department of Natural Resources

**MODERATOR**

Janice Osadczuk, FHWA

TIME  
1:00–2:50 PM

ROOM  
LOEB

PDH: 2

**51. How to Write Your Purpose and Need**

The Purpose & Need (P&N) is perhaps the most important part of environmental documentation prepared pursuant to the National Environmental Policy Act (NEPA). A clear, well-reasoned P&N explains to the public and decision-makers why the expenditure of funds is worthwhile and why impacts are acceptable based on the project’s importance. The P&N also drives the process for alternatives consideration, development, in-depth analysis, and ultimate selection. This session will focus on how to produce a well-written purpose and need statement.

**SPEAKERS**

Michelle Allen, FHWA  
Rob Ayers, FHWA

**MODERATOR**

Alan Plunkett, Purdue University

**52. Transportation Performance Management: A New Era of Accountability and Reporting**

In this session INDOT and FHWA present the latest information on INDOT’s implementation of FHWA’s transportation performance management rules. Topics include INDOT’s Asset Management Plan; performance measures related to safety, pavement, bridge, freight, reliability, and congestion; and coordination with metropolitan planning organizations.

**SPEAKERS**

Keith Hoernschemeyer, FHWA  
Louis Feagans, INDOT  
Roy Nunnally, INDOT

**MODERATOR**

Alan Plunkett, Purdue University

TIME  
3:00–4:50 PM

ROOM  
LOEB

PDH: 2

TIME  
11:00–11:50 AM

ROOM  
STEW 218CD

PDH: 1

**53. Rebuilding Momentum: Tactile Urbanism and Ground-Up Engagement**

In August 2014, the communities of Ferguson and Dellwood, Missouri, were forced into the national spotlight. There are unique barriers to overcome in these communities as plans for enhancement and recovery continue to push forward. Come hear about how connecting with community members and adjusting from a traditional platform of engagement to a grass-roots approach is building momentum from the ground up. In addition, lessons learned from a tactile urbanism event on an urban arterial roadway will be presented.

**SPEAKER**  
Cassie Reiter, Crawford, Murphy & Tilly, Inc.

**MODERATOR**  
Ashley Watson, Purdue University

TIME  
1:00–1:50 PM

ROOM  
STEW 218CD

PDH: 1

**54. Increasing Community Outreach Through Youth Activities**

Looking for ways to promote your agency in the community? Targeting youth-oriented events can help you create connections with your community while also delivering your messaging to a wider audience. Join us for a discussion.

**SPEAKER**  
Nichole Thomas, INDOT

**MODERATOR**  
Ryan Wilhite, IndyGo

TIME  
2:00–2:50 PM

ROOM  
STEW 218CD

PDH: 1

**55. Using Mixed Reality for Public Outreach and Stakeholder Engagement**

Mixed reality signifies a game-changing working environment, where transportation designs can be experienced at full scale. CDM Smith is harnessing the power of Microsoft’s HoloLens devices to increase public participation and excitement in the infrastructure planning and development processes. Immersive mixed reality is a very effective tool in building public understanding and consensus on infrastructure projects by allowing stakeholders to experience the built end-product at scale in the real world. Join us for a discussion.

**SPEAKER**  
Scott Aldridge, CDM Smith

**MODERATOR**  
Ryan Wilhite, IndyGo

**56. Bridging the Communications Gap: From Inspiration to Implementation**

Clear, consistent communication is essential for major transportation projects, from building public support for transformative investments to creating understanding of impacts throughout construction. In this session attendees will follow the Louisville–Southern Indiana Ohio River Bridges Project from the environmental process to the start of tolling and learn communication strategies from each phase of this successful megaproject. Communication helped to build a strong foundation for the project, from the starting gate to the finish line.

**SPEAKERS**  
Mindy Peterson, C2 Strategic Communications  
Chad Carlton, C2 Strategic Communications

**MODERATOR**  
Ryan Wilhite, IndyGo

TIME  
3:00–3:50 PM

ROOM  
STEW 218CD

PDH: 1



TIME  
4:00–4:50 PM

ROOM  
STEW 218CD

PDH: 1

**57. PUSH-ing Construction Communications and Going Viral for Safety**

Over the past 2 years, the Indiana Toll Road Concession Co. (ITRCC) and its contractors have delivered the 80/90 PUSH project, an ambitious rehabilitation of 70 miles of the Indiana Toll Road. The team developed an aggressive communications program to keep its customers and community stakeholders informed, partnering with the Indiana Motor Truck Association to take its Put the Phone Down campaign to social media. Join us for a discussion.

**SPEAKERS**

Dan Prevost, Parsons Corporation  
Bill McCall, Indiana Toll Road Concession Co.

**MODERATOR**

Ryan Wilhite, IndyGo

TIME  
8:00–10:50 AM

ROOM  
FOWLER

PDH: 3

**58. Road Scholar Core Course #12: Estimating Construction Cost and Quantity**

This 3-hour course meets the requirements for Core Course #12, Estimating Construction Cost and Quantity, as part of the Indiana LTAP Road Scholar program. Instruction includes calculating areas and volumes, estimation of materials, problem solving, and estimating construction cost and quantities. Examples problems include asphalt, berm, aggregate, grade, culvert sizes, mowing, and salt shed capacity. Attendees will work through problems with the instructor using a calculator and the LTAP calculator app.

**SPEAKERS**

Pat Conner, Purdue University  
Richard Domonkos, Purdue University

**MODERATOR**

Richard Domonkos, Purdue University

**59. Indiana LTAP Technology Showcase: LTAP Direct™ App**

Embracing technology can be challenging for everyone. Indiana LTAP understands this, and we plan to help by focusing on technologies that can improve your operations and create a positive change in your agency. The LTAP Direct™ app is new, it's cutting edge, and now it's yours! Connect to the latest news, technical updates, and safety training, right at your fingertips. Put LTAP Direct™ on your phone or tablet and get all the information you need, when you need it!

**SPEAKER & MODERATOR**

Richard Domonkos, Purdue University

TIME  
11:00–11:50 AM

ROOM  
FOWLER

PDH: 1

TIME  
11:00–11:50 AM

ROOM  
STEW 310

PDH: 1

**60. Truck Parking Information Management System (TPIMS)**

TPIMS uses technology to collect and broadcast real-time parking availability in an eight-state region with dynamic signs for high-freight corridors. Join us to learn about this information management system.

**SPEAKERS**

Donna Luley, INDOT  
Brian Comer, HNTB Corporation  
Davonna Moore, Kansas Department of Transportation  
Caroline Boris, ATRI

**MODERATOR**

Hardik Shah, American Structurepoint, Inc.



TIME  
1:00–1:50 PM

ROOM  
STEW 310

PDH: 1

**61. Measuring Performance of Traffic Signal Operations and Signalized Arterial Corridors**

**Data-Driven Ranking of Signalized Arterial Corridors**—Automated traffic signal performance measures (ATSPMs) are being deployed with increasing frequency. This session presents a method of evaluating corridor performance at the system level using high-resolution data. This method develops five subscores for the areas of communication, detection, safety, capacity allocation, and progression; these are given a letter grade based on quantitative performance measures, with context-appropriate scales. An aggregate score for each corridor is determined using the lowest subscore of each of the five areas.

**SPEAKER**

Chris Day, Iowa State University

**Case Studies: Using Signal Performance Metrics to Optimize Traffic Signal Operations**—This session presents three case studies that demonstrate how signal performance measures have been used to improve traffic signal operation, maintenance, and traffic performance in different cities.

**SPEAKER**

Erin Skimson, Miovision

**MODERATOR**

John McGregor, INDOT

TIME  
2:00–2:50 PM

ROOM  
STEW 310

PDH: 1

**62. Peak Hour Traffic and Queueing at Schools: A Paradigm Shift in Trip Generation**

A recent study in Noblesville, Indiana, identified that peak hour trip ends at two elementary schools significantly exceed the range of weekday peak trip ends for the enrollment size in Land Use Code 520 (Elementary School) of ITE’s Trip Generation Manual. Traffic management issues and queueing problems occur at each location. Join us to hear about growing trends in the use of family vehicles for school pickup that could significantly change paradigms for school site design and layout.

**SPEAKER**  
John Beery, City of Noblesville

**MODERATOR**  
John McGregor, INDOT

TIME  
3:00–3:50 PM

ROOM  
STEW 310

PDH: 1

**63. US 23 Flex Route: First ATM System in Michigan**

The US 23 Flex Route is the first active traffic management (ATM) project in the state of Michigan. This route utilizes overhead lane control gantries equipped with various intelligent transportation system (ITS) equipment to facilitate the following ATM strategies: dynamic shoulder use, dynamic lane control, variable speed advisories, and queue warning. The focus of this presentation is how the project team overcame several challenges during the planning, design, and system management phases and lessons learned.

**SPEAKER**  
Pat Johnson, HNTB Corporation

**MODERATOR**  
John McGregor, INDOT

TIME  
4:00–4:50 PM

ROOM  
STEW 310

PDH: 1

**64. Speed Limit Policies Versus Mobility on Indiana Freeways**

The mobility effect of speed limit has been widely studied based on a limited number of locations under conditions close to free flow. This study proposes a system-level analysis of the differential and uniform speed limits impact on mobility using average travel time by vehicle type from smartphones and GPS devices from the National Performance Management Research Dataset (NPMRDS), taking into account congestion as a weakening factor of the relationship. Join us for a discussion.

**SPEAKERS**  
Raul Pineda Mendez, Purdue University  
Andrew Tarko, Purdue University

**MODERATOR**  
John McGregor, INDOT



TIME  
8:00–8:50 AM

ROOM  
STEW 278

PDH: 1

**65. Rehabilitation Techniques for Airport Pavements and Evaluating Runway Surface Friction**

**Rehabilitation of Concrete Airfield Pavement With Asphalt**—The focus of this presentation is the FAA’s and Asphalt Institute’s guidance on this topic. FAA guidance includes AC 150/5320-6E, Airport Pavement Design and Evaluation, specifically Section 405: Overlays of Existing Rigid Pavements. Two research projects from the Airfield Asphalt Pavement Technology Program (AAPTPT) will be heavily referenced, with an emphasis on airfield rubblization. Other specific rehabilitation techniques to be discussed are sawcut and seal, various interlayers, and crack/break and seat. Design and construction best practices will be emphasized.

**SPEAKER**  
Wayne Jones, Asphalt Institute

**Runway Surface Friction Testing and Evaluation**—This presentation details airport pavement friction concepts, testing, and evaluation. Examples of how friction affects winter operations, pavement maintenance, and pavement repair will be discussed.

**SPEAKER**  
Alex Sydney, Halliday Technologies

**MODERATOR**  
Michael Buening, INDOT

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TIME  
9:00–9:50 AM

ROOM  
STEW 278

PDH: 1

**66. Using Aircraft Transponder Data to Assess Airport Activities, and Strategies to Mitigate Bird Strikes**

**Accuracy Assessment of Aircraft Transponder-Based Devices for Measuring Airport Operations**—Accurate counts of aircraft operations at general aviation airports are difficult to achieve but are important because of their potential impact on funding allocation. Come learn about a measurement technique that utilizes data from aircraft transponders to count operations at these airports. A comparison over 180 days at a general aviation airport in the state of Indiana indicates that this new technology is accurate to within 5% of validated counts.

**SPEAKER**  
John Mott, Purdue University

**General Aviation Pilots’ Strategies to Mitigate Bird Strikes**—To date, a few operational efforts have been launched by the FAA to mitigate wildlife strikes away from the airport jurisdiction, and those do not include actions by general aviation (GA) pilots. This presentation explores the safety training of GA pilots using aeronautical decision-making concepts as a strategy to mitigate the risk of mishaps due to birds. Previous research, the FAA Serial Report #22, and final reports of GA aircraft accidents due to birds will be covered.

**SPEAKERS**  
Flavio Mendonca, Purdue University  
Thomas Carney, Purdue University

**MODERATOR**  
Michael Buening, INDOT

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TIME  
10:00–10:50 AM

ROOM  
STEW 278

PDH: 1

**67. Funding Opportunities and Strategies for Indiana Airports**

**General Aviation Airports: Innovative Revenue Strategies**—General aviation airports face increasing financial pressures. The more than 2,900 GA airports in the U.S. are very important to the national transportation system and serve other societal needs as well. This presentation contains six innovative strategies for revenue generation and discusses a decision-making process for airport operators to use to select the best revenue generation strategy for their airport.

**SPEAKERS**  
Yue Gu, Purdue University  
Lorraine Holtaway, Purdue University

**A Toolbox for Financing Airport Capital Projects**—There are a myriad of sources for financing airport capital projects—Airport Improvement Program Grants, passenger facility charges, and debt, to name a few. In this session we will discuss available funding sources and reasons they may or may not be used. Examples of airport capital projects around the country that have used multiple sources of funding will be presented.

**SPEAKER**  
Michael Zonsius

**MODERATOR**  
Michael Buening, INDOT

TIME  
1:00–1:50 PM

ROOM  
STEW 278

PDH: 1

**68. Yeager Airport Runway Safety Area Collapse and Response**

To increase safety at the busy Yeager Airport in Charleston, West Virginia, an engineered materials arrestor system (EMAS) designed to safely stop aircraft was installed at the end of the runway. During installation, the safety area was expanded by adding a new fill slope in the hilly terrain. In March 2015 the runway safety area collapsed. This is the story of how the airport management team responded to ensure safety and get the repairs funded and completed.

**SPEAKERS**  
Nick Keller, Central West Virginia  
Regional Airport Authority  
Terry Sayre, Central West Virginia  
Regional Airport Authority

**MODERATOR**  
Marty Blake, INDOT



TIME  
2:00–2:50 PM

ROOM  
STEW 278

PDH: 1

**69. Increasing Community Engagement With Airport Operations and Understanding Environmental Permitting**

**Community Engagement**—Community support often requires an ever-increasing effort by an airport to engage both aviation and non-aviation users. Such an effort requires communication and marketing, community involvement, and finding ways to serve the community’s needs. This presentation will outline efforts within each of these areas, providing specific examples along the way.

**SPEAKERS**  
Brad Cozza, Indianapolis Executive Airport  
Sean White, Montgomery Aviation  
Ray Seif, Jasper County Airport

**“I Thought It Was Just Wet Land...”: Guide to Environmental Permitting for Airports**—Airports face unique challenges in navigating the maze of environmental permitting. This session will provide a guide to that permitting process, including project examples to illustrate innovative solutions.

**SPEAKER**  
Simon Davies, CHA Consulting, Inc.

**MODERATOR**  
Marty Blake, INDOT

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TIME  
3:00–3:50 PM

ROOM  
STEW 278

PDH: 1

**70. A New Guidebook for Managing Small Airports and What to Consider With Corporate Aircraft Operations**

**Guidebook for Managing Small Airports**—ACRP Project 01-32, Updating Report 16 Guidebook for Managing Small Airports, will provide a guidebook and electronic resource library for small airport managers to assist in addressing their multiple responsibilities and challenges, including operations, planning, development, and airport revenue growth. Publication is anticipated in the first half of 2018. This presentation provides an advanced introduction to the resources produced by the project for airport managers and their consultants.

**SPEAKER**  
Susan Zellers, Hanson Professional Services, Inc.

**So Someone Wants to Build a Corporate Aircraft Hangar at Your Airport...What You Need to Know**—The recovering economy has brought about new interest in corporate aircraft hangars, big and small, which airports themselves are starting to consider as sources of income and new tenants. There are a lot of decisions to be made, from planning, financing, permitting, and design to construction. This presentation covers considerations and design-bid options to get the best price. Completed design and constructed examples from Indiana airports will be presented.

**SPEAKER**  
Christopher Snyder, Woolpert, Inc.

**MODERATOR**  
Marty Blake, INDOT

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TIME  
4:00–4:50 PM

ROOM  
STEW 278

PDH: 1

**71. A Review of the Indianapolis International Airport Taxiway Rehabilitation Project, and What About Heated Helipads?**

**IND Taxiway H Rehabilitation**—In this session we present the Indianapolis International Airport Taxiway H rehabilitation project. We will review pavement restoration construction, lighting, standard adjustments to connecting taxiways, and operational considerations for construction.

**SPEAKERS**

Melanie Reddick, Crawford, Murphy & Tilly, Inc.  
Sean Smith, Crawford, Murphy & Tilly, Inc.  
Matt Lewis, IAA

**Heated Permeable Concrete Helipads for Safety and Surety**—The latest in helipad construction technologies has combined with aeronautical consultant-guided design to create helipads that are safe and environmentally friendly and that meet the guidelines of the FAA, state, local agencies, and first responders. Join us to learn about heated permeable concrete helipads, which offer safety to flight crew, patient, and helicopter by eliminating ice and snow on the pad and pathways.

**SPEAKERS**

Andrew Swanson, JPS Consulting Engineers  
John Dotlich, Lily Helipads  
Henry Nichols, e-Quipment Solutions

**MODERATOR**

Marty Blake, INDOT

TIME  
8:00–8:50 AM

ROOM  
STEW 206

PDH: 1

**72. Modular Temporary Steel Panel Bridge for Maintenance of Traffic on US 41 Evansville, Indiana**

US 41 in Evansville carries approximately 50,000 vehicles a day. The existing bridges along this corridor were in need of rehabilitation, but two lanes of traffic had to be maintained during construction. Due to the size of the existing bridges, two lanes could not be maintained on each bridge, so a temporary modular bridge was erected in the median and launched into place between the existing bridges. Come learn about this project.

**SPEAKERS**

Bryan Wright, Butler, Fairman & Seufert, Inc.  
Jeff Simkins, Acrow Bridge  
Mike Matel, Butler, Fairman & Seufert, Inc.

**MODERATOR**

Duane Alverson, Lake County  
Highway Department

**73. Analysis and Design of a Double-Composite Steel Tub Girder Bridge**

The South Road Bridge is part of the \$620 million Darlington Upgrade design/build project, which provides for the improvement of approximately 2 miles of one of the most important transit corridors in Adelaide, Australia. To minimize closure times on the expressway, the contractor chose to build the bridge in its entirety at a nearby site and move the bridge into place using self-propelled modular transporters (SPMTs). Join us for a discussion.

**SPEAKER**

Marco Loureiro, Jacobs

**MODERATOR**

Duane Alverson, Lake County  
Highway Department

TIME  
9:00–9:50 AM

ROOM  
STEW 206

PDH: 1

TIME  
10:00–10:50 AM

ROOM  
STEW 206

PDH: 1

**74. Rockville Road Over I-465  
Emergency Superstructure Replacement**

During the morning commute, a semi-truck carrying a large piece of equipment on I-465 struck the Rockville Road overhead bridge, destroying four prestressed concrete I-beams and causing I-465 northbound and Rockville Road to be closed. Due to INDOT, GAI Consultants, and Rieth-Riley Construction working together to plan, design, and construct the required repairs, the bridge was put back in service within 4 months. Come hear about how innovative procurement, responsiveness, and excellent communication led to the project’s success.

**SPEAKERS**  
Mike Wenning, GAI Consultants, Inc.  
Jeremy Hunter, INDOT  
Mike Jaskela, Rieth-Riley Construction Co., Inc.

**MODERATOR**  
Duane Alverson, Lake County  
Highway Department

TIME  
1:00–1:50 PM

ROOM  
STEW 206

PDH: 1

**75. Inspection and Load Rating  
of P-T Segmental Bridges**

Opened in 1989, the interchange connecting Veterans Memorial Tollway (I-355) and Reagan Memorial Tollway (I-88) in Downers Grove, Illinois, contains four post-tensioned segmental concrete box girder bridges ranging from 558 feet to more than 2,000 feet on horizontally curved alignments. In 2016, Illinois Tollway tasked Ciorba to perform full in-depth inspection, material testing, and assessment of the P-T condition and load rating through finite element analysis. Join us for a discussion.

**SPEAKERS**  
Brett Sauter, Ciorba Group, Inc.  
Elias Ajami, Illinois State Toll Highway Authority

**MODERATOR**  
Jeremy Hunter, INDOT

TIME  
2:00–2:50 PM

ROOM  
STEW 206

PDH: 1

**76. Skew Effects on Steel  
Highway Bridges**

Bridge skew can significantly add to the complexity of the design, fabrication, and construction. Attendees will gain an understanding the effects of skew on the behavior of steel bridges and how it influences the development of the framing arrangement, bearing configuration, detailing, and fabrication. Discussion includes the importance of a 3D analysis model to accurately predict all component forces, deflections, and rotations.

**SPEAKERS**  
Lance Peterman, HDR Engineering, Inc.  
Julie Rivera, HDR Engineering, Inc.

**MODERATOR**  
Jeremy Hunter, INDOT

**77. Rehabilitation of Central  
Avenue Historic Stone Arch**

Indianapolis’s Central Avenue Historic Arch over Fall Creek was in immediate need of rehabilitation. Due to the historic nature of the structure, coordination was required with all of the state agencies to resolve issues and conflicts while maintaining the original integrity. We will share lessons learned as they relate to the complexity of the design with regard to the historic arch, the mapping of stones, and the plan details required to identify all features.

**SPEAKERS**  
Katlyn Shergalis, Butler, Fairman & Seufert, Inc.  
Neal Bennett, Butler, Fairman, & Seufert, Inc.

**MODERATOR**  
Jeremy Hunter, INDOT

TIME  
3:00–3:50 PM

ROOM  
STEW 206

PDH: 1



78. SESSION CANCELED

It is just a matter of time before drones will be a commonly used tool to support a variety of transportation services. In this session we will explore how drone technology can supplement and enhance transportation services; show examples of bridge inspection work for local private industries, augmented by drone imagery and photogrammetry; and discuss the value-add proposition, as well as existing limitations and challenges that must be overcome.

SPEAKER

MODERATOR



79. Pavement Markings and Signing Strategies for Autonomous Vehicles

**Traffic Signing and Marking in an Autonomous Age**—Much discussion has taken place regarding the future need for traffic signing and marking in an age of autonomous vehicles (AVs). In this session we will look at (1) why we use traffic signs and markings, and how humans and early AVs have interpreted them; (2) whether AVs need these signs, and the pros/cons of keeping them if they don't; and (3) potential ethical/legal issues for complete removal, or continued installation if AVs ignore them.

SPEAKER

Jeremy Chapman, American Structurepoint, Inc.

**Evaluation of Alternative Pavement Marking Material and Construction**—In this session we will discuss the use of passive and active imaging systems to investigate the reflective characteristics of pavement markings; the impact of recessed pavement markings on top of rumble stripes with different wavelength values as perceived by a mobile laser scanner; and new developments in the area of pavement marking material and construction. The discussion will be framed in the context of the potential impact of pavement marking material, construction, and sensing on autonomous vehicles.

SPEAKERS

Ayman Habib, Purdue University  
Hillary Lowther, INDOT

MODERATOR

Dana Plattner, INDOT

TIME  
8:00–8:50 AM

ROOM  
FOWLER

PDH: 1

TIME  
9:00–9:50 AM

ROOM  
FOWLER

PDH: 1

**80. Modeling Adoption of Emerging Freight Transportation Vehicle Technologies**

To study the evolution of emerging U.S. freight transportation technologies, we model vehicle and support infrastructure interconnections, adoption preferences, operational and policy constraints, and external changes that impact it . To achieve this, we demonstrate the system-of-systems engineering methodology approach, focusing on a line-haul scenario. Join us to learn more about this project.

**SPEAKERS**

Ana Guerrero de la Pena, Purdue University  
Neera Jain, Purdue University

**MODERATOR**

Dana Plattner, INDOT

TIME  
10:00–10:50 AM

ROOM  
FOWLER

PDH: 1

**81. Transportation Workforce**

Connected autonomous vehicles (CAVs) present new opportunities and challenges for the transportation and logistics workforce. In this session we will present viewpoints from both the logistics industry and FHWA.

**SPEAKERS**

Robert Haag, Perfect Pallets, Inc.  
Mayela Sosa, FHWA

**MODERATOR**

Dana Plattner, INDOT

TIME  
1:00–1:50 PM

ROOM  
FOWLER

PDH: 1

**82. Business Opportunities for the Connected and Autonomous Vehicle Industry**

As part of its future-focused infrastructure planning, INDOT is embarking on a project with Purdue University to understand how the development of transportation infrastructure can be linked to benefits to business supply chains, thus enabling decisions to nurture an ecosystem around connected and autonomous vehicles (CAVs). KPMG will provide insight into the CAV industry.

**SPEAKERS**

Ananth Iyer, Purdue University  
Pam Fisher, INDOT  
Ted Hamer, KPMG

**MODERATOR**

Tim Wells, INDOT

**83. Panel: Regulation of Autonomous and Connected Vehicles**

In the absence of uniform rules and regulations under which connected and autonomous vehicles (CAVs) can operate, many states have crafted their own definitions and operation standards through legislation and executive orders. Indiana is among these states with recent legislation on CAVs proposed this 2018 session. The panel will explore the priorities and potential legal issues surrounding CAVs from a state agency perspective and discuss roles and perspectives on the future of CAVs in Indiana.

**SPEAKERS**

Sarah Hubbard, Purdue University  
Elyssa Campodonico-Barr, Bureau of Motor Vehicles  
Brad Hoffeditz, ISP  
Jim Sturdevant, INDOT

**MODERATOR**

Tim Wells, INDOT

TIME  
2:00–2:50 PM

ROOM  
FOWLER

PDH: 1

TIME  
3:00–3:50 PM

ROOM  
FOWLER

PDH: 1

**84. High-Efficiency Control Systems for Connected Class 8 Trucks**

The Department of Energy–sponsored project Next-Generation Energy Technologies for Connected and Automated On-Road Vehicles (NEXTCAR) aims to develop technologies that utilize emerging connectivity infrastructure. A Purdue University–led team of industry leaders, along with the National Renewable Energy Laboratory, is focusing on technologies that benefit line-haul Class 8 trucks, with an emphasis on platooning vehicles. The goal is an integrated, connectivity-enabled vehicle and powertrain control system for diesel-powered on-highway trucks. Join us for a discussion.

**SPEAKERS**

Alexander Taylor, Purdue University  
Cody Allen, Purdue University  
Greg Shaver, Purdue University

**MODERATOR**

Tim Wells, INDOT

TIME  
4:00–4:50 PM

ROOM  
FOWLER

PDH: 1

**85. Intelligent Materials Enabling Intelligent Infrastructure**

In this session we present infrastructure required for autonomous vehicles—what there is today, what there will be in the near future—stressing the importance of wet reflectivity, high visibility, and other factors that enable intelligent vehicles and infrastructure to function together.

**SPEAKERS**

Andrew Meeks, 3M  
Scott Voytek, 3M

**MODERATOR**

Tim Wells, INDOT

TIME  
8:00–8:50 AM

ROOM  
STEW 302

PDH: 1

**86. Stormwater QCPs: 16 Months of Lessons Learned**

In November 2016, INDOT provided new guidance for construction stormwater pollution plan development. The initiative provides specific guidance for preparing and managing stormwater quality management plans. This session focuses on communication between designers, contractors, and INDOT staff and will address challenges and opportunities related to the educational process, long- and short-term best management practice selection, and proper installation and maintenance of erosion and sediment control BMPs.

**SPEAKERS**

Michele Meyer, INDOT  
Christa Petzke, Resolution Group

**MODERATOR**

Eryn Fletcher, FHWA



TIME  
9:00–9:50 AM

ROOM  
STEW 302

PDH: 1

**87. Full-Depth Reclamation  
for Preventative Maintenance:  
SR 65 Analysis**

Full-depth reclamation as a preventive maintenance measure is building momentum across the state. Representatives will discuss factors that impact the decision-making process for identifying appropriate road projects for FDR. Additional information will be provided on cost comparisons for FDR and other replacement options, design considerations for FDR-PM projects, contractor testing, mix designing, and the construction process. The panel will also discuss lessons learned, from design to installation to construction inspection.

**SPEAKERS**

Jeff Whitaker, Lochmueller Group  
Nick Chapman, E&B Paving  
A. Kent Davis, INDOT

**MODERATOR**

Eryn Fletcher, FHWA

TIME  
10:00–10:50 AM

ROOM  
STEW 302

PDH: 1

**88. Standard INDOT DBB Inspection  
Versus DBBV Inspection**

The INDOT and HNTB field inspection and management team for the I-65 Northwest Indiana Design-Build-Best Value project in Lake County, Indiana, will discuss differences in the implementation and reporting requirements for field personnel via this project delivery method versus a traditional design-bid-build INDOT project.

**SPEAKERS**

Chris Reynolds, INDOT  
Michael Stair, HNTB Corporation  
Brad Miller, HNTB Corporation  
Tom Stryzinski, INDOT

**MODERATOR**

Eryn Fletcher, FHWA

TIME  
1:00–1:50 PM

ROOM  
STEW 302

PDH: 1

**89. Constructing Urban Corridors:  
Ambulances, Commuters,  
and Students! Oh My!**

In this session, learn about the wizard-level scheduling and coordination skills required to convert a one-way street in downtown Indianapolis to a two-way street with a constant flow of pedestrians and motorists. This stretch of Michigan Street serves as a major artery in the heart of Indianapolis and provides direct access to IUPUI (with over 30,000 students), three separate hospitals, and a VA Medical Center.

**SPEAKERS**

Keith Chadwick, Lochmueller Group  
Todd Wilson, Indianapolis DPW

**MODERATOR**

Gary Mroczka, AECOM

**90. Vegetated Reinforced Soil  
Slopes in the Fluvial Environment**

Vegetated reinforced soil slopes provide a unique and proven alternative for slope stabilization. Hybrid soil biotechnical systems are environmentally compatible and cost-effective, designed and constructed to survive flood events during and immediately after construction. The focus of this presentation is INDOT mitigation projects and other projects dating back to 2003.

**SPEAKER**

Jim Blazek, D2 Land & Water Resource, Inc.

**MODERATOR**

Gary Mroczka, AECOM

TIME  
2:00–2:50 PM

ROOM  
STEW 302

PDH: 1

TIME  
3:00–3:50 PM

ROOM  
STEW 302

PDH: 1

**91. Infrastructure Mobile Mapping and Work Zone Traffic Impacts**

Mobile mapping technology is continuously improving and decreasing in cost. During the first half of this presentation we will discuss the use of mobile LiDAR to measure lane widths, taper lengths, and MSE wall deflections. The second half will cover the integration of geometric and traffic data to study the effects of work zone layout on traffic operations.

**SPEAKERS**

Ayman Habib, Purdue University  
Michelle Mekker, Purdue University

**MODERATOR**

Gary Mroczka, AECOM

TIME  
4:00–4:50 PM

ROOM  
STEW 302

PDH: 1

**92. Concrete 101: The “Need to Know” for Ready-Mix Concrete**

Your supervisor just gave you a project repairing ADA ramps on Main Street. Now you have to order and place ready-mix concrete. You have many questions. Do I order by the yard or the truckload? What do I do when the concrete arrives on the job? What if it rains? A concrete expert will walk you through a sample project and answer all of your questions. Learn what tools are needed for your project to be successful.

**SPEAKERS**

Jerry Larson, IRMCA  
Chris Tull, CRT Concrete Consulting, LLC

**MODERATOR**

Gary Mroczka, AECOM

TIME  
8:00–8:50 AM

ROOM  
STEW 306

PDH: 1

**93. Critical Thinking in Transportation Design**

Engineers must think critically and be open to new information and perspectives to keep pace with evolving best practices in urban transportation design. Competing demands in these constrained environments require designers to exercise judgment rather than simply apply standard details. This session will explore case studies from Austin, Texas; Boise, Idaho; and Bloomington, Indiana, in a discussion about the importance of understanding engineering theory and knowing when and how to apply engineering judgment.

**SPEAKERS**

Neil Kopper, City of Bloomington  
Andrew Cibor, City of Bloomington

**MODERATOR**

Michael Rowe, United Consulting

**94. LED Street Lighting Evaluation Research, Development, and Implementation**

The Energy Efficiency and Reliability Center has conducted research as well as laboratory and field testing of street lighting systems for nine municipalities over the past 4 years. Currently this effort is expanding to include highway lighting with INDOT. Aspects of design, characteristics, laboratory and field testing, economics, performance, and implementation will be considered in this session.

**SPEAKER**

Robert Kramer, Purdue University Northwest

**MODERATOR**

Michael Rowe, United Consulting

TIME  
9:00–9:50 AM

ROOM  
STEW 306

PDH: 1



TIME  
10:00–10:50 AM

ROOM  
STEW 306

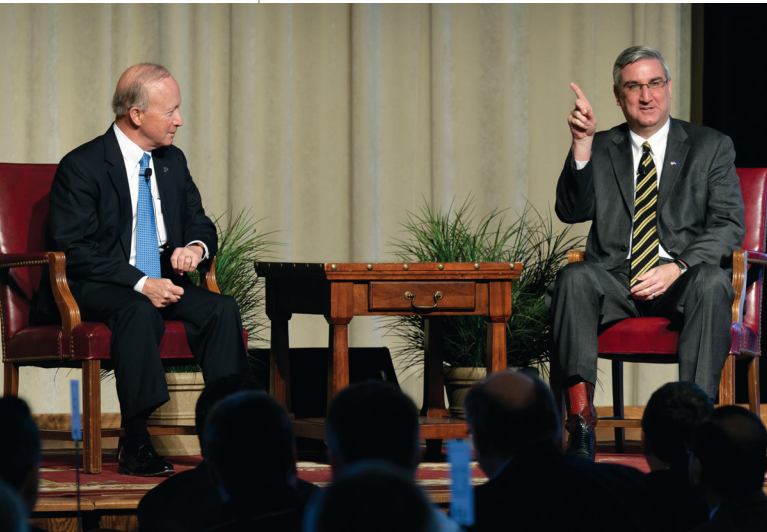
PDH: 1

**95. When to Use Midwest Guardrail System (MGS) W-Beam Guardrail**

In this session we will discuss when MGS w-beam guardrail should be placed on state and local projects and review pertinent INDOT Design Memos released over the past year.

**SPEAKER**  
Katherine Smutzer, INDOT

**MODERATOR**  
Michael Rowe, United Consulting



TIME  
1:00–1:50 PM

ROOM  
STEW 306

PDH: 1

**96. An Update on the State Street Project and How It Is Changing Purdue and the City of West Lafayette**

**Three Years Later: The State Street Redevelopment Project**—This interactive presentation features the transformational progress of the State Street Redevelopment Project and plans for the execution of its final year of construction. Since the time of its formal launch at Purdue Road School 2015, the project has distinguished itself as a unique town-gown, public-private partnership that has already delivered significant safety, multimodal circulation, and quality-of-life enhancements. The evolution of project elements, implementation strategies, and lessons learned will be highlighted.

**SPEAKERS**  
Don Petersen, Purdue University  
Michael Cline, Purdue University

**GSC Paves the Way for State Street P3**—The City of West Lafayette used the guaranteed savings contract (GSC) delivery method to provide a significant combined sewer overflow relief interceptor, roundabout, and roadway improvements to River Road. Needing a fast-track approach to accommodate the schedule of the State Street Project, the procurement and design/construction effort was accomplished in 12 months. We will share lessons learned from a completion ahead of schedule with a final construction cost \$4.75 million below the preliminary engineer’s estimate.

**SPEAKERS**  
Dave Buck, Butler, Fairman & Seufert, Inc.  
Dave Garwood, Butler, Fairman & Seufert, Inc.  
Carly Sheets, Butler, Fairman & Seufert, Inc.

**MODERATOR**  
Jay Wasson, Purdue University

TIME  
2:00–2:50 PM

ROOM  
STEW 306

PDH: 1

97. INDOT’s First Best Value Design Build

The I-69 Major Moves 2020 project was INDOT’s first Design-Build-Best Value contract and provided outstanding bidding results for the state of Indiana. This presentation includes an overview of why the best-value procurement was selected and the overall procurement process, as well as a discussion on key aspects of the RFP, including one-on-one meetings, alternative technical concepts, and the proposal scoring setup. We will also discuss how the project development/management differed from traditional project delivery.

SPEAKERS

Dave Ayala, Parsons Corporation  
Anthony Jones, INDOT

MODERATOR

Jay Wasson, Purdue University

TIME  
3:00–3:50 PM

ROOM  
STEW 306

PDH: 1

98. I-69 Section 6 Project Update

Section 6 is the final section of I-69 from Evansville to Indianapolis and will link Martinsville to Indianapolis. In this session, project officials will provide a summary of the project’s Final Environmental Impact Statement, including the selected alternative, public involvement activities, and design activities.

SPEAKERS

Sarah Rubin, INDOT  
Tim Miller, HNTB Corporation

MODERATOR

Jay Wasson, Purdue University

TIME  
4:00–4:50 PM

ROOM  
STEW 306

PDH: 1

99. Implementing Innovation Through the Every Day Counts Program

This session will provide the status of the 11 specific innovations promoted by FHWA, of which 8 were selected by the Indiana State Transportation Innovation Council to implement in Indiana.

SPEAKER

Robert Dirks, FHWA

MODERATOR

Jay Wasson, Purdue University



TIME  
2:00–2:50 PM

ROOM  
LOEB

PDH: 1

**100. Office of the Indiana Attorney General: Perspectives on Professional Licensing Enforcement and Disciplinary Actions**

This presentation details the investigation and litigation processes of the Attorney General’s Office upon receipt of consumer complaints filed against Indiana professional licensees. We will have a round-table discussion with board liaisons from the State Boards of Registrations for Professional Engineers and Professional Surveyors. Time will be reserved for Q&A.

**SPEAKERS**

Jennifer Williams, Office of the Indiana Attorney General  
Gary Kent, State Board of Registration for Professional Surveyors

**MODERATOR**

Opal Kuhl

TIME  
3:00–3:50 PM

ROOM  
LOEB

PDH: 1

**101B. Indiana Statutes and Rules for Professional Engineers**

This is an updated discussion of the Indiana Code and Indiana Administrative Code applied to the practice of engineering, including pending changes to the rules. Topics: pending changes to the steps to becoming a licensed professional engineer; computer-based testing for the FE, FS, PE, and PS exams; recent information on digital sealing of drawings and reports; new board newsletter; use of NCEES service to track continuing professional development; process for becoming a member of the board.

**SPEAKERS**

David Kish, Purdue University  
Vincent Drnevich, Purdue University

**MODERATOR**

Opal Kuhl

TIME  
4:00–4:50 PM

ROOM  
LOEB

PDH: 1

**102B. Ethics and the Practice of Engineering and Surveying**

In this session we present a comparison of personal codes of ethics, professional society codes of ethics, ethics in the NCEES Model Law and Model Rules, and the Indiana Code and Indiana Administrative Code. Updated guidelines for handling ethical dilemmas will be discussed, along with several new case histories and enforcement in Indiana compared with enforcement in other states.

**SPEAKERS**

David Kish, Purdue University  
Vincent Drnevich, Purdue University

**MODERATOR**

Opal Kuhl

TIME  
8:00–9:50 AM

ROOM  
STEW 311

PDH: 2

**103. Community Crossings  
Program Update and Ways to  
Generate the Matching Fund**

**Community Crossings Matching Grant Fund**—In this session we will discuss the Community Crossings Matching Grant Fund and its requirements. Local public agencies will learn how to apply and what to expect if awarded funding.

**SPEAKER**  
Kathy Eaton-McKalip, INDOT

**Matching Funds for Local Road Projects: Innovative Ways to Generate Your Community’s Local Match**—This session is geared toward communities that have limited funds available to take advantage of INDOT’s local road matching fund grant programs (or other possible matching grant programs). Regardless of size, every community wants to maximize its capabilities to take advantage of matching grant programs. We will present examples of various techniques used in large and small communities.

**SPEAKERS**  
Otto Krohn, O. W. Krohn & Associates, LLP  
Chuck Fewell, City of Greenfield

**MODERATOR**  
Angela Nichols, INDOT

TIME  
10:00–10:50 AM

ROOM  
STEW 311

PDH: 1

**104. Opportunities and Challenges  
for Biofuels in the Midwest**

Corn grain ethanol production is a mature industry built on a Midwestern agricultural infrastructure. Next-generation biofuels and bio-based products industries could take advantage of this robust framework. We will discuss the policy and technical challenges for a biofuels industry beyond ethanol, and the potential for future biorefineries to produce liquid hydrocarbon fuels, biorenewable chemicals, polymers, and materials. The opportunity is to create a new bioeconomy in the Midwest; the challenges are significant, but not insurmountable.

**SPEAKERS**  
Wally Tyner, Purdue University  
Maureen McCann, Purdue University

**MODERATOR**  
Angela Nichols, INDOT

TIME  
9:00–9:50 AM

ROOM  
PMU 240/FACE

PDH: 1

**105. RISE: Embracing the Transitioning Workforce Into the Civilian Workforce**

The City of Fishers created a program (RISE: Reentry Initiative through Structured Employment) to recruit motivated employees into public works positions and aid rehabilitation of citizens who are faced with finding meaningful employment after paying their debt to society. After completing a training regimen developed by the city, they're offered an opportunity to apply for full-time employment. Join us to learn about this innovative program.

**SPEAKER**  
Eric Pethtel, City of Fishers

**MODERATOR**  
Michael Singer, INDOT

TIME  
10:00–10:50 AM

ROOM  
PMU 240/FACE

PDH: 1

**106. Women in Public Works: Managers, Engineers, Role Models!**

As street commissioners, county engineers, highway directors, and professional engineers, women have a profound impact on Indiana's transportation industry. Our panel of professional women in public works will talk about the many factors that influenced their decision to work in this field and discuss the importance of having a mentor and job challenges they have faced.

**SPEAKERS**  
Opal Kuhl  
Jen Sharkey, Steuben County  
Jessica Clark, Saint Joseph County  
Ericka Miller, WSP USA, Inc.  
Patty Johnson, City of Noblesville

**MODERATOR**  
Laura Slusher, Purdue University

TIME  
1:00–1:50 PM

ROOM  
PMU 240/FACE

PDH: 1

**107. Escape a Culture of Busy**

The constant hum of workers saying they're "too busy" is toxic to our work environment. It's unproductive and is holding us back from seeing the larger picture. In this session, we'll talk about how to cut the busy and begin building realistic expectations with others.

**SPEAKER**  
Brian Rivette, INDOT

**MODERATOR**  
K. D. Thurman, INDOT

**108. Finding and Developing Hidden Talent**

Finding the talent necessary to build a top-performing organization is becoming harder every day as our economy grows and competition for great people intensifies. In this session we will discuss untapped internal talent sources that exist in organizations both large and small and strategies to find and develop diverse leaders who may not be on your radar today. We'll also dig into the case for retention and what keeps top performers engaged and inspired.

**SPEAKER**  
Dave Bagnall, INDOT

**MODERATOR**  
K. D. Thurman, INDOT

TIME  
2:00–2:50 PM

ROOM  
PMU 240/FACE

PDH: 1



TIME  
8:00–8:50 AM

ROOM  
STEW 202

PDH: 1

**109. APWA Indiana Chapter: Opportunities Within Reach**

The Indiana Chapter of the American Public Works Association is taking off and there’s time to climb aboard. In 2018, the best public works conferences in the country are within reach: PWX is in Kansas City, and North American Snow Conference is in Indianapolis. Learn how your community can improve public works performance and increase professionalism through continuing education programs, certifications, and the APWA Agency Accreditation Program.

**SPEAKER**  
Trever Leikam, American Public Works Association

**MODERATOR**  
Pat Conner, Purdue University

TIME  
9:00–9:50 AM

ROOM  
STEW 202

PDH: 1

**110. Indiana Local Asset Management Guide**

Indiana LTAP has developed an asset management guide for cities, towns, and counties in Indiana. This session covers how to use the guide and how it can help local agencies manage their assets and “tell their story” to their elected officials and stakeholders.

**SPEAKER**  
Richard Domonkos, Purdue University

**MODERATOR**  
Pat Conner, Purdue University

TIME  
10:00–10:50 AM

ROOM  
STEW 202

PDH: 1

**111. Indiana LTAP Technology Showcase: Everyday GIS for Public Works**

Embracing technology can be challenging for everyone. Indiana LTAP understands, and we plan to help by focusing on technologies that can improve your operations and create a positive change in your agency. Understanding GIS is at the top of the list. Starting from the basics, our presenter will show you how to get started, how to get the most out of this technology, and what tools are available for you and your crew every day.

**SPEAKER**  
Chris Walls, 39° North

**MODERATOR**  
Pat Conner, Purdue University

**112. Community Crossings Procurement Training**

The Community Crossings program has renewed interest in proper procurement procedures. This session is for those who want to understand state law as it relates to Public Works Projects, qualifications of bidders for contracts, and the requirements for contractors on Public Works Projects.

**SPEAKERS**  
Todd Caldwell, State Board of Accounts  
Kathy Eaton-McKalip, INDOT

**MODERATOR**  
Travis Underhill, INDOT

TIME  
1:00–1:50 PM

ROOM  
STEW 202

PDH: 1

TIME  
2:00–2:50 PM

ROOM  
STEW 202

PDH: 1

**113. Revised Annual Operational Report for Highway Departments**

In this session, presenters from the State Board of Accounts and Indiana LTAP will discuss the addition of the new Uniform Compliance Guidelines to local agency requirements for annual reporting.

**SPEAKERS**

Todd Caldwell, State Board of Accounts  
Shannon Lopez, State Board of Accounts  
Stephanie Heath, State Board of Accounts  
Zachery Guest, INDOT

**MODERATOR**

Bob McCullouch, Purdue University

TIME  
3:00–3:50 PM

ROOM  
STEW 202

PDH: 1

**114. A Path to Enlightenment: Local Transportation Policies and Standards**

In this session we will discuss the importance and benefits of local public agencies having transportation policies and standards for such areas as access management, street design, bike-pedestrian, and right-of-way dedication. Benefits may include contracted consulting guidance for LPA projects, planning a local transportation system for growth, and future long-range planning for the LPA.

**SPEAKERS**

Robert Wertman, Madison County  
Council of Governments  
Dave Hayward, City of Columbus

**MODERATOR**

Bob McCullouch, Purdue University

TIME  
4:00–4:50 PM

ROOM  
STEW 202

PDH: 1

**115. Motor Vehicle Highway, Local Road, and Street: Funding for Tomorrow**

In this session we will discuss changes to the motor vehicle highway account and the impacts new legislation will have on Indiana streets and highways. Presenters will discuss the legislation, what our lawmakers expect, and the impact the additional revenue will provide.

**SPEAKER**

Pat Conner, Purdue University

**MODERATOR**

Bob McCullouch, Purdue University

TIME  
8:00–8:50 AM

ROOM  
STEW 214AB

PDH: 1

**116. Integrated Analytics at  
INDOT Using Tableau**

INDOT has been rapidly expanding its use of Tableau visualization software to glean important insights into our business operations. By utilizing data sources from across the agency via INDOT’s data warehouse and displaying it in intuitive visual representations, the business is able to evolve from a point of “data rich, information poor” spreadsheets to one that allows rapid and iterative analysis. This presentation includes analyses from Fleet, Field Maintenance, and Construction.

**SPEAKER**  
Derek Weinberg, INDOT

**MODERATOR**  
Jamie Stetzel, American Structurepoint, Inc.

TIME  
9:00–9:50 AM

ROOM  
STEW 214AB

PDH: 1

**117. Roadside Seeding for  
Beauty and Function**

The DOTs manage a total of 17 million acres, historically planted with fescues that offer little to the environment. Maintaining these areas requires manpower, equipment, and fuel at a substantial cost, and safety is an issue with roadside maintenance. This presentation covers the whats, wheres, whys, and hows of establishing native plants on roadways. Estimated budget numbers will be provided.

**SPEAKER**  
Mark O’Brien, Cardno

**MODERATOR**  
Jamie Stetzel, American Structurepoint, Inc.

TIME  
10:00–10:50 AM

ROOM  
STEW 214AB

PDH: 1

**118. Noble County Culvert  
Rehabilitation With Geosynthetic  
Cementitious Composite Mat**

A 96-inch CMP culvert under Hopewell Road in Noble County, Indiana, was experiencing deterioration in the invert due to abrasion and corrosion. The County explored several repair/rehabilitation options and arrived at the use of a geosynthetic cementitious composite mat (GCCM) to protect and extend the life of the invert. This presentation summarizes the design and installation of the GCCM mat and the associated challenges and benefits for the County.

**SPEAKERS**  
John Strange, Noble County  
Highway Department  
David Keaffaber, Milliken Infrastructure Solutions

**MODERATOR**  
Jamie Stetzel, American Structurepoint, Inc.

**119. Extreme Precipitation  
Events, Impacts, Trends, and  
Projections for Indiana**

The National Weather Service is working with core partners to build a Weather-Ready Nation by taking advanced action against the devastating impacts of extreme weather events. This presentation reviews extreme rainfall and flooding events that have occurred across Indiana and their impacts on infrastructure such as roads and bridges. Trends in extreme precipitation events over the last century will be shown, in addition to climate projections for future extreme events.

**SPEAKER**  
Sam Lashley, National Weather  
Service Northern Indiana

**MODERATOR**  
Bill Smith, INDOT

TIME  
1:00–1:50 PM

ROOM  
STEW 214AB

PDH: 1

TIME  
2:00–2:50 PM

ROOM  
STEW 214AB

PDH: 1

**120. Transforming Your Pavement Ratings Into an Asset Management Plan Tool**

In this session we will discuss the steps needed to take a pavement inventory using the PASER method and create an asset management plan that can then be used as a tool to plan your next 5 years’ worth of road maintenance activities. Budgeting and PASER projection can also be used to create exhibits in GIS for public consumption.

**SPEAKER**  
Shawn Strange, First Group Engineering

**MODERATOR**  
Bill Smith, INDOT

TIME  
3:00–3:50 PM

ROOM  
STEW 214AB

PDH: 1

**121. Evaluating Economic Development Impacts of Preservation Projects**

Economic growth and development have long been associated with transportation infrastructure expansion projects. However, the impacts that infrastructure preservation projects have on economic development have not been extensively studied. We will present a framework that estimates the regional economic development impacts that arise from bridge and pavement preservation and maintenance projects at a sketch plan level. Final deliverables include a literature review and a tool for INDOT planners based on the framework.

**SPEAKERS**  
Yue Ke, Purdue University  
Davis Chacon-Hurtado, Purdue University  
Konstantina Gkritza, Purdue University  
Jon Fricker, Purdue University

**MODERATOR**  
Bill Smith, INDOT

TIME  
4:00–4:50 PM

ROOM  
STEW 214AB

PDH: 1

**122. Traffic Control Solutions for Common Work Zone Dilemmas**

Recent technological advancements now allow portable traffic signals to solve a myriad of long-standing work zone dilemmas. How do you efficiently manage residential driveways within a work zone? What is the best method for communicating signal information to the motorist? What happens if a vehicle needs more time to clear the work area? This presentation focuses on how portable traffic signals are being used in these situations and more.

**SPEAKER**  
Kirk Thrasher, Horizon Signal Technologies

**MODERATOR**  
Bill Smith, INDOT

**123. Moving Toward a Solid State Future: INDOT’s Lighting Design Procedure**

This presentation focuses on the recently adopted changes in the way highway lighting systems are designed, with emphasis on how the approved list of solid state–based luminaires is integrated into the design process. Progress made on the approved list and experiences in developing it will also be shared.

**SPEAKERS**  
Dave Boruff, INDOT  
Amanda Johnson, EMCS  
Rick Hensley, Parsons Corporation

**MODERATOR**  
Robert Dirks, FHWA

TIME  
8:00–8:50 AM

ROOM  
STEW 214CD

PDH: 1

TIME  
9:00–9:50 AM

ROOM  
STEW 214CD

PDH: 1

**124. Roadside Integrated Vegetation Management BMPs: Right Tool for the Right Job**

Based on a 3-year Ohio DOT integrated vegetation management research project, lessons learned and techniques for innovative and adaptive IVM for diverse Midwestern landscapes will be presented that can increase INDOT's efficiency and cost-effectiveness and simultaneously improve worker safety, foster safe highway use, improve roadside aesthetics, and promote environmental stewardship.

**SPEAKERS**

Cheryl Daniels, Davey Resource Group  
Jennifer Gulick, Davey Resource Group

**MODERATOR**

Robert Dirks, FHWA

TIME  
10:00–10:50 AM

ROOM  
STEW 214CD

PDH: 1

**125. Implementation of Lean Methodology in Maintenance and Operations**

In this session we will discuss the results of an INDOT-sponsored program to facilitate Lean methodology workshops to Maintenance and Operations managers around the state. Attendees will learn how Lean principles and techniques were used to identify and reduce waste in the form of waiting, defects, rework, and more.

**SPEAKER**

Jon Padfield, Purdue University

**MODERATOR**

Robert Dirks, FHWA

TIME  
1:00–1:50 PM

ROOM  
STEW 214CD

PDH: 1

**126. Enough Is Enough: Green Infrastructure Retrofit Case Study**

Green infrastructure technologies have been implemented in the city of Indianapolis for the past decade. Design, construction, and maintenance lessons learned are being applied to the retrofit of existing green infrastructure projects. In this session we will discuss the decision-making process involved in the Jefferson Avenue Rain Garden retrofit project on the city's Near Eastside and highlight the unique private-public maintenance program implemented on a nearby streetscape project on East 10th Street.

**SPEAKERS**

Sarah Evans, Williams Creek Consulting  
Rachel Wilson, City of Indianapolis

**MODERATOR**

Kenny Franklin, Crawford, Murphy & Tilley

**127. Drainage on Kosciusko County Roads: From Start to Finish**

Kosciusko County has more than 100 lakes that drive a tourism industry that has contributed over \$162.2 million to the economy. The watershed that supports these lakes has to interconnect with 1,170 miles of county road. In this session a 19-year county highway manager shares how Kosciusko County battles drainage to keep the water moving and the roads dry. From developing the drainage program to changing the pipe, hear it all from start to finish.

**SPEAKER**

Steve Moriarty, Kosciusko County  
Highway Department

**MODERATOR**

Kenny Franklin, Crawford, Murphy & Tilley

TIME  
2:00–2:50 PM

ROOM  
STEW 214CD

PDH: 1



WEDNESDAY

MULTI-MODAL TRANSPORTATION

TIME  
8:00–8:50 AM

ROOM  
STEW 314

PDH: 1

128. INDOT’s Freight Plan

In this session, INDOT staff and consultants will provide an overview of INDOT’s Freight Plan, which includes supply chains for targeted industries.

**SPEAKERS**  
Pam Fisher, INDOT  
Bob Gollnik, Cambridge Systematics  
Kristin Brier, INDOT

**MODERATOR**  
Roy Nunnally, INDOT

TIME  
9:00–9:50 AM

ROOM  
STEW 314

PDH: 1

129. Transit and Sustainability:  
Yes, Spoken in the Same Breath!

Using the City of Charlotte, North Carolina’s, Sustain Charlotte program as an example, we will present tools to rank infrastructure for sustainable actions as well as how to identify the infrastructure rating categories applicable to transit. It’s never too late to consider sustainability, whether for transit or other infrastructure. In-progress projects will be reviewed.

**SPEAKERS**  
Michael Booth, HDR  
Jennifer Mitchell, HDR

**MODERATOR**  
Roy Nunnally, INDOT

WEDNESDAY

MULTI-MODAL TRANSPORTATION

TIME  
10:00–10:50 AM

ROOM  
STEW 314

PDH: 1

130. Creating a Place Within  
the Right-of-Way

Fortville, Indiana, is currently working to transform a heavily traveled, state-managed arterial corridor into a highly active streetscape by proactively planning for land use, zoning, access management, and infrastructure upgrades along SR 67. This project illustrates a paradigm shift that many communities are facing as they reimagine their core neighborhoods. The corridor transformation has been collaborative and includes town and county officials, INDOT, and the public.

**SPEAKERS**  
Catherine Clark, American Structurepoint, Inc.  
Neil Stevenson, Madison County  
Council of Governments

**MODERATOR**  
Roy Nunnally, INDOT

**TIME**  
8:00–8:50 AM

**ROOM**  
PMU 250/FACW

**PDH: 1**

**131. Determining the Optimized Traffic Opening Time Using Piezoelectric Sensors**

The focus of this project is to develop a non-destructive (NDT) field testing method using a piezoelectric-based sensor for in situ monitoring of concrete early-age properties, including setting time, hydration, and strength, to determine the optimal traffic opening time. Join us for a discussion.

**SPEAKER**  
Luna Lu, Purdue University

**MODERATOR**  
Tom Duncan, FHWA

**TIME**  
9:00–9:50 AM

**ROOM**  
PMU 250/FACW

**PDH: 1**

**46B. HMA Specification Revisions and Testing 2018**

INDOT’s HMA specifications and testing procedures are changing for 2018. We will present a summary of those changes, and what to expect.

**SPEAKERS**  
John Leckie, INDOT  
Matt Beeson, INDOT

**MODERATOR**  
Tom Duncan, FHWA

**132. Performance of Full-Depth Reclamation (FDR) and Cold-in-Place Recycle (CIR) Projects in Columbus, Indiana**

Since 2011, Columbus, Indiana, has recycled 20 sections of pavement utilizing either FDR or CIR. Falling weight deflectometer testing was performed on a select number of FDR sections to evaluate their strength after multiple years of service. CIR and FDR sections were also evaluated using Pavision, an automated distress survey device. Recycled projects were compared to similarly aged traditional treatment types. Join us for an update on how these pavement sections are performing.

**SPEAKER**  
Jason Wielinski, Heritage Research Group

**MODERATOR**  
Tom Duncan, FHWA

**133. Identifying Pavement Failures and Effective Base Preparation**

You are responsible for rehabilitating a pavement and need to do some patching. Where do you patch? How do you patch? You are building a new pavement from the ground up. How do you know you have a good platform? Come to this presentation and learn how to identify pavement failures, which methods are best used to repair them, and how to properly prepare from the ground up.

**SPEAKER**  
William Vavrik, Applied Research Associates, Inc.

**MODERATOR**  
Bill Knopf, Asphalt Pavement Association of Indiana

**TIME**  
10:00–10:50 AM

**ROOM**  
PMU 250/FACW

**PDH: 1**

**TIME**  
1:00–1:50 PM

**ROOM**  
PMU 250/FACW

**PDH: 1**

TIME  
2:00–2:50 PM

ROOM  
PMU 250/FACW

PDH: 1

**134. Impact of Subgrade Strength on HMA Section Thickness**

Flexible pavements are built from the soil up, and the quality and characteristics of each layer have a significant impact on performance. Soft soils and thin base layers can require thicker asphalt. Properly preparing and constructing asphalt bases can be a cost-effective way to achieve a perpetual pavement. In this session we will explore the impact of subgrade and base layers and how you can optimize pavement design for maximum performance.

**SPEAKER**  
William Vavrik, Applied Research Associates, Inc.

**MODERATOR**  
Bill Knopf, Asphalt Pavement Association of Indiana

TIME  
3:00–3:50 PM

ROOM  
PMU 250/FACW

PDH: 1

**135. Asphalt Specifications for Local Paving Projects**

Proper asphalt specification and design is paramount to an economical and long-lasting road. In 2017, INDOT significantly revised its specifications to achieve higher durability asphalt pavements. As a local public agency or transportation designer, how do these changes affect you as you specify mixes for city and county roads and commercial sites? This session will cover the fundamentals of selecting the right mix designs for your project.

**SPEAKER**  
Kirsten Pauley, Asphalt Pavement Association of Indiana

**MODERATOR**  
Bill Knopf, Asphalt Pavement Association of Indiana

TIME  
4:00–4:50 PM

ROOM  
PMU 250/FACW

PDH: 1

**136. Is Today a Good Day to Pave?**

Is it too cold? Do I have enough rollers? Is there a tack coat? We all know that the fundamentals are always important, so when your paving project begins, make sure you have all the right quality control measures in place. This session will introduce you to some of the tools available to help you make the right decisions on your asphalt paving project.

**SPEAKER**  
Brian Crume, E&B Paving

**MODERATOR**  
Bill Knopf, Asphalt Pavement Association of Indiana

TIME  
8:00–8:50 AM

ROOM  
LOEB

PDH: 1

**137. Environmental Programmatic Agreements in Indiana**

In this session we will discuss various programmatic agreements (PAs) used during the NEPA process: the Section 106 Minor Projects PA, Categorical Exclusion PA, Historic Bridge PA, Karst MOU, Tribal MOU, and Indiana and Northern Long-Eared Bat Range-Wide PA .

**SPEAKERS**

Michelle Allen, FHWA  
Laura Hilden, INDOT  
Anuradha Kumar, INDOT  
Ron Bales, INDOT

**MODERATOR**

Jerred Stephenson, INDOT

TIME  
9:00–9:50 AM

ROOM  
LOEB

PDH: 1

**138. US 36 Truss Bridge Rehabilitation (Schedule-Critical Deadline Met With Teamwork and Innovation)**

The US 36 over the Wabash River truss bridge, which spans more than 1,200 feet, underwent a deck replacement in 2017. The existing historical structure had a deteriorated bridge deck and a substandard load rating. During construction, coordination between all parties allowed for load rating improvement by taking advantage of composite action. This time-saving measure allowed for meeting a schedule-critical completion date in order to reopen for the Parke County Covered Bridge Festival. Join us for a discussion.

**SPEAKERS**

Elizabeth Kokosinski, American Structurepoint, Inc.  
David Day, American Structurepoint, Inc.

**MODERATOR**

Jerred Stephenson, INDOT

TIME  
10:00–10:50 AM

ROOM  
LOEB

PDH: 1

**139. Dos and Don'ts: Lessons Learned in Maintaining Mitigation**

Implementation and completion of a mitigation project may be one of the last obstacles INDOT faces in the successful completion of a road construction project. Many variables contribute to the success of a mitigation project. This presentation will touch on successes and failures experienced over a decade of managing mitigation sites throughout Indiana, from site selection, planning, and design to construction, monitoring, and maintenance.

**SPEAKER**

Jacob Bannister, Davey Resource Group

**MODERATOR**

Jerred Stephenson, INDOT

**140. Bridging the Gap: From Bridge Engineer to Manager**

As engineers advance through their careers, their experience in survey, hydraulics, scour analysis, environmental considerations, permits, maintenance of traffic, and other design elements make them excellent candidates to transition into PM roles. In this session, two bridge engineers who now manage complex road and bridge projects and help mentor staff to similar opportunities will share their experiences and provide advice to those seeking management positions.

**SPEAKERS**

Dan Thatcher, HNTB Corporation  
Jim Earl, INDOT

**MODERATOR**

Keith Hoernschemeyer, FHWA

TIME  
8:00–8:50 AM

ROOM  
STEW 279

PDH: 1

TIME  
9:00–9:50 AM

ROOM  
STEW 279

PDH: 1

141. Essential Project Management Processes and Tools to Succeed

This session covers the tools and processes a project manager needs to successfully deliver projects. Areas of focus are project management, quality, and communication plans; schedule, budget, and change order management; contract and scope development; and consultant and subconsultant management. Real-life PM stories and paths to success will be presented.

SPEAKERS  
Dave Ayala, Parsons Corporation  
Heather Kennedy, INDOT

MODERATOR  
Keith Hoernschemeyer, FHWA

TIME  
10:00–10:50 AM

ROOM  
STEW 279

PDH: 1

142. INDOT Prequalification

The Indiana state legislation changed at the beginning of this year, and prequalification is now a requirement on more projects in the state. The new legislation directly impacts local leaders and engineers responsible for highway public works projects. This session offers further clarification and education about INDOT prequalification.

SPEAKER  
Jose Murillo, INDOT

MODERATOR  
Keith Hoernschemeyer, FHWA

TIME  
1:00–1:50 PM

ROOM  
STEW 279

PDH: 1

143. What Utilities Wish We Knew

Utility coordination in design has changed, but we still don't have all the facts. Utility owners have valuable information that could make our coordination efforts even more successful. In this presentation, utility representatives discuss the top three things they wish designers knew and how we can seek to understand the project from their perspective, ultimately saving the project and utility owners alike time and money.

SPEAKERS  
Natalie Parks, American Structurepoint, Inc.  
Rich Miller, Citizens Gas  
Michael Seals, Indiana American Water Co.

MODERATOR  
Kevin Rowland, INDOT

144. Utilizing GIS Tools for Asset Management

In this session we will discuss how communities and utilities within Indiana have utilized out-of-the-box GIS tools to both manage assets and start planning for the future. The focus will be on implementing existing tools within the ArcGIS environment and publicly available add-ins to keep stakeholders engaged and display useful information in potentially new ways.

SPEAKERS  
Jason Hoff, HNTB Corporation  
Mitchell House, HNTB Corporation

MODERATOR  
Kevin Rowland, INDOT

TIME  
2:00–2:50 PM

ROOM  
STEW 279

PDH: 1



TIME  
3:00–3:50 PM

ROOM  
STEW 279

PDH: 1

**145. Right-of-Way Acquisition Strategies for Infrastructure Projects**

**Optimal Right-of-Way Delivery**—In this session we present current options and strategies for optimal delivery of projects involving right-of-way acquisition, including Map 21, early assessment, and appraisal with PE funding. We will discuss communication strategies that work to keep projects on schedule and provide project-specific examples from both the PM and the Real Estate perspectives. The session will include time for Q&A.

**SPEAKERS**

Mary Loy, INDOT  
Susan Doell, INDOT  
Kathy Heistand, INDOT

**Getting Real About Real Estate Acquisition**—Real estate (land) acquisition is a critical part of any highway or road improvement project. Delays in land acquisition can halt projects, cost thousands or even millions of dollars, and damage public perception. In this session a panel of three seasoned professionals in the areas of land acquisition, relocation assistance, and eminent domain will address the effective and efficient use of the land acquisition process to keep projects on track.

**SPEAKERS**

Yasmin Stump, Yasmin L. Stump Law Group, PC  
Ken Fleetwood, Beam, Longest & Neff  
Joe Gromosky, Boomerang Ventures

**MODERATOR**

Kevin Rowland, INDOT

TIME  
4:00–4:50 PM

ROOM  
STEW 279

PDH: 1

**146. Travel Demand Modeling for Environmental Justice Analysis**

In this session we will discuss the refinement of travel demand models to provide enhanced details on impacts of tolls within the environmental justice analysis phase of project development. Income segmentation will be introduced through the use of Longitudinal Employer-Household Dynamics (LEHD) data, which are carried through trip distribution, mode choice, and traffic assignment. This process results in income-specific trip tables, allowing a more refined assessment of tolling impacts, including economic and traffic diversion.

**SPEAKERS**

Jerry Shadewald, HNTB Corporation  
Adin McCann, HNTB Corporation

**MODERATOR**

Kevin Rowland, INDOT

TIME  
8:00–9:50 AM

ROOM  
STEW 320

PDH: 2

147. Communicate to Lead

Managers and leaders need to be able to communicate effectively in order to engage and connect with others. This requires listening effectively, avoiding filters or biases, rephrasing, and speaking persuasively. This session will help attendees create opportunities for feedback to close the communication loop and demonstrate effective questioning and listening skills that strengthen relationships.

SPEAKERS

Eric Farny, American Structurepoint, Inc.  
Amy Porter, Dale Carnegie  
Steve Hanes, Dale Carnegie

MODERATOR

Megan Hughes, INDOT

TIME  
8:00–8:50 AM

ROOM  
STEW 204

PDH: 1

148. School Zone Flashers in Indianapolis, Indiana

Starting in 2013, the City of Indianapolis embarked on a phased effort to install school zone flashing beacons throughout the city. Through three phases of design and construction, nearly 600 flashers were installed, including 516 speed zone flashers and 76 rectangular rapid-flashing beacons. As part of the third phase, upgraded hardware was installed in the speed zone flashers to facilitate calendar updates and maintenance tracking. Construction cost \$4.2 million utilizing HSIP funds. Join us to learn about this project.

SPEAKERS

Jill Palmer, Shrewsberry  
Nathan Sheets, City of Indianapolis

MODERATOR

Shan Gunawardena, City of Fort Wayne

149. Deployment of License Plate Recognition Cameras: Hammond, Indiana

With security and safety a top priority, the City of Hammond, in cooperation with Brite Computers and J & M Security Solutions, recently installed 33 fixed and 2 mobile cameras that cover most ingress/egress points to the city. This presentation focuses on technology, deployment, and crime-fighting opportunities within rights-of-way. We will share real-life examples that improve community safety.

SPEAKERS

Dean Button, City of Hammond  
Nancy Ann Martin, Brite Computers

MODERATOR

Shan Gunawardena, City of Fort Wayne

TIME  
9:00–9:50 AM

ROOM  
STEW 204

PDH: 1

TIME  
10:00–10:50 AM

ROOM  
STEW 204

PDH: 1

**150. Crash Scene Documentation  
With Consumer-Grade  
Unmanned Aircraft Systems**

This presentation will cover the concepts behind and opportunities of using consumer-grade unmanned aircraft systems (UAS) costing less than \$2,000 to document crash scenes. Simple field procedures will be provided and real-world applications discussed. Studies have shown that a scaling accuracy of approximately 2 cm can be achieved.

**SPEAKERS**

Ayman Habib, Purdue University  
Michelle Mekker, Purdue University

**MODERATOR**

Shan Gunawardena, City of Fort Wayne

TIME  
1:00–2:50 PM

ROOM  
STEW 204

PDH: 2

**151. LED Lighting: The State of LED  
Tariffs and Deployment by Investor-  
Owned Utilities in Indiana and INDOT’s  
Experiences With the New Technology**

Northern Indiana Public Service (NIPSCO) is collaborating with a group of municipalities to initiate a program to replace all fixtures in its service territory with LED fixtures. INDOT has also been preparing for the conversion to LED. In this presentation we discuss this program and its timing, results, and tariff impacts.

**SPEAKERS**

Ted Sommer, Indiana Street Light Alliance  
Dave Boruff, INDOT  
Robert Kramer, Purdue University Northwest

**MODERATOR**

Jill Palmer, Shrewsberry

TIME  
3:00–3:50 PM

ROOM  
STEW 204

PDH: 1

**152. Indiana School for the Blind:  
Navigating Pedestrian Facilities**

The engineering and public works communities integrate ADA elements into many aspects of their projects. The compliant design and installation of pedestrian features are often dictated by design manuals and public policies; however, designers may not have an understanding of how these accessible features are used by those with physical impairments. Join us to gain a better understanding of the ways in which those with visual impairments learn to navigate pedestrian facilities.

**SPEAKERS**

Charlie Starling, CHA Consulting, Inc.  
Megan DeWester, Indiana School for  
the Blind and Visually Impaired

**MODERATOR**

Jill Palmer, Shrewsberry

TIME  
8:00–8:50 AM

ROOM  
STEW 218CD

PDH: 1

**153. Crash Location Improvement Program**

Crash location is a critical piece of information for any type of safety-related analysis; however, there is often a high percentage of error in these data. Currently, a time-consuming manual process is used to correct faulty coordinates. The Crash Location Improvement Program (CLIP) is a tool developed by the Center for Road Safety, with support from Indiana LTAP, which allows users to identify and correct crash location errors. Join us for a discussion.

**SPEAKER**  
Mario Romero, Purdue University

**MODERATOR**  
Mike Holowaty, INDOT

TIME  
9:00–9:50 AM

ROOM  
STEW 218CD

PDH: 1

**154. Traffic Safety: Past, Present, and Future**

Highway safety has made incredible strides in past years. The safety community has learned much about what works, what doesn't, and how our actions can affect the numbers. Attendees will learn about highway safety, major initiatives implemented, where we are heading, and, most importantly, what steps to take to save lives and prevent injuries.

**SPEAKER**  
Rick Drumm, FHWA

**MODERATOR**  
Mike Holowaty, INDOT

TIME  
10:00–10:50 AM

ROOM  
STEW 218CD

PDH: 1

**155. Walking Toward Safety**

The safety of the most vulnerable of road users—pedestrians—has become a greater focus in Indiana. The data tell us a lot. Several initiatives have been rolled out that center on pedestrian safety. Attendees will gain a greater understanding, appreciation, and vision of pedestrian safety and what can be done about it.

**SPEAKERS**  
Rick Drumm, FHWA  
Nathan Sheets, City of Indianapolis  
Alison Redenz, Health by Design

**MODERATOR**  
Mike Holowaty, INDOT

**156. ADA Compliance in Work Zones: Guidelines and Case Studies**

Sidewalk construction work zones should be accessible to and provide safe, continuous guidance for all pedestrians, yet most sidewalk work zones are neither accessible nor safe. In this session we will review MUTCD and ADA guidelines and specifications and discuss devices and practices used to achieve compliance and accessibility. We will compare actual work zone practices to ADA requirements and applicable local specifications. Three sidewalk work zone case studies will be presented.

**SPEAKER**  
Kenny Kolberg, PSS

**MODERATOR**  
Rick Drumm, FHWA

TIME  
1:00–1:50 PM

ROOM  
STEW 218CD

PDH: 1

TIME  
2:00–2:50 PM

ROOM  
STEW 218CD

PDH: 1

TIME  
3:00–3:50 PM

ROOM  
STEW 218CD

PDH: 1

157. Systemic Safety Projects

Systemic safety projects allow agencies to improve the safety on several roads throughout their community, not just one location. In this session we will discuss the process for developing systemic safety projects, from location identification through funding application.

SPEAKER  
Laura Slusher, Purdue University

MODERATOR  
Rick Drumm, FHWA

158. Designing Safer Work Zones

This presentation will take you through the year-long joint cooperative process between industry and state government that is making our work zones safer. Projects are being designed and executed in a safer manner as all concerned are taking a proactive approach to address the spike in incidents and fatalities in our work zones. The results and ongoing efforts of this large-scale, multi-jurisdictional effort will be addressed.

SPEAKERS  
Bob Tally, INDOT  
Calvin Lee, Indiana Constructors, Inc.

MODERATOR  
Rick Drumm, FHWA

TIME  
8:00–8:50 AM

ROOM  
STEW 310

PDH: 1

159. South Bend Smart Streets:  
Before and After Study

The South Bend Smart Streets project, which was completed in the summer of 2017, utilized road diets and the Complete Streets philosophy to transform the way citizens navigate the downtown South Bend area. Traffic analysis was performed both prior to and after construction to guide the design process and to retime 30+ traffic signals located within the project study area. This presentation provides a before-and-after comparison of traffic conditions and the lessons learned.

SPEAKERS  
Ryan Huebschman, American  
Structurepoint, Inc.  
Roger Nawrot, City of South Bend

MODERATOR  
Mark O'Connor, Info Tech, Inc.

160. Slow Down! Reducing Downtown  
Bloomington's Progression Speed

A stated goal of the Citywide Retiming Project was to reduce the progression speed along the College Avenue and Walnut Street one-way pair through downtown Bloomington while improving signal coordination, increasing greenband, and providing clearance interval compliance. Pedestrian and bicycle safety was also taken into consideration. While it's the same small town, this project has resulted in fewer stops, lower progression speed, and less driver frustration. This presentation details the before-and-after study, including the benefit-cost analysis.

SPEAKERS  
Patrick O'Connor, American Structurepoint, Inc.  
Neil Kopper, City of Bloomington

MODERATOR  
Mark O'Connor, Info Tech, Inc.

TIME  
9:00–9:50 AM

ROOM  
STEW 310

PDH: 1



TIME  
10:00–10:50 AM

ROOM  
STEW 310

PDH: 1

**161. Incorporating ADA and APS Work on Traffic Contracts**

The project scope and budget for traffic contracts is often very limited. In this session we will address questions about when existing curb ramps and pedestrian push-buttons must be replaced on traffic contracts and when replacement is optional. We will also review INDOT’s selection criteria for accessible pedestrian signals.

**SPEAKERS**

Joe Bruno, INDOT  
Adam Tyra, INDOT

**MODERATOR**

Mark O’Connor, Info Tech, Inc.

TIME  
1:00–1:50 PM

ROOM  
STEW 310

PDH: 1

**162. How to Implement a Transit Signal Priority Project and Use Vehicle Probe Trajectory Data in Signal Design**

**Large-Scale Transit Signal Priority Implementation**—In 2016, the District Department of Transportation (DDOT) deployed Transit Signal Priority (TSP) at 195 intersections in highly urbanized areas of Washington, DC. In collaboration with a broader regional implementation, and in partnership with the Washington Metropolitan Area Transit Authority (WMATA), DDOT set out to apply a systems engineering–driven process to identify, design, test, and accept a large-scale TSP system. This presentation will highlight project successes and lessons learned.

**SPEAKERS**

Kevin Lee, Kittelson & Associates, Inc.  
Bailey Lozner, Kittelson & Associates, Inc.

**Estimating Intersection Control Delay Using High-Fidelity Commercial Probe Vehicle Trajectory Data**—In this session a method is presented for computing control delay using high-fidelity commercial probe vehicle trajectory data. In collaboration with a commercial probe data provider, approximately 38 million records starting in, ending in, or going through Salt Lake City were obtained for a 2-month period in 2017. Come learn about this study.

**SPEAKER**

Howell Li, Purdue University

**MODERATOR**

Nick Batta, Crawford, Murphy & Tilley

TIME  
2:00–2:50 PM

ROOM  
STEW 310

PDH: 1

**163. Utilization of Drone Technology in Transportation Engineering**

Drone technology can be very beneficial to transportation engineering by increasing the efficiency of the data collection process and limiting the number of personnel needed, allowing resources to be dedicated to multiple projects simultaneously. However, the technology can be costly. This presentation identifies a cost-effective way to employ drone technology for data collection.

**SPEAKERS**

Michael Williamson, Indiana State University  
Sam Morgan, Indiana State University

**MODERATOR**

Nick Batta, Crawford, Murphy & Tilley

TIME  
3:00–3:50 PM

ROOM  
STEW 310

PDH: 1

**164. Tolling Today**

With the introduction and expansion of tolling as a way to deliver transportation and manage congestion in many parts of the country this presentation will cover tolling today and what it looks like, toll technology and how it continues to evolve, and the latest trends in tolling, including all-electronic tolling and managed lanes.

**SPEAKER**

Kevin Hoeflich, HNTB Corporation

**MODERATOR**

Nick Batta, Crawford, Murphy & Tilley

TIME  
8:00–8:50 AM

ROOM  
STEW 218AB

PDH: 1

**165. Road Weather Information System (RWIS) and Winter Operations Performance Measures**

Road Weather Information System (RWIS) is a winter operations tool that has provided key data for the effective management of snow and ice operations for many years. This session will illustrate, with case examples, what data and sensors many state and municipal agencies are successfully using to develop winter operation performance measures.

**SPEAKER**

Kurt Kinion, The Hoosier Co.

**MODERATOR**

Colleen Smith, FHWA

**166. Automated Winter Road Condition Analysis and Prediction**

A prototype for an automated system for winter road condition analysis and prediction has been developed based on traffic speed information, crowdsourced weather observations, radar, and other meteorological data. Join us for a discussion of the preliminary results of the evaluation of this system during the 2017–18 winter season.

**SPEAKERS**

Michael Baldwin, Purdue University  
Kevin Burris, Purdue University

**MODERATOR**

Colleen Smith, FHWA

TIME  
9:00–9:50 AM

ROOM  
STEW 218AB

PDH: 1

TIME  
1:00–1:50 PM

ROOM  
STEW 218AB

PDH: 1

167. SESSION CANCELED

The City of Fishers Department of Public Works developed an innovative AVL (automatic vehicle locating) system that utilizes the ESRI/GIS platform and allows the city to deploy its fleet based on live data from fleet vehicles. This system indicates to all drivers the operation of the plow and salt spreaders. These data are displayed in each truck, and a web-based map allows management to reallocate resources during a winter storm. Join us for a discussion.

SPEAKER

MODERATOR

168. Detailed Weather Forecasting for Your Community

Got a special event? Need winter weather information now? Whether you're with INDOT or a local agency, you do not have time to become a meteorologist and study weather patterns. The weather forecasting systems market expects to become a \$1.99 billion industry by 2020. Learn how state DOTs, local agencies, companies, industries, and major event planners are using custom weather forecasting to reduce risk when it comes to outdoor planning.

SPEAKER

Michael Clark, BAMWX.com

MODERATOR

Bryan Donze, INDOT

TIME  
2:00–2:50 PM

ROOM  
STEW 218AB

PDH: 1

169. Winter Solutions in "Pure Michigan"

Our northern neighbors from Farmington Hills, Michigan, will share their winter management success stories. Farmington Hills Department of Public Works has developed an award-winning winter operations program by transitioning away from traditional methods. Choosing to travel down a more sustainable and asset-friendly path by using innovative products, training, and reducing the damage caused by deicing. Farmington Hills DPW has been a leader in expanding the use of organic products in its Snow and Ice Control Program.

SPEAKERS

Bryan Pickworth, City of Farmington Hills, MI  
Kevin McCarthy, City of Farmington Hills, MI

MODERATOR

Bryan Donze, INDOT

WEDNESDAY

WINTER WEATHER OPERATIONS

TIME  
3:00–3:50 PM

ROOM  
STEW 218AB

PDH: 1

170. Winter Solutions:  
One Step at a Time

In 2010, issues facing Crawfordsville included failing pavements, unsafe roads, high maintenance costs, limited funding, and a lack of sound leadership principles. The “we have done it this way for years” mentality needed to change, and winter maintenance was the best avenue to open people’s minds. Come discover how this MS4 community changed its processes and improved its city.

SPEAKER  
Scott Hesler, City of Crawfordsville

MODERATOR  
Bryan Donze, INDOT

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WEDNESDAY

WINTER WEATHER OPERATIONS

TIME  
4:00–4:50 PM

ROOM  
STEW 218AB

PDH: 1

171. Snowplow Rodeo? Training  
Makes a Difference in Crawfordsville

You’re new to the job, morale is low, there is a lack of training, and the accident rate is high during winter. That’s what Scott Hesler faced when he became street commissioner. In 2012, Scott began the Crawfordsville snowplow rodeo and it has since evolved into a 2-day training and skills competition. The benefits are numerous: improving driver skills, engaging training, and improving media relations. If you are interested in starting a snowplow rodeo, this session is for you!

SPEAKER  
Scott Hesler, City of Crawfordsville

MODERATOR  
Bryan Donze, INDOT

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# EXHIBITORS

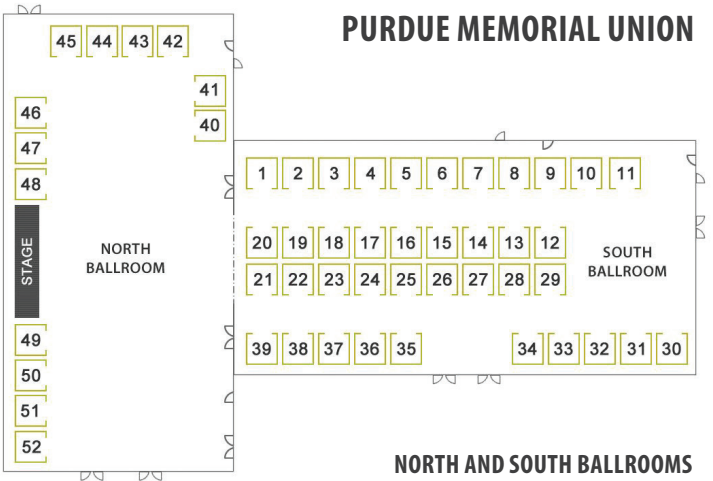
## EXHIBITORS LISTED BY NAME

- 38 3M
- 14 Acrow Corp. of America
- 21 American Structurepoint
- 39 APAI
- 30 ASC Group, Inc.
- 47 Asphalt Restoration Services
- 24 Avery Dennison
- 48 Blood Hound
- 40 Burgess & Niple, Inc.
- 42 Center for Technology & Training
- 29 Christopher B. Burke Engineering, LLC
- 18 Co-Alliance
- 44 Collins Engineers, Inc.
- 50 CountryMark
- 7 CTS Cement Manufacturing Corp.
- 34 D2 Land & Water Resource, Inc.
- 32 Davey Resource Group
- 16 Denler, Inc.
- 46 EJ
- 36 Ennis-Flint
- 33 Equipment Marketing Co.
- 28 Fleis & VandenBrink
- 23 GAI Consultants, Inc.
- 12 GeoStabilization International
- 45 Globe Asphalt Paving Co., Inc.
- 2 Hanson Professional Services
- 4 Highway Saftey Specialists
- 6 Hydro-Technologies, Inc.
- 43 IKO Concrete Pipe Association
- 1 IMI
- 5 KSE Testing Equipment
- 41 K-Tech Specialty Coatings, Inc.
- 51 Lochner
- 26 Milliken Infrastructure Solutions
- 15 Miovision
- 19 Motz Enterprises, Inc.
- 13 MS Consultants

# EXHIBITORS

## EXHIBITORS LISTED BY NAME

- 20 Osburn Associates
- 49 Palmer Power & Truck Equipment
- 9 Primera Engineers, Ltd.
- 17 Reading Rock, Inc.
- 31 Resource International, Inc.
- 8 Roadway Bioseal
- 37 S&ME, Inc.
- 3 Sanders Pre-Cast Systems
- 10 SealMaster
- 52 Sherwin Industries, Inc.
- 25 Tensar International Corp.
- 35 The Hoosier Co., Inc.
- 11 The Reinforced Earth Co.
- 27 United Consulting
- 22 Winter Equipment



# EXHIBITORS



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**Osburn Associates, Inc.**  
  
A Manufacturing Company



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# EXHIBITORS



# EXHIBITORS



PURDUE MEMORIAL UNION, FIRST FLOOR

- Registration
- Exhibitors
- Coffee
- Tuesday luncheon
- Student posters
- Wednesday luncheon

NORTH AND SOUTH BALLROOMS

*Tues:* Morning Coffee and Exhibitor Luncheon  
*Wed:* Road School Luncheon

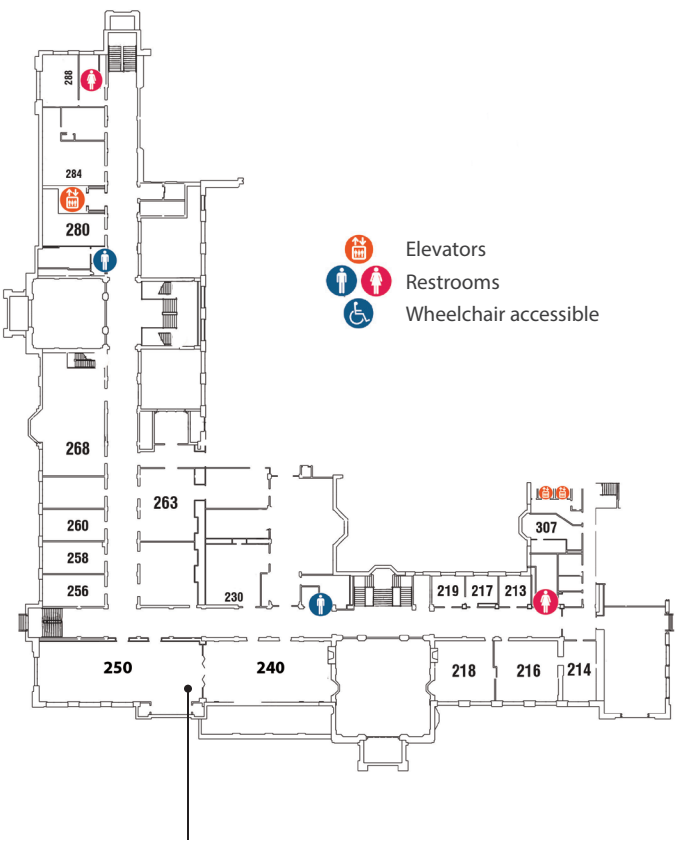


MAIN LOUNGES

*Tues:* Registration  
*Tues:* Student Poster Area

PURDUE MEMORIAL UNION, SECOND FLOOR

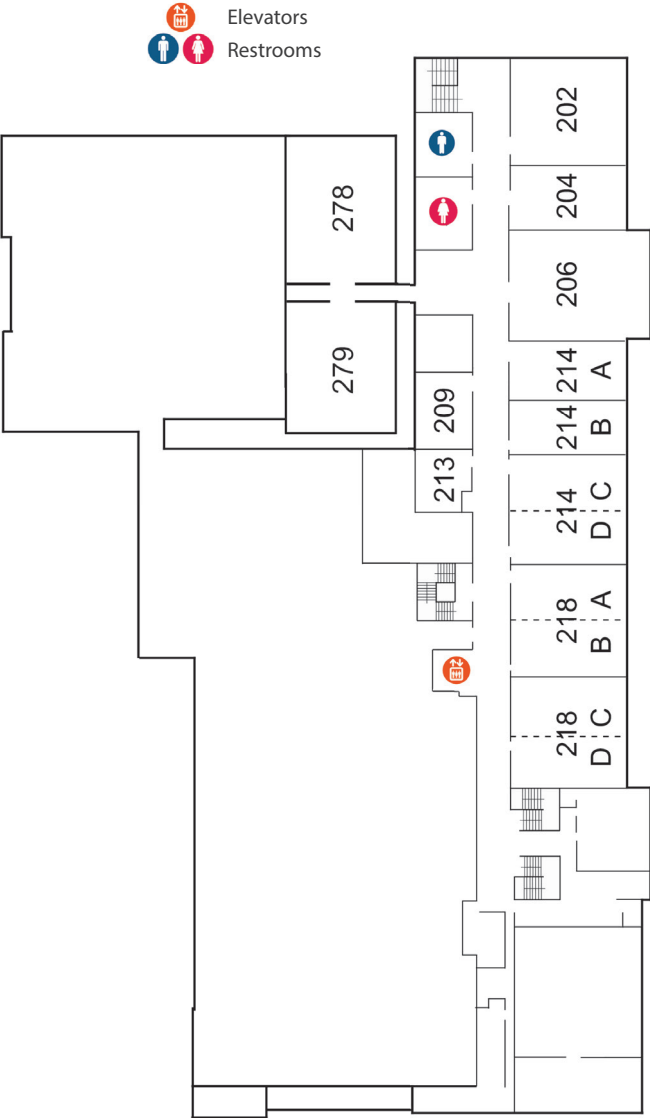
- Technical sessions



PMU 250 & 240

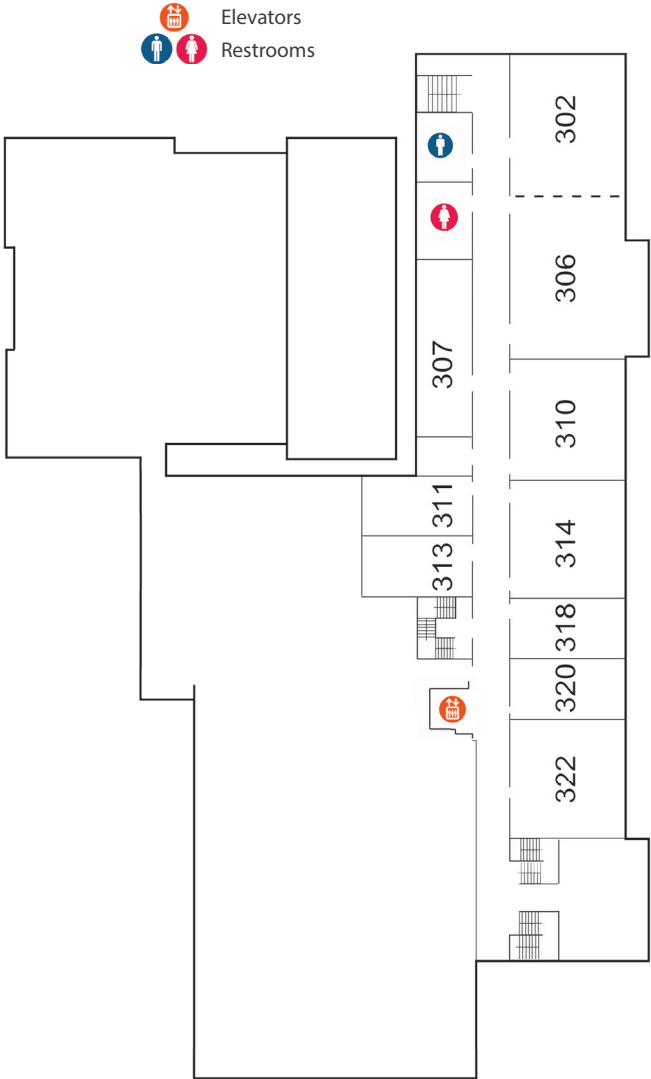
STEWART CENTER, SECOND FLOOR

• Technical sessions



STEWART CENTER, THIRD FLOOR

• Technical sessions





# NOTES

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# Purdue Road School

## 2018 Exhibitors

- 3M
- Acrow Corp. of America
- American Structurepoint
- APAI
- ASC Group
- Asphalt Restoration Services
- Avery Dennison
- Blood Hound
- Burgess & Niple
- Center for Technology & Training
- Christopher B. Burke Engineering
- Co-Alliance
- Collins Engineers
- CountryMark
- CTS Cement Manufacturing Corp.
- D2 Land & Water Resource
- Davey Resource Group
- Denler
- EJ
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- Highway Safety Specialists
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- IMI
- KSE Testing Equipment
- K-Tech Specialty Coatings
- Lochner
- Milliken Infrastructure Solutions
- Miovision
- Motz Enterprises/Flexamat
- MS Consultants
- Osburn Associates
- Palmer Power & Truck Equipment
- Primera Engineers, Ltd.
- Reading Rock
- Reinforced Earth Co.
- Resource International
- Roadway Bioseal
- S&ME
- Sanders Pre-Cast Systems
- SealMaster
- Sherwin Industries
- Tensar International Corp.
- United Consulting
- Winter Equipment