



105th Purdue Road School

*Transportation
Conference & Expo*

March 4–7, 2019

150 YEARS
OF
GIANTLEAPS



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



Welcome to Purdue Road School Transportation Conference and Expo

Purdue Road School is a must-attend event for the transportation industry in Indiana and the Midwest. Road School is your once-a-year chance to share in the latest innovation in transportation, sit in on technical sessions, and interact with thousands of transportation industry professionals. No matter what your role, no matter where you work, there is something for you at Road School.

Purdue Road School provides participants with opportunities to obtain Professional Development Hours (PDHs) toward licensing requirements. Last year, over 3,000 attendees recorded over 10,000 PDHs with Purdue Conferences. In 2019, over 165 available sessions with PDH credit are available, including 2 hours of distance learning for Indiana Statutes and Ethics for Professional Engineering, scheduled for Wednesday. As our attendance grows, we are looking for opportunities to manage this growth. We are strengthening our partnership with the Work Truck Show in Indianapolis this year. In addition to the LTAP Fleet Educational Program, we have sessions on truck platooning and Indiana Statutes and Ethics for Professional Engineering at the Indianapolis Convention Center on Thursday. Road School registrants also receive complimentary admission to the Work Truck Show exhibit floor.

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 368,000 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 190 presentations involving nearly 350 speakers and moderators.

Finally, please take a few minutes to walk around campus and see some of the changes. As you may recall, last year the State Street Redevelopment Project was just being completed in the core of campus. The pedestrian and bike trails that were part of that project have now been extended to US 231 and along Stadium Avenue. As you can see from photos in this year's program, students are using bicycles on these new facilities, as well

WELCOME

TO PURDUE ROAD SCHOOL

as the new electric scooters that are emerging. This year's program even features a session on electric scooters, and we anticipate similar sessions in future years as we use forums such as Purdue Road School to identify ways to safely integrate emerging transportation modes into the urban transportation ecosystem.

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

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

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

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



Opening Session

Tuesday, 9:00–10:50 AM

LOEB Theater, Stewart Center

MODERATOR

Mike Piggott

Director, Community Relations
Purdue University

WELCOME

Tomás Díaz de la Rubia

Vice President for Discovery Park
Purdue University

KEYNOTE SPEAKERS

Brandy Hendrickson

Deputy Administrator Federal Highway Administration (FHWA)

Tim Haak

Mayor of Zionsville

Robert Martinez

Vice President Business Development and Real Estate, Norfolk Southern

Vanta Coda II

Ports of Indiana Chief Executive Officer

Chris Cotterill

Executive Vice President and Chief Operating Officer of the Indiana Economic Development Corporation

Joe McGuinness

Indiana Department of Transportation (INDOT) Commissioner

COFFEE WITH EXHIBITORS

Tuesday, 7:00–8:50 AM

North & South Ballrooms, Purdue Memorial Union

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

EXHIBITOR LUNCHEON

Tuesday, 11:00 AM–1:50 PM

North & South Ballrooms, Purdue Memorial Union

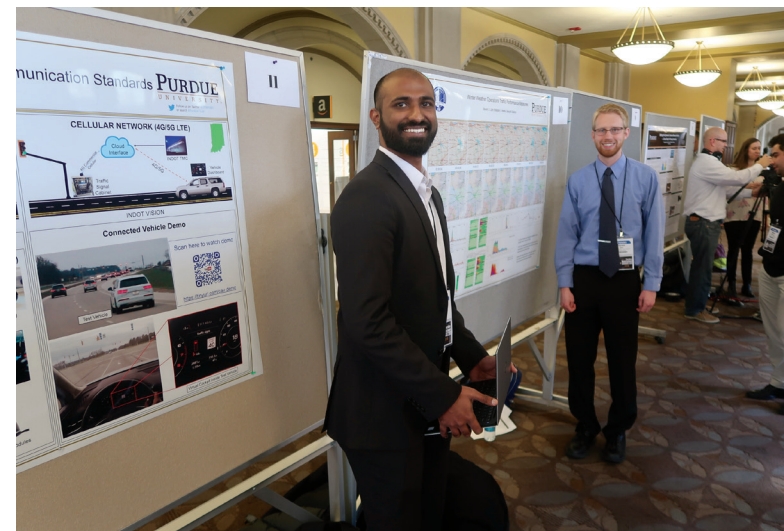
The annual exhibitor luncheon provides an opportunity for attendees to visit with the exhibitors and enjoy a light lunch buffet. Name badges are required for admission.

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.



2019 Purdue Road School Transportation Conference and Expo Luncheon

Fireside chat format

Wednesday, 11:30 AM–12:50 PM
North & South Ballrooms, Purdue Memorial Union

Jim Hackett

*President and Chief Executive Officer
 Ford Motor Company*

Jim Hackett is president and chief executive officer, Ford Motor Company, effective May 22, 2017. He also is a member of the company's board of directors.

Under Hackett's leadership, together with Bill Ford, Ford Motor Company is committed to becoming the world's most trusted company, designing smart vehicles for a smart world that help people move more safely, confidently, and freely.

Prior to serving in this role, in 2016 Hackett was named chairman of Ford Smart Mobility, LLC, a subsidiary of Ford formed to accelerate the company's plans to design, build, grow, and invest in emerging mobility services. Before joining Ford Smart Mobility, he was a member of the Ford Motor Company Board of Directors from 2013 to 2016.

From 2014 to 2015 Hackett was vice chairman of Steelcase, the global leader in the office furniture industry. He retired as CEO in February 2015 after having spent 20 years leading the Grand Rapids–based office furniture company.

As a consumer-focused visionary in the office furniture industry, Hackett is credited with guiding Steelcase to becoming a global leader. During his 30 years there, he helped transform the office furniture company from traditional manufacturer to industry innovator. Having spent his career focused on the evolving needs of consumers, Hackett is recognized for predicting that the office landscape would shift away from cubicles to an open space environment, giving employees the flexibility to work where they want.

From November 2014 to March 2016 Hackett was interim director of athletics at the University of Michigan, where he led the search for a permanent director, appointed in January 2016. He had played center on the University of Michigan football team prior to graduating with a bachelor's degree in 1977.



Mitchell E. Daniels, Jr.

*President
 Purdue University*

Mitchell E. Daniels, Jr., is the 12th president of Purdue University and the former governor of Indiana. He was elected Indiana's 49th governor in 2004 in his first bid for any elected office, then reelected in 2008 with more votes than any governor in the state's history. During his tenure, Indiana went from bankruptcy to a AAA credit rating, led the nation in infrastructure building, and passed sweeping ethics and

healthcare reforms. After a series of transformations, which included the biggest tax cut in state history, the nation's most sweeping deregulation of the telecommunications industry, and a host of other reforms aimed at strengthening the state's economy, Indiana's business climate is now rated among the nation's best.

At Purdue, Daniels has prioritized student affordability and reinvestment in the university's strengths. Breaking with a 36-year trend, Purdue has held tuition unchanged from 2012 through at least the 2019–2020 academic year. Simultaneously, room rates have remained steady, meal plan rates have fallen 10 percent, and student borrowing has dropped 31 percent while investments in student success and STEM research have undergone unprecedented growth. It is less expensive to attend Purdue today than it was in 2012, even without adjusting for inflation.

In recognition of his leadership as both a governor and a university president, Daniels was named among the Top 50 World Leaders by *Fortune* magazine in March 2015.

Prior to becoming governor, Daniels served as chief of staff to Senator Richard Lugar, senior advisor to President Ronald Reagan, and director of the Office of Management and Budget under President George W. Bush. He also was the CEO of the Hudson Institute, a major contract research organization. During an 11-year career at Eli Lilly and Company, he held a number of top executive posts including president of Lilly's North American pharmaceutical operations.

Daniels earned a bachelor's degree from Princeton's Woodrow Wilson School of Public and International Affairs and a law degree from Georgetown University. He is the author of three books and a contributing columnist in the *Washington Post*, and his writings are regularly featured in other publications.

THURSDAY

SCHEDULE OF EVENTS

WORK TRUCK SHOW



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 2019 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). 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>.



THANK YOU

HOURS

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	Dan Haake	Alan Plunkett
John Beery	Ayman Habib	Sean Porter
David Benefiel	John Haddock	Jennifer Pyrz
Kristin Bevil	Rob Hainje	Lyndsay Quist
Marty Blake	Richard Hedgecock	Anne Rearick
Michael Brinkerhoff	Laura Hilden	Brian Rivette
Laura Britton	Jeff Hill	John Rogers
Kelly Brothers	Mike Holowaty	Michael Rowe
Bridget Brunton	David Holtz	Michael Schmierer
Michael Buening	Debbie Horton	Greg Shaver
Darcy Bullock	Sarah Hubbard	Carol Shelby
Mike Byers	Jeremy Hunter	Laura Slusher
Debbie Calder	Venetta Keefe	Bill Smith
Bryce Carpenter	Heather Kennedy	Rick Smith
Jon Clodfelter	William Knopf	Jim Stark
Patrick Conner	Matt Kohut	Doyle Sumrall
Edward Cox	John Leckie	Ashley Thrall
Brad Cozza	Jessica Martin	Terry Treone
Richard Dmonkos	Peter Mills	Doug Valmore
Jay DuMontelle	Gary Mroczka	Jay Wasson
Thomas Duncan	Thomas Murtaugh	Ashley Watson
David Ehrlich	Clayton Nicholas	Tim Wells
Louis Feagans	Dan Osborn	Cliff Wojtalewicz
Pam Fisher	Craig Parks	Bob Wu
Jeromy Grenard	Kirsten Pauley	Stephanie Yager
Jay Grossman	Kym Pelfree	

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

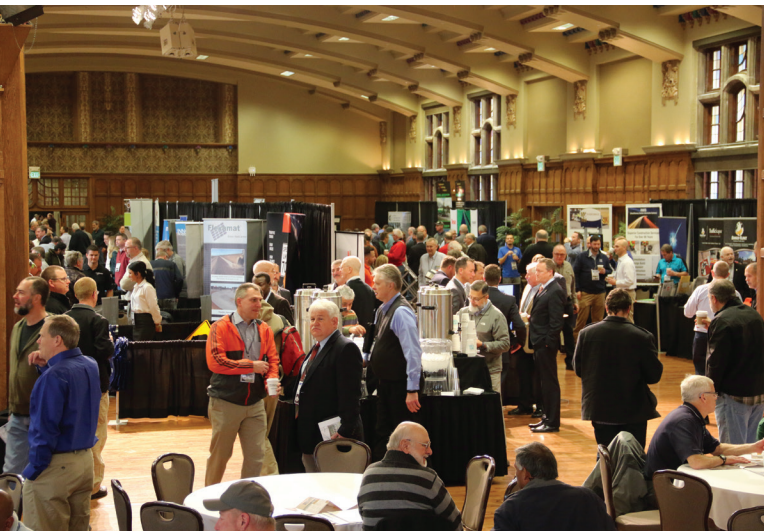
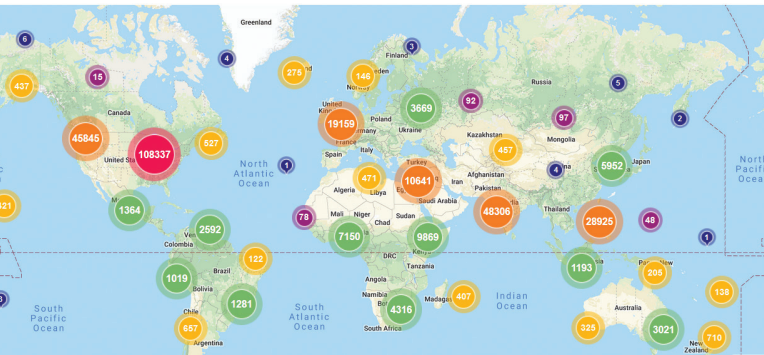
- You may retain a self-reporting, Professional Development Hours Credit Statement for your own records (available at registration).
 - You may modify your registration and receive an event specific PDH/CEU statement from Purdue University. By modifying your registration, you certify that you attended 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/2019RS-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 17, 2019.

ROAD SCHOOL PUBLICATIONS ON PURDUE E-PUBS

Since 2011 with authors' permission, we have digitally published Road School presentations 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/>.

We had 125,000 downloads during 2018 and have had over 368,000 downloads overall since we placed the Road School presentations on the web. Sixty percent of those downloads are from outside the United States, representing 211 countries. This is a great testament to the impact Road School is having not only in Indiana and the US, but around the world, as shown by the distribution map below.



ROAD SCHOOL PUBLICATIONS ON PURDUE E-PUBS

TOP 10 DOWNLOADS FOR 2018 ROAD SCHOOL PRESENTATIONS*

Presentation	Author(s)	Downloads
So Someone Wants to Build a Corporate Aircraft Hangar at Your Airport...What You need to Know	Christopher Snyder	343
When to Use Midwest Guardrail System (MGS) W-Beam Guardrail	Katherine Smutzer	258
General Aviation Pilots' Strategies to Mitigate Bird Strikes	Flavio Mendonica Thomas Carney	197
Identifying and Mitigating Pack Rust in Steel Bridges	Mark Bowman Chintan Patel	177
Analyzing Walkability	Cory Whitesell	129
Design Bid Build vs. Design Build Best Value	Chris Reynolds Michael Stair Brad Miller Tom Stryzinski	94
Driving the Future: Mobility in the 21st Century	Ted Hamer	86
Principles of Writing Construction Specifications and Special Provisions	Scott Trammell Melissa Russell	77
Case Studies: Using Signal Performance Metrics to Optimize Traffic Signal Operations	Erin Skimson	72
Introduction to INDOT Bridge Asset Management Procedures	Andrew Fitzgerald Adam Post Gary Ruck	67

*As of December 31, 2018.

ARCHIVES

ROAD SCHOOL PUBLICATIONS ON PURDUE E-PUBS

TOP 10 DOWNLOADS FOR ROAD SCHOOL PRESENTATIONS*

Presentation	Year	Author(s)	Downloads
Best Practices in Contract Administration	2013	Bren George-Nwabugwu	18,453
Design and Construction of Auger Cast Piles	2015	Malek Smadi	11,986
Concrete Pavement: Selections of Concrete Materials	2011	Jerry Larson	9,423
Sanitary Landfill Method of Solid Waste Disposal	1973	John Bell	8,964
Dynamic Cone Penetrometer (DCP)	2012	Nayyar Zia Siddiki	6,240
The Importance of Performing Route Surveys in the State of Indiana	2013	Rodney Kelly Chester Parsons Grant Niemeyer	6,225
Super elevation Transition Lengths	2006	Greg Rominger	5,649
Drainage Ditches: All Shapes and Sizes	2012	Kent Wamsley	5,184
Sizes and Grading of Aggregates for Road Maintenance and Construction	1961	W. A. Sutton	4,958
Proper Design Details for PCC Pavement Performance	2011	Mike Byers	4,472

*As of December 31, 2018.

SUBMIT PRESENTATIONS HERE



2019 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.



AT-A-GLANCE SCHEDULE

Tuesday, 7:00 AM–4:50 PM

MAR 5

7:00–8:50 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 6

8:00 AM–10:50 AM
Technical Sessions

11:30–12:50 PM
Road School Luncheon
Purdue Memorial Union
North & South Ballrooms
Doors open at 11:15

1:00–4:50 PM
Technical Sessions

Thursday, 9:30 AM–3:00 PM

MAR 7

9:30 AM–11:30 AM
Technical Sessions at the Work Truck Show
Indianapolis Convention Center

1:00 PM–3:00 PM
Technical Session at the Work Truck Show
Indianapolis Convention Center

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

TIME
1:00–1:50 PM

ROOM
STEW 206

PDH: 1

1. Sagamore Parkway Over the Wabash River Bridge Project

The Sagamore Parkway bridges over the Wabash River are vital crossings for the citizens of West Lafayette and Lafayette. This presentation will walk attendees through the entire design and construction process for this unique bridge replacement project. The presentation will also discuss Parsons' role with the JTRP project that focuses on the verification of the substructure design loads by using embedded strain gauges that were installed in the substructure.

SPEAKERS

Matt Kohut, Parsons Corp.
M. Sean Porter, Parsons Corp.

MODERATOR

Jeremy Hunter, INDOT

TIME
2:00–2:50 PM

ROOM
STEW 206

PDH: 1

2. Monitoring of the Pier and Foundations for the Sagamore Parkway Bridge

To assess the serviceability and safety of a bridge built over the Wabash River in West Lafayette, Indiana, one of the bridge piers and its pile-group foundation were instrumented with vibrating-wire strain gauges. The present work studies the load transfer mechanisms from the bridge pier to the foundation and sheds light on the validity of the assumptions made in the design of the bridge foundations. Join us for a discussion.

SPEAKERS

Fei Han, Purdue University
Rodrigo Salgado, Purdue University

MODERATOR

Jeremy Hunter, INDOT

TIME
3:00–3:50 PM

ROOM
STEW 206

PDH: 1

3. 41st Street Steel Arch Pedestrian Bridge, Chicago

The 41st Street pedestrian bridge, spanning over a freeway and six sets of railroad tracks, comprises 240-foot-long twin inclined steel arch spans to create an elegant "S" curve. Two ribs, supporting a 20-foot-wide deck, consist of steel pipes and connect with transverse steel box beams that are aligned with cables supported from the arch rib. A temporary bridge was designed during construction to allow erection of the superstructure to keep railroads in service. Join us for a discussion.

SPEAKERS

Dipal Vimawala, AECOM
Jixing He, AECOM

MODERATOR

Jeremy Hunter, INDOT



TIME
4:00–4:50 PM

ROOM
STEW 206

PDH: 1

4. Accelerated Bridge Construction: Folded Steel Plate Girder System

Folded Steel Plate Girder System—This presentation describes the design, fabrication, and construction of an innovative product for accelerated bridge construction (ABC) for short-span bridges: the Folded Steel Plate Girder System (FSPG), which has been approved for use by FHWA and INDOT and was used extensively for the Pennsylvania Rapid Bridge Replacement Program. Included is a detailed description of how the FSPG can reduce construction time by 50%, saving time and money for contractors and the detoured public.

SPEAKER
Carlos Duarte, CDR Maguire, Inc.

Riveting the Longfellow Bridge—The Longfellow Bridge spanning the Charles River in Boston was built in 1906, developed with considerable aesthetic detailing, and considered the first bridge in the nation designed specifically to accommodate both commercial and mass transit. To satisfy the combined demands of national, state, and local historic review, engineers determined that large-scale application of riveting would be required. This presentation discusses the challenges and solutions to modern-day riveting of a historic structure.

SPEAKERS
William Goulet, STV, Inc.
Alison Love, STV, Inc.

MODERATOR
Jeremy Hunter, INDOT

TIME
1:00–1:50 PM

ROOM
STEW 202

PDH: 1

5. Urban Electric Scooters: Opportunities and Lessons Learned

The fall 2018 rollout of electric scooters in Indianapolis resulted in over 180,000 miles of travel in September 2018. Scooters have now arrived in other cities. In this session we review lessons learned from this deployment and provide opportunities for moving forward.

SPEAKERS
Jijo Mathew, Purdue University
Daniel Hedglin, City of Indianapolis
Aaron Madrid, Purdue University

MODERATOR
Brandi Pahl, City of Indianapolis

6. Connected-Vehicle Applications for Traffic Signals

Connected vehicles that communicate with signals are starting to emerge. For fixed-time operations, to predict the signal state is a deterministic exercise. However, under actuated coordinated conditions there is significant stochastic variation on the phase activations due to the random arrival of vehicles. As signal controllers become more adaptive and intelligent, the predictions also become more challenging. Join us for a discussion.

SPEAKERS
Jijo Mathew, Purdue University
Woosung Kim, Purdue University

MODERATOR
Brandi Pahl, City of Indianapolis

TIME
2:00–2:50 PM

ROOM
STEW 202

PDH: 1

TIME
3:00–3:50 PM

ROOM
STEW 202

PDH: 1

7. Performance Evaluation of Advanced Driver State Monitoring Systems

Drivers are a key component in road safety. Automotive original equipment manufacturers (OEMs) are developing systems to monitor drivers' states, both attentional and physiological. Eventually standards will be required for measuring the effectiveness of these systems. In this session we discuss current methods of evaluating and measuring these driver state monitoring systems.

SPEAKERS

Renran Tian, IUPUI
Lingxi Li, IUPUI

MODERATOR

Brandi Pahl, City of Indianapolis

TIME
4:00–4:50 PM

ROOM
STEW 202

PDH: 1

8. Pedestrian/Bicyclist and Vehicle Interaction Behavior in Autonomous Driving

Autonomous vehicles will be sharing the road with many other types of vehicles and venerable road users. Two examples are pedestrians and bicyclists. This session discusses the statistics behind the areas of greatest concern on our roads and how autonomous vehicles will interact with other road users.

SPEAKER

Lauren Christopher, IUPUI

MODERATOR

Brandi Pahl, City of Indianapolis

TIME
11:00–11:50 AM

ROOM
STEW 302

PDH: 1

9. Building the Next J-Turn: A Safety-Driven Design

So you want to build a J-turn? See how the need for a safety improvement led to the construction of an alternative intersection. From the early stages of project selection and development to design and construction, take an inside look at Indiana's newest J-turn, US 30 at SR 101 in the Fort Wayne District.

SPEAKERS

Matthew Sagstetter, INDOT
Austin Eichman, INDOT

MODERATOR

Dimas Prasetya, FHWA

10A. Best Practices of a Design-Build Best Value

INDOT has procured three design-build best value (DBBV) projects: I-69 Major Moves 2020, I-65 Northwest Major Moves 2020, and the I-65 Southeast Added Travel Lanes projects. This presentation summarizes the lessons learned and best practices developed by both INDOT and the design-build teams (DBTs). INDOT/DBT presenters will provide best practices through the pre-proposal, proposal, and execution stages of a best value project.

SPEAKERS

Katie Rounds, INDOT
Junell O'Donnell, Parsons Corp.
Bradley Miller, HNTB Corp.
Toby Randolph, Parsons Corp.

MODERATOR

Dulcy Abraham, Purdue University

TIME
1:00–1:50 PM

ROOM
STEW 302

PDH: 1

TIME
2:00–2:50 PM

ROOM
STEW 302

PDH: 1

11. Assessing Slope Instabilities

INDOT's Geotechnical Services Section has recently implemented a slide ArcGIS Collector app to provide a systematic approach to collecting and managing unsafe or failed slopes/embankments needed for decision making. A brief background in Indiana landslide geology will be given, then we will review the process of how to inventory slopes through the Collector app and identify potentially hazardous slopes. The session will end with a discussion of current engineering practices INDOT is using to correct landslides.

SPEAKERS

Victoria Leffel, INDOT
Joey Franzino, INDOT

MODERATOR

Dulcy Abraham, Purdue University

TIME
3:00–3:50 PM

ROOM
STEW 302

PDH: 1

12. Median Design Change and Resulting Impacts on I-69

This presentation explores the impacts of median design modification for sections of I-69 between Martinsville and Bloomington. The original design was sod on flat areas and #53 stone on slopes. Due to calculated water velocities and the slope gradient, it was determined that a more durable and sustainable solution was needed. The redesign called for switching from sod/stone to Flexamat, which provides necessary functionality and long-term beautification for an infrastructure-critical, highly visible project.

SPEAKER

Ron Geater, Flexamat

MODERATOR

Dulcy Abraham, Purdue University

TIME
4:00–4:50 PM

ROOM
STEW 302

PDH: 1

13. Fluvial Erosion and Fluvial Geomorphology of the White River

Fluvial Erosion Hazard Mitigation—Fluvial erosion—erosion that occurs along a river—is a major threat to infrastructure, and most commonly to roads. This presentation provides an overview of the Indiana Fluvial Erosion Hazard Mitigation Manual, which was recently developed on behalf of the Indiana Silver Jackets. The manual provides a framework for analyzing, designing, and post-construction management/maintenance for fluvial erosion hazard mitigation projects in Indiana.

SPEAKERS

Brian Meunier, Christopher B. Burke
Engineering, LLC
Siavash Beik, Christopher B. Burke
Engineering, LLC
Robert Barr, IUPUI

Fluvial Geomorphology and Bank Stabilization: White River at Stotts Creek Confluence—Fluvial geomorphology is the study of how rivers and streams move or change their cross section and adjacent land form over time under the influence of water flow. This presentation focuses on the fluvial geomorphology of the White River in the vicinity of the Stotts Creek confluence and proposed actions to protect I-69 (currently SR 37) from lateral migration of the river and subsequent erosion and scour.

SPEAKER

Jessica Eichhorst, HNTB Corp.

MODERATOR

Dulcy Abraham, Purdue University

TIME
11:00–11:50 AM

ROOM
STEW 306

PDH: 1

14. Bundling Contracts: Best Practices

This session presents best practices for designing, managing, and constructing multi-DES (design and engineering services) bundling contracts from the perspective of an INDOT project manager, a consultant design manager, and INDOT construction personnel. We will address challenges associated with design-bid items/quantities, coordination of MOT (maintenance of traffic), INDOT administration, and construction management.

SPEAKERS

Lyndsay Quist, INDOT
John LaBlonde, Parsons Corp.

MODERATOR

Joiner Lagpacan, FHWA

TIME
1:00–2:50 PM

ROOM
STEW 306

PDH: 2

15. What to Expect From the Plan Commission: A Primer for Engineers and Surveyors

How do engineers and surveyors navigate local planning? Some of these professionals serve as plan commission members by virtue of their office, while others interact with the plan commission as consultants representing a developer. This session explains the basics of local Indiana plan commissions' duties and processes, with Indiana State Code references. Tips for serving on and appearing before a plan commission will be provided, and there will be plenty of time for questions.

SPEAKER

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

MODERATOR

Eryn Fletcher, FHWA

TIME
3:00–3:50 PM

ROOM
STEW 306

PDH: 1

16. Section 6 Martinsville 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 provide a summary of the project's activities in Martinsville, including changes made after the Final Environmental Impact Statement and public involvement activities.

SPEAKERS

Jennifer Goins, HNTB Corp.
Josh Messmer, City of Martinsville

MODERATOR

Eryn Fletcher, FHWA



TIME
4:00–4:50 PM

ROOM
STEW 306

PDH: 1

17. Indiana DNR Zone: A Floodplain Mapping Project and Two-Dimensional Floodplain Analysis

Indiana DNR Zone: A Floodplain Mapping Project—The DNR Division of Water is creating a statewide data layer that will provide detailed, model-backed floodplain information for every major stream in Indiana not covered by the Flood Insurance Rate Maps (FIRMs), modeling and mapping over 18,000 miles of stream. The floodplain information will be incorporated into a statewide data layer known as Best Available Information, which integrates the new floodplain information with the FIRMs, creating the most up-to-date layer for floodplain management. Join us for a discussion.

SPEAKER
David Knipe, INDNR

Two-Dimensional Floodplain Analysis in Highway Applications—As computer modeling programs continue to advance, additional capabilities have been introduced, including the ability to analyze projects in two-dimensional scenarios. This presentation focuses on the differences between traditional one-dimensional analysis and two-dimensional analysis with regard to highway applications. Software limitations will be discussed.

SPEAKER
Robert Page, HNTB Corp.

MODERATOR
Eryn Fletcher, FHWA

TIME
1:00–1:50 PM

ROOM
STEW 278

PDH: 1

18. Leveraging Infrastructure as an Economic Development Tool

Most communities don't realize the value of their existing infrastructure (roads, utilities, etc.) in terms of economic development. Understanding your infrastructure is key to pursuing and competing for economic development projects in your community. This presentation discusses the role of infrastructure in economic development and how to position your community for future success.

SPEAKERS
Timothy Jensen, The Veridus Group, Inc.
Courtney Zaugg, The Veridus Group, Inc.
Pamela Fisher, INDOT
Matt Eckerle, Umbaugh

MODERATOR
Kevin Woodward, Wells County

19. Railroad Economic Development 101

Railroads partner with state and local officials and industry to support economic development activities in Indiana. In this session railroad economic development staff provide insights into the tools, such as site selection and certified sites programs, used to grow business in Indiana.

SPEAKERS
Dayne Tate, Norfolk Southern Railway
Adam Hess, CSX Transportation

MODERATOR
Kevin Woodward, Wells County

TIME
2:00–2:50 PM

ROOM
STEW 278

PDH: 1

TIME
3:00–3:50 PM

ROOM
STEW 278

PDH: 1

20. Asset Management for Local Elected Officials

Do you understand the pavement treatments your street or highway department is choosing, or why it has 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 anxious to understand them.

SPEAKER

Patrick Conner, Purdue University

MODERATOR

Kevin Woodward, Wells County

TIME
4:00–4:50 PM

ROOM
STEW 278

PDH: 1

21. APWA Indiana Chapter: Agency Accreditation

The purpose of the agency accreditation program is to provide a means of formally verifying and recognizing public works agencies for compliance with the recommended practices set forth in the Public Works Management Practices Manual. The objectives of the accreditation program are to recognize good performance and instill pride among agency staff, elected officials, and the local community. Join us for a discussion.

SPEAKER

Tracy Quintana, American Public Works Association

MODERATOR

Kevin Woodward, Wells County

TIME
1:00–2:50 PM

ROOM
STEW 218AB

PDH: 2

22. Collaboration, Planning, and Perseverance: Keys to Community Development

From revitalizing a fading downtown with a fully renovated courthouse plaza and streetscapes to adding new senior housing and moving a historic railroad depot to transform it into a community center, the City of Bedford, Indiana, wasn't afraid to dream big with its Stellar Grant. This roundtable discussion will reveal what happens when over 40 local and state partners come together to create a vision and the lessons learned in successfully delivering 14 projects in 5 years despite setbacks.

SPEAKERS

Patricia Yount, Lochmueller Group, Inc.
Shawna Girgis, City of Bedford
Kathy Eaton-McKalip, INDOT

MODERATOR

Craig Parks, Boone County

23. Project Failure and Delays

This presentation is divided into three parts: (1) common occurrences that cause delay and overrun in locally and federally funded projects; (2) common practices that place projects in predictable funding and scheduling positions; and (3) what makes a well-managed project team. Project horror stories will be shared.

SPEAKERS

Greg Wendling, USI Consultants, Inc.
Gary Pool, Hancock County

MODERATOR

Craig Parks, Boone County

TIME
3:00–3:50 PM

ROOM
STEW 218AB

PDH: 1

TIME
4:00–4:50 PM

ROOM
STEW 218AB

PDH: 1

24. Community Crossings Guide for Asphalt Projects

The Asphalt Pavement Association of Indiana (APAI), in collaboration with INDOT and LTAP, has developed a guide to assist cities and towns with Community Crossings requirements, from procurement through construction. This guide includes Indiana requirements for qualification, application instructions, bidding requirements, and a sample contract. Improved bid documents, asphalt specifications, and contracts will lead to better bids and higher quality projects. This is a must-attend session for any community with infrastructure projects in the works.

SPEAKERS

Sam Knight, Gaunt & Son Asphalt, Inc.
Kirsten Pauley, Asphalt Pavement Association of Indiana
Kathy Eaton-McKalip, INDOT
Richard Domonkos, Purdue University

MODERATOR

Craig Parks, Boone County



TIME
11:00–11:50 AM

ROOM
STEW 214CD

PDH: 1

25. Implementation of a Gravel Road Conversion Program

Boone County has over 330 miles of gravel roads in its network and a long list of public requests for conversion to hard surface. This session presents a systematic process developed to score roads based on criteria such as traffic volumes, connectivity, road classification, public support, right-of-way dedications, and private owner financial participation to improve public acceptance and department transparency. Challenges, benefits, and lessons learned from creating a new process will be discussed.

SPEAKERS

Nick Parr, Boone County
Craig Parks, Boone County

MODERATOR

Tim Wells, INDOT

26. I-65 Closure: Saving Time While Enhancing Safety

In 2018, portions of I-65 were closed in Indianapolis to construct seven bridge rehabilitations from downtown north to I-465. This presentation discusses the challenges and opportunities related to an interstate closure, including reasons behind INDOT's decision to close I-65. Highlights include design, project delivery, and construction elements implemented into the contract. Best practices and guidelines for which types of projects could consider closure as a viable MOT (maintenance of traffic) scheme will be covered.

SPEAKERS

Thomas Heustis, Parsons Corp.
Kyle Muellner, Parsons Corp.
Jim Reilman, INDOT

MODERATOR

Roland Fegan, INDOT

TIME
1:00–1:50 PM

ROOM
STEW 214CD

PDH: 1

TIME
2:00–3:50 PM

ROOM
STEW 214CD

PDH: 2

27. I-465 SW Side Closure Project

How Did We Get to a Full Closure?—This is a behind-the-scenes look at how INDOT ultimately decided to close southwest I-465 from I-70 on the west side of Indianapolis to I-65 on the south side for 224 hours per side (9.33 days each direction). Highlights include how INDOT reacted quickly to address preservation needs for this section of interstate and moved through purpose and need to construction delivery of 9 miles of interstate construction in a little over 4 months on a project that otherwise could not have been delivered in 2018.

Design Challenges and Collaboration at Warp Speed—This is a behind-the-scenes look at how INDOT design delivered Contract R-41350 with an ever-changing scope, job limits, maintenance of traffic, and deadline and how Rieth-Riley Construction developed its plan and schedule on a per-hour basis to deliver one of the most aggressive short-term projects with top quality and efficiency.

SPEAKERS

Roland Fegan, INDOT
Michael Jaskela, Rieth-Riley Construction Co., Inc.
Scott Stine, Rieth-Riley Construction Co., Inc.

MODERATOR

Roland Fegan, INDOT

TIME
4:00–4:50 PM

ROOM
STEW 214CD

PDH: 1

28. Leveraging Telematics and Weather Data to Study the Productivity of Roadside Mowers

Mowing activities are usually reported by daily work orders, and it is difficult to obtain quantitative information characterizing utilization and productivity. The research presented in this session uses telematics data from commercial sensors to track the daily activity of seven mowers in the Fort Wayne District. Weather data from NOAA was also captured to estimate weather-related delays.

SPEAKERS

Jijo Mathew, Purdue University
Matt Kraushar, INDOT

MODERATOR

Roland Fegan, INDOT



TIME

1:00–1:50 PM

ROOM

PMU 250/FACW

PDH: 1**29A. HMA Specification Update**

INDOT's HMA specifications and testing procedures went through significant changes for the 2018 construction season. As a result of lessons learned in 2018, INDOT is making some additional changes to the HMA specifications for 2019. This session presents a summary of those changes and what to expect.

SPEAKER

Matt Beeson, INDOT

MODERATOR

Mike Byers, American Concrete Pavement Association

TIME

2:00–2:50 PM

ROOM

PMU 250/FACW

PDH: 1**30. Rapid-Setting Non-Portland Cement Concrete Applications**

CSA (calcium sulfoaluminate) cement was engineered to overcome the performance challenges of traditional portland cement while producing high early strength, allowing large reductions in lane closure time and dangerous exposure to construction personnel and the traveling public. We will look at examples from the 2,500 lane miles of pavement that have been replaced since the early 1980s, with very few failures and long-term durability.

SPEAKER

Matthew Ross, CTS Cement Manufacturing Corp.

MODERATOR

Mike Byers, American Concrete Pavement Association

TIME

3:00–3:50 PM

ROOM

PMU 250/FACW

PDH: 1**31. Quality Assurance Methods for Subgrade Treatment Construction**

This presentation introduces and summarizes SPR-4230 (Alternative Quality Assurance Methods for Compacted Subgrade), which aims to establish performance-based QA test methods for subgrade treatment construction. The presenter will review the current state of subgrade treatment QA testing methods and then discuss proposed QA testing methods that SPR-4230 is currently assessing. Because SPR-4230 is not scheduled for completion until March 2020, preliminary results and future work for the project will be presented.

SPEAKER

Peter Becker, INDOT

MODERATOR

Mike Byers, American Concrete Pavement Association

32. Mobile Image/LiDAR for Measurement of Pavement Patch Areas

In this session we present the use of mobile mapping systems with directly geo-referenced imaging and LiDAR units for patch area evaluation along paved surfaces.

SPEAKERSDarcy Bullock, Purdue University
Ayman Habib, Purdue University**MODERATOR**

Mike Byers, American Concrete Pavement Association

TIME

4:00–4:50 PM

ROOM

PMU 250/FACW

PDH: 1

TIME
11:00–11:50 AM

ROOM
STEW 218CD

PDH: 1

33. Design and Construction of Precast Concrete Pavement

Precast concrete pavement is becoming a favorable option to restore the functional and structural capacity of high-truck-volume traffic pavement. INDOT has a pilot project designed and constructed successfully in 2018. This session introduces the technology to practicing engineers.

SPEAKERS

Robert Gill, INDOT
Jeff Brechbill, First Group Engineering, Inc.
Gary Fox, INDOT

MODERATOR

Brandon Hardin, Purdue University

TIME
1:00–1:50 PM

ROOM
STEW 218CD

PDH: 1

34. INDOT HMA Testing 2018: Three Labs

In 2018 INDOT opted to consolidate all HMA testing at three labs (two private) and switch to a new method of extraction for the entire state. In this session we discuss concept, bidding documents, awards, preparation, equipment required, and implementation.

SPEAKERS

David Hamilton, S&ME
Dexter Newman, S&ME
John Leckie, INDOT
Matthew Riggie, Bluegrass Testing Laboratory

MODERATOR

Thomas Duncan, FHWA

TIME
2:00–2:50 PM

ROOM
STEW 218CD

PDH: 1

35. New Challenges for Exterior Concrete

New deicing agents have created unique challenges for the concrete industry. This session presents the impact of deicers and how to design and install durable exterior concrete.

SPEAKER

Christopher Tull, CRT Concrete Consulting, LLC

MODERATOR

Thomas Duncan, FHWA

36. Secondary Road Reclamation Utilizing Steel Slag and LWD

Several counties in the Midwest have been successfully using steel furnace slag as a key component in pavement reclamation projects. This presentation covers an overview of techniques used; proper characterization of sustainable steel slag materials; specifications, test results, and comparisons to other materials; a review of one agency's decision-making process; and an overview of the field results obtained utilizing the light weight deflectometer (LWD) as a QC tool.

SPEAKERS

John Yzenas, Edward C. Levy Co.
Kelly Cook, Edward C. Levy Co.

MODERATOR

Thomas Duncan, FHWA

TIME
3:00–3:50 PM

ROOM
STEW 218CD

PDH: 1

TIME
4:00–4:50 PM

ROOM
STEW 218CD

PDH: 1

37. Balanced Mixture Design for Asphalt Mixtures

An asphalt mixture should possess adequate stability (resistance to permanent deformation/rutting) and durability (resistance to cracking) for the intended design application. Balanced mixture design (BMD) consists of designing asphalt mixtures using performance tests for job-specific conditions instead of relying strictly on volumetric properties. In simple terms it means designing the right mixture for the right job. This session answers critical BMD-related questions.

SPEAKER

Shane Buchanan, Oldcastle Materials

MODERATOR

Thomas Duncan, FHWA



TIME
11:00–11:50 AM

ROOM
FOWLER HALL

PDH: 1

38. Top Ten Tips for Project Management Success

Project managers face many challenges, all of which have a direct impact on the triple constraints of project scope, schedule, and budget. This presentation offers ten tips for how to successfully manage projects. Areas of focus include relationship influencing, communication/listening skills, project engagement, coaching/mentoring, and knowing your team and your customer.

SPEAKERS

Chris Gentry, INDOT
Dan Thatcher, HNTB Corp.

MODERATOR

Joel Rasmus, Purdue University

39. Utility Cooperation and Work Plan Completion

This presentation focuses on how to develop work plans effectively and efficiently and the information required to understand the needs of the utilities with regard to the project.

SPEAKERS

Bill Read, INDOT
Natalie Parks, USI Consultants, Inc.
William Plant, INDOT

MODERATOR

Steven Dunlop, Purdue University

TIME
1:00–1:50 PM

ROOM
FOWLER HALL

PDH: 1

TIME
2:00–2:50 PM

ROOM
FOWLER HALL

PDH: 1

40. IN-SWMP, Indiana's New CWA 401/404 In Lieu Fee Mitigation Program

This session provides an overview for designers and environmental professionals of the appropriate use of INSWMP for transportation projects.

SPEAKERS

Laura Hilden, INDOT
Carl Wodrich, INDNR
Sandra Bowman, INDOT

MODERATOR

Steven Dunlop, Purdue University

TIME
3:00–3:50 PM

ROOM
FOWLER HALL

PDH: 1

41. 30 Roundabouts in 3 Years: Tips and Tricks for Implementing Capital Improvement Projects

At the beginning of 2016, the Carmel City Council passed over \$200 million in capital improvement projects. This presentation focuses on key planning and implementation practices the City has undertaken for delivering the most efficient projects to Carmel taxpayers. Bid strategy, utility coordination, public education/outreach, and design guides will be discussed.

SPEAKER

Jeremy Kashman, City of Carmel

MODERATOR

Steven Dunlop, Purdue University

TIME
4:00–4:50 PM

ROOM
FOWLER HALL

PDH: 1

42. Purdue University Showcases New Campus Master Plan

Unveiled at the end of 2018, the new Purdue University West Lafayette Campus Master Plan looks at how the physical environment can best support the mission and strategic goals of the university. This presentation provides an overview of the planning process and the goals of the new campus master plan. Learn how the university plans to enhance open space connectivity and campus circulation while investing in teaching, research, and collaborative spaces.

SPEAKER

Michael Gulich, Purdue University

MODERATOR

Steven Dunlop, Purdue University

43. Project Estimates and Expectations for Contingency

In this session we discuss acceptable ranges for project estimates, what is an acceptable amount of contingency based on the stage submittal, and how we get better at estimating.

SPEAKERS

Heather Kennedy, INDOT
Lyndsay Quist, INDOT

MODERATOR

Jessica Miller, INDOT

TIME
1:00–1:50 PM

ROOM
LOEB THEATER

PDH: 1

TIME
2:00–3:50 PM

ROOM
LOEB THEATER

PDH: 2

44. Capital Improvement Program (CIP) Database: Indianapolis DPW

The CIP Database: A Unified Program Management Ecosystem—City and county officials face daunting challenges to deliver badly needed public infrastructure with limited human and financial resources. Compounding the problem are project data that are fragmented or siloed across legacy systems and often poorly conceived and configured. The CIP Database, the subject of this presentation, is a custom software solution that addresses these common shortcomings.

Indianapolis DPW Standard Pay Item Catalog: Implementation Highlights—Indianapolis DPW has created a standardized pay item catalog for use on all projects bid after September 1, 2018, that is a composite of INDOT and unique DPW pay items. This presentation highlights aspects of the DPW's implementation, including processes for new pay items, the role of the Pay Item Committee (PIC), and full integration within the CIP database for seamless use on engineers' estimates and bid tabs, as well as for price modeling and market analysis.

Indianapolis DPW: Inspection Client in the CIP Database—Indianapolis DPW has developed the Inspection Client, part of the CIP database and used on construction projects by resident project representatives. The Inspection Client contains the daily log and permits direct entry into the CIP database. Progressive pay items are included, allowing construction managers to monitor contractor progress. Work directives and change orders can be prepared directly through the Client, and final construction records can be prepared from automated standardized reports. Join us for a discussion.

SPEAKER
James Lutterbach, City of Indianapolis

MODERATOR
Jessica Miller, INDOT

TIME
4:00–4:50 PM

ROOM
LOEB THEATER

PDH: 1

45. Developing Visions for Indiana Statewide Corridors

INDOT has launched its Statewide Corridor Planning Study to develop intermediate- and long-term visions for non-interstate corridors throughout the state. The study incorporates data-driven approaches and extensive stakeholder/public outreach. Profiles comprising traffic, safety, land use, environment, and more are being developed for each identified corridor and an interactive GIS online tool has been created for visualizing, accessing, and sharing data.

SPEAKERS
Roy Nunnally, INDOT
Johnny Han, The Corradino Group

MODERATOR
Jessica Miller, INDOT



TIME
1:00–1:50 PM

ROOM
PMU 240/FACE

PDH: 1

46. Public Record Laws and Social Media: Ensuring Compliance for Government Entities

The Indiana Access to Public Records Act (APRA) ensures that citizens have access to information about the activities of government, particularly records produced by public entities. Failure to comply with the requirements of APRA can result in litigation and an award of attorneys' fees against a public agency. This session presents APRA and its application with a focus on social media content and explores best practices for social media policies and managing and archiving content.

SPEAKER

Jennifer Jansen, INDOT

MODERATOR

Will Wingfield, Indiana Criminal Justice Institute

TIME
2:00–2:50 PM

ROOM
PMU 240/FACE

PDH: 1

47. The Public Is Not the Enemy: A Social Media Guide to Working With the Public

This presentation takes attendees from the start to the end of a work project and illustrates how to use social media. You will learn that it is no longer an option to not use social media: the risk being that the public will tell its own version of the story, and often an inaccurate one. You will also learn your role in using social media when working with public relations staff.

SPEAKER

Jane Santucci, Santucci

MODERATOR

Will Wingfield, Indiana Criminal Justice Institute

TIME
3:00–3:50 PM

ROOM
PMU 240/FACE

PDH: 1

48. When Section 106 Elevates Public Involvement

When archaeologists discovered unmarked grave shafts next to existing pavement for the Blackiston Mill Road rehabilitation in Clarksville, Indiana, the team increased focus on the Section 106 process and enhanced the public involvement plan to address the project's heightened sensitivity. All told, 17 unmarked graves dating from the mid-1800s were relocated. Come hear about how the graves were moved and dated, the additional 106 requirements, and the importance of open communication with potential descendants.

SPEAKERS

Carl Camacho, Lochmueller Group, Inc.
Brittany Montgomery, Town of Clarksville
Alexandra Bybee, Cultural Resource Analysts, Inc.

MODERATOR

Will Wingfield, Indiana Criminal Justice Institute

49. Using Mixed Reality for Public Outreach and Stakeholder Engagement

Mixed reality is a game-changing immersive digital visualization technology where transportation designs can be experienced at full scale in the real world. CDM Smith is harnessing the power of Microsoft HoloLens 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, Inc.

MODERATOR

Will Wingfield, Indiana Criminal Justice Institute

TIME
4:00–4:50 PM

ROOM
PMU 240/FACE

PDH: 1

TIME
8:00–10:50 AM

ROOM
FOWLER HALL

PDH: 3

50. Road Scholar Core Course #9: Bridge Basics

This 3-hour course meets the requirements for core course #9 in the Indiana LTAP Road Scholar program. During the course, instructors will cover bridge technology, structure types, design, maintenance, inspection, and funding for local bridges in Indiana.

SPEAKERS

Patrick Conner, Purdue University
Michael Wenning, GAI Consultants
Jeremy Hunter, INDOT

MODERATOR

Richard Domonkos, Purdue University



TIME
1:00–1:50 PM

ROOM
STEW 310

PDH: 1

51. Shoulders... Not Just for Snow Storage!

Hard shoulder running (HSR) is an innovative strategy for squeezing additional capacity out of existing infrastructure, targeting facilities with short-duration peak periods where congestion is noticeable. Using the recent HSR design completed in Ohio, conversations with state DOTs that have implemented HSR, and a tour of Michigan's HSR corridor, this presentation defines what HSR is, details the safety analysis requested by FHWA, and provides lessons learned during design and implementation.

SPEAKER

Brian Toombs, Burgess & Niple, Inc.

MODERATOR

Jennifer Pyrz, HNTB Corp.

52. Neighborhood Traffic Calming and Creative Placemaking

In August 2017 the City of South Bend, Indiana, participated in Smart Growth America's new initiative: Safe Streets Academy. This 9-month-long academy selected a multidisciplinary team of local leaders and trained them on best practices in traffic safety, public engagement, analytics, and creative placemaking. South Bend's neighborhood traffic calming demonstration project tested three unique traffic calming measures that were installed for a short duration and analyzed for their effectiveness. Join us for a discussion.

SPEAKERS

Alicia Czarnecki, City of South Bend
Zach Dripps, Michiana Area Council
of Governments
Theresa Harrison, City of South Bend

MODERATOR

Jennifer Pyrz, HNTB Corp.

TIME
2:00–2:50 PM

ROOM
STEW 310

PDH: 1

TIME
3:00–3:50 PM

ROOM
STEW 310

PDH: 1

53. Dynamic Part-Time Shoulder Use Triggers

Part-time shoulder use strategies that permit all vehicles or buses to drive on freeway shoulders during some hours of the day are now employed in 16 states. This presentation provides an overview of part-time shoulder use and the findings of FHWA research (to be completed in 2019) on speed, volume, and operational triggers for opening and closing the shoulder.

SPEAKER

Pete Jenior, Kittelson & Associates

MODERATOR

Jennifer Pyrz, HNTB Corp.



TIME
4:00–4:50 PM

ROOM
STEW 310

PDH: 1

54. Basic Traffic Operation: Left-Turn Warrant at Existing Signalized Intersections

Basic Traffic Operation Metrics for Locals—This session presents a set of basic traffic operation metrics local agencies can use to monitor transportation network performance. Data, such as peak hour counts, crashes, and roadway classification, may be used to address public safety concerns or for general public information.

SPEAKER

John Beery, Beam, Longest and Neff, LLC

Gap-Based Approach to the Left-Turn Warrant at Existing Signalized Intersections—Existing left-turn lane warrants are based on the use of either turning volume or measured turning vehicle delay. This approach fails to account for passive demand—that is, vehicles that would prefer to make a left turn but instead take a circuitous path to make an easier turn. This presentation and the associated research discusses a gap-based alternative to instead find the availability of turning opportunities as a surrogate to actual turning vehicle delay.

SPEAKER

Jeremy Chapman, American Structurepoint, Inc.

MODERATOR

Jennifer Pyrz, HNTB Corp.

TIME
11:00–11:50 AM

ROOM
STEW 279

PDH: 1

55. Starting a UAS Program: A Legal Framework

This presentation provides an overview of how to start using unmanned aerial systems from a legal perspective. As UAS become more commonplace and their use expands beyond traditional aviation companies, there is a need for operators to know how to use these vehicles safely and legally. Topics covered include current FAA regulations, operator requirements, vehicle airworthiness, and liability concerns.

SPEAKER
William Weldon, Purdue University

MODERATOR
Terry Treon, Indiana State Police

TIME
1:00–1:50 PM

ROOM
STEW 279

PDH: 1

56. Unmanned Aerial Systems for Data Collection and Survey

Unmanned aerial systems (UAS) are increasingly being utilized to capture current conditions of existing structures. UAS can be flown to capture images of every inch of a bridge or structure. These images can then be analyzed by engineers in a safe office setting to identify paint delamination and look for anomalies on the structure (e.g., cracks). This session presents the process for UAS data collection and analysis with case studies and project examples.

SPEAKER
Carlos Femmer, HDR, Inc.

MODERATOR
Marty Blake, INDOT

TIME
2:00–2:50 PM

ROOM
STEW 279

PDH: 1

57. UAS for Crash Scene Documentation: A Proven Tool

This session presents the use of unmanned aerial systems (UAS) for crash scene documentation by public safety officers.

SPEAKERS
Darcy Bullock, Purdue University
Robert Hainje, Tippecanoe County
Sheriff's Office
Ayman Habib, Purdue University

MODERATOR
Marty Blake, INDOT

58. UAS-Based LiDAR for Mapping Erosion and Landslides

With the increasing frequency and intensity of coastal storms and inclement weather conditions, there is a growing need for high-resolution (temporal and spatial), yet economic, survey of shoreline and landslide-prone regions. This session highlights the use of unmanned aerial systems (UAS) to quantify morphology changes on fine spatial (~inch) and temporal scales (~months) of coastal regions. The potential to extend this assessment approach for monitoring landslide-prone areas at the vicinity of transportation corridors will be also covered.

SPEAKER
Ayman Habib, Purdue University

MODERATOR
Marty Blake, INDOT

TIME
3:00–3:50 PM

ROOM
STEW 279

PDH: 1

TIME
4:00–4:50 PM

ROOM
STEW 279

PDH: 1

59. UAS in Transportation

This session covers the potential for implementation of unmanned aerial systems (UAS) in the planning, design, construction, and maintenance of infrastructure projects and how they fit into the future of infrastructure data management. The presentation will progress through each stage of the process, showing how UAS can be utilized. The target audience is government officials, managers, engineers, and contractors involved in infrastructure projects.

SPEAKER

Steven Jones, DLZ Corp.

MODERATOR

Marty Blake, INDOT



TIME
1:00–1:50 PM

ROOM
STEW 214AB

PDH: 1

60. Leveraging Connected Vehicles to Provide Enhanced Roadway Condition Information

This study looks at high-frequency brake pressure, anti-lock brake (ABS) activation, wheel tick, traction-control intervention, hazard lights, and windshield wiper data from an in-vehicle bus to detect changes in vehicle and driver behavior during changing winter road conditions. Join us for a discussion.

SPEAKER

Howell Li, Purdue University

MODERATOR

Rod Waltman, Rod Waltman & Co., LLC

61. Calibration of Automated Spreader Controls

It doesn't matter if our salt spreaders are new or old, electronic or manual, liquid or granular—they all need to be calibrated. Annual calibration of salt spreaders is an important part of your fleet maintenance, winter maintenance, and MS4 compliance program. Representatives from the Department of Public Works of Farmington Hills, Michigan, will present on calibration of manual and computerized controls for winter maintenance best practices. Topics include granular and liquid calibration as well as using this practice as a tool in conjunction with AVL.

SPEAKERS

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

MODERATOR

Rod Waltman, Rod Waltman & Co., LLC

TIME
2:00–2:50 PM

ROOM
STEW 214AB

PDH: 1

TIME
3:00–3:50 PM

ROOM
STEW 214AB

PDH: 1

62. Conquering the Fear of Liquids!

In this session the City of Warsaw's street superintendent shares his experiences with liquids, including making brine, anti-icing, deicing, and prewetting. Join us to boost your confidence level with regard to adding liquids to your winter maintenance toolbox.

SPEAKER

Jeff Beeler, City of Warsaw

MODERATOR

Rod Waltman, Rod Waltman & Co., LLC



TIME
8:00–8:50 AM

ROOM
STEW 202

PDH: 1

63. International Airport Safety: Ramp Accidents and Non-Towered Airport Operations Counts

Technology Assessment to Improve Non-Towered Airport Operations Counts—Accurate airport operations counts are critical for fair allocation of AIP (Airport Improvement Program) funding; however, few non-primary airports have the personnel available to register such counts. This session presents research that validated a cost-effective counting technology based on aircraft transponder signals to register operations. Over 45 million transponder records were collected from three installations in Indiana, with error rates ranging from -4.9% to -1.4%, suggesting that the technology is an accurate means of counting non-towered airport operations.

SPEAKERS

Chuyang Yang, Purdue University
Brandon Hardin, Purdue University
Steven Zehr, Purdue University
John Mott, Purdue University

Lessons Learned From an International Airport Safety Competition—According to the Flight Safety Foundation, about 27,000 ramp accidents and incidences occur annually. These accidents and incidences affect airport operations, result in personnel injuries, and damage aircraft, facilities, and ground support equipment. Purdue students participated in the 2018 Air Transport and Aeronautics Education and Research Association (ATAERA) safety competition to improve airport safety at Kigali International Airport in Rwanda. This presentation focuses on the practical use of risk analysis and proposed solutions.

SPEAKERS

Caroline Marete, Purdue University
Mary Johnson, Purdue University

MODERATOR

Michael Buening, INDOT

TIME
9:00–9:50 AM

ROOM
STEW 202

PDH: 1

64. Bird and Wildlife Hazard Identification, Assessment, and Management

Bird and Wildlife Hazard Identification at Airports—An aerial view of an airport can reveal wildlife attractants. Wildlife associated with water, forests, grasslands, agriculture, and man-made features on or near an airport can be hazardous to aircraft. Pilots and airport management who can identify wildlife attractants and hazards may be better prepared to mitigate risks. Join us for a discussion.

SPEAKER

Robert Sliwinski, Christopher B. Burke
Engineering, LLC

Vultures, Coyotes, and Deer, Oh My! Airfield Wildlife Hazard Assessment and Management—This presentation provides an overview of airfield wildlife management and how to comply with the newly issued Advisory Circular 150/5200-38, “Protocol for the Conduct and Review of Wildlife Hazard Site Visits, Wildlife Hazard Assessments, and Wildlife Hazard Management Plans.” The discussion will focus on the needs of general aviation airports, including wildlife fence design and installation, airport habitat management, and off-airport wildlife attractants.

SPEAKER

Simon Davies, CHA

MODERATOR

Michael Buening, INDOT

TIME
10:00–10:50 AM

ROOM
STEW 202

PDH: 1

65. Indianapolis International Airport Service and Expansion Update

Federal Express IND Hub Expansion Project—FedEx has undergone a recent expansion of its cargo facility at Indianapolis International Airport. This presentation reviews the current project and the expansion program at IND.

SPEAKER

Todd Schulthies, CHA

Indianapolis International Airport—Indianapolis International Airport continues to win accolades for its service and facility. This presentation focuses on new international direct flights, foreign trade zones, and development.

SPEAKER

Marsha Stone, Indianapolis International Airport

MODERATOR

Michael Buening, INDOT

TIME
1:00–1:50 PM

ROOM
STEW 202

PDH: 1

66. Ethics in the Construction and Management of Airports and Other Public Infrastructure

Ethics in the Construction and Management of Airports and Other Public Infrastructure— Ethics has long been a cornerstone of the public sector's function to provide good governance and act on behalf of the public's safety and welfare. Unfortunately this good governance is sometimes jeopardized by the ethical lapses of civil servants, political office holders, and private sector partners and contractors. This presentation discusses recent ethics cases in aviation and the transportation sector, including in both construction and management.

SPEAKERS

Sarah Hubbard, Purdue University
Bryan Hubbard, Purdue University
Michael Zonsius, AvPorts, LLC

Human Trafficking and Air Transportation— Human trafficking may seem like something that only happens somewhere far away, but it happens right here in Indiana and elsewhere in the Midwest. Human trafficking is different from smuggling (moving people) because trafficking involves exploitation. Come learn more about human trafficking and what airports can do to help stop it.

SPEAKERS

Kathryn Seigfried-Spellar, Purdue University
Chad Laux, Purdue University
Mary Johnson, Purdue University

MODERATOR

Joseph Hupy, Purdue University

TIME
2:00–2:50 PM

ROOM
STEW 202

PDH: 1

67. Stormwater Design: Balancing Wildlife Management and Permit Requirements

The FAA has strict guidelines on avoiding wildlife attractants; however, permitting agency requirements are often in conflict with these guidelines. This presentation addresses these conflicts and creative ways to satisfy both the FAA and permitting agencies.

SPEAKER

Ken Ross, NGC Corp.

MODERATOR

Joseph Hupy, Purdue University

68. Best Practices for Airport Obstruction Management

This presentation highlights the results and resources from ACRP Best Practices for Airport Obstruction Management. Key topics include understanding objects, obstructions, obstacles, and hazards as defined by key regulations and standards; identifying the critical surface for airspace protection and special considerations; sources and uses of airport obstruction data, obstruction management tools available to airports; composite map development; airport sponsor responsibilities in obstruction management; and community outreach and conflict resolution tools.

SPEAKER

Susan Zellers, Hanson Professional Services, Inc.

MODERATOR

Joseph Hupy, Purdue University

TIME
3:00–3:50 PM

ROOM
STEW 202

PDH: 1

TIME
4:00–4:50 PM

ROOM
STEW 202

PDH: 1

69. Airport Pavement Design: FAA Perspective

Airport pavement design is unique from all other types of pavement design. The FAA has advisory circulars that detail components and requirements for airport pavements. A specific design software, FAARFIELD 1.42, went into effect September 2017. In this session we review and discuss the details of airport pavement design.

SPEAKER
Michael Ferry, FAA

MODERATOR
Joseph Hupy, Purdue University



TIME
8:00–8:50 AM

ROOM
STEW 206

PDH: 1

70. Behavior of Bridges Subjected to Vehicular Collision

Vehicles often collide with bridges, yet there are no guidelines for inspectors to rapidly assess the capacity of a damaged girder. To address this knowledge gap, nondestructive field testing of three damaged steel girder bridges was performed using digital image correlation, a photographic measurement technique. This presentation compares the measured behavior of damaged girders, symmetric undamaged girders, and interior girders. A parametric numerical investigation, using validated numerical models, is performed to extend research findings.

SPEAKERS
Yao Wang, University of Notre Dame
Ashley Thrall, University of Notre Dame

MODERATOR
Anne Rearick, INDOT

71. A Comparison Between 1D and 2D Hydraulic Modeling for Bridge Replacement Projects

In this session we compare and contrast the results of the two most popular 2D hydraulic modeling software packages to the traditional 1D HEC-RAS model against actual recorded flow data to see which software package is the most accurate. The accuracy of various engineering assumptions made with a 1D analysis will be compared to the results of the 2D models.

SPEAKER
Mark Bailey, INDOT

MODERATOR
Anne Rearick, INDOT

TIME
9:00–9:50 AM

ROOM
STEW 206

PDH: 1

TIME
10:00–10:50 AM

ROOM
STEW 206

PDH: 1

72. Evaluating the Economic Development Impacts of Preservation Projects

Transportation infrastructure expansion projects have the capacity to spur economic growth and development in surrounding areas. The impacts these projects have on economic development, however, have not been extensively studied. In particular, the economic impacts of bridge preservation have never been studied. This session presents a framework and tool that estimates the regional economic development impacts that can arise from bridge preservation and maintenance projects at a sketch-plan level.

SPEAKERS

Yue Ke, Purdue University
Lisa Lorena Losada Rojas, Purdue University
Sumedh Khair, Purdue University
Konstantina Gkritza, Purdue University
Jon Fricker, Purdue University

MODERATOR

Anne Rearick, INDOT

TIME
1:00–1:50 PM

ROOM
STEW 206

PDH: 1

73. Latex-Modified Concrete: Very Early Strength (LMC-VEs)

INDOT recently came out with specifications for a very early strength concrete to use on bridge deck overlays. This concrete is fast setting, which allows overlays to be performed over a weekend and benefits the traveling public with a short duration of traffic interference. Cure time to reach the strength requirement is 3 hours. E&B Paving performed the first application with the new spec on August 26, 2018. Join us for a discussion.

SPEAKER

Bobby Steele, E&B Paving, Inc.

MODERATOR

M. Sean Porter, Parsons Corp.

TIME
2:00–2:50 PM

ROOM
STEW 206

PDH: 1

74. Condition Assessment of Deteriorated Adjacent Box Beam Bridges

A research study was initiated to determine the correlation between observable deterioration of adjacent prestressed concrete box beam bridges and the structural capacity of the beams and to examine load distribution between adjacent box beams. This presentation includes details of the nondestructive evaluation of box beams acquired from decommissioned bridges and subsequent load tests to failure conducted on the beams. A series of load tests on an existing bridge will also be described.

SPEAKERS

Ryan Whelchel, Purdue University
Robert Frosch, Purdue University

MODERATOR

M. Sean Porter, Parsons Corp.

75. LIRC Bridge Replacement Over Flatrock River

This project involves replacement of the Louisville and Indiana Railroad bridge over the Flatrock River under a design-build delivery method. A 4-day outage including a bridge slide-in is planned for the bridge change out. Improvements include raising the track profile 5 feet to provide freeboard above the Q100 flood elevation. Hydrologic and hydraulic analysis and environmental permitting were critical elements of the design process. Join us for a discussion.

SPEAKERS

Glen Campbell, Patrick Engineering, Inc.
Chuck Grabner, J. B. Fay Co.
Sarah Czaplicki, Patrick Engineering, Inc.

MODERATOR

M. Sean Porter, Parsons Corp.

TIME
3:00–3:50 PM

ROOM
STEW 206

PDH: 1

TIME
4:00–4:50 PM

ROOM
STEW 206

PDH: 1

76. Bridge Inspection: Discussion of Critical Findings

In this session we discuss critical findings definitions and expectations based on NBIS, FHWA, and INDOT standards. Examples of critical findings and the procedures to follow when a critical finding is discovered will be presented. The session is led by the bridge inspection program manager with the assistance of an FHWA Indiana division representative.

SPEAKERS

Andrew Fitzgerald, INDOT
William Dittrich, INDOT
Jose Ortiz, FHWA

MODERATOR

M. Sean Porter, Parsons Corp.



TIME
8:00–8:50 AM

ROOM
STEW 279

PDH: 1

77. The Intersection of Energy Storage and Autonomous Vehicles

Every sector is being dynamically changed by the integration of disruptive technologies. How are energy storage (batteries) intersecting with the growth of autonomous technologies in a way that creates a disruptive trend? This session provides a brief overview of how AVs are driving a whole new growth of technologies outside of just the vehicle.

SPEAKER

Ben Wrightsman, Battery Innovation Center

MODERATOR

Stephen Remias, Wayne State University

78. CATV Policy and Innovation: Discussion of Real-World Implications

This session presents the ethical, legal, and social implications surrounding connected and autonomous vehicles, with a focus on privacy, security, infrastructure, human acceptance and trust, human takeover, safety, ethics, algorithms, and workforce impacts. This presentation draws from research as well as workshops sponsored by the Purdue Policy Research Institute that delve into these issues with policymakers, industry leaders, and academics.

SPEAKERS

Rosalee Clawson, Purdue University
Konstantina Gkritza, Purdue University

MODERATOR

Stephen Remias, Wayne State University

TIME
9:00–9:50 AM

ROOM
STEW 279

PDH: 1

TIME
10:00–10:50 AM

ROOM
STEW 279

PDH: 1

79. Leveraging Existing Investment to Enable Smart City Deployment

Where does a city start if it wants to become “smart”? This presentation describes the foundational elements that cities can leverage to accelerate progress. Columbus, Ohio, has maximized existing infrastructure to create an extensive connected vehicle network in its downtown area with the goal of improving intersection safety, vehicle connectivity, and automation. Come hear about how the Columbus approach is innovative but also implementable.

SPEAKER

Diane Newton, HNTB Corp.

MODERATOR

Stephen Remias, Wayne State University

TIME
1:00–1:50 PM

ROOM
STEW 279

PDH: 1

80. Simulation of Platooning Class 8 Trucks on Indiana Corridors

As part of the ARPA-E-funded NEXTCAR project studying connected and automated Class 8 trucks, this session presents simulation results of platooning Class 8 trucks on Indiana corridors. Included are engine test results from a hardware in the loop (HIL) test bed as well as next steps toward on-road testing.

SPEAKERS

Ife Ibitayo, Purdue University
Brady Black, Purdue University

MODERATOR

Karen Stippich, FHWA

TIME
2:00–2:50 PM

ROOM
STEW 279

PDH: 1

81. Electric Vehicle Opportunities in Indiana

Indiana continues to support electric vehicle technology. This presentation provides an overview of research opportunities and partnerships in Indiana.

SPEAKERS

Konstantina Gkritza, Purdue University
Pamela Fisher, INDOT

MODERATOR

Karen Stippich, FHWA

82. Deployment of a Connected Vehicle System in Elkhart County

This session presents a detailed look at the steps and equipment needed to deploy a signal to a vehicle-connected system and follows the experience of Elkhart County in installing a cell-based connected vehicle system at an isolated intersection. The equipment required, service provider, and user experience will be discussed.

SPEAKERS

Jay Grossman, Valparaiso University
Charles McKenzie, Elkhart County Highway Department

MODERATOR

Karen Stippich, FHWA

TIME
3:00–3:50 PM

ROOM
STEW 279

PDH: 1

TIME
4:00–4:50 PM

ROOM
STEW 279

PDH: 1

83. Connected Roads of Today and Tomorrow: AV/CV Technology

Connected Roads of Today and Tomorrow—Autonomous vehicles require improved infrastructure (signs, lines, work zones, etc.). This session presents technologies that are currently available and those that will become available in the future. Testing and data from pilot projects will be presented.

SPEAKER
Andrew Meeks, 3M

The Future of Transportation Design With AV/CV Technology—Autonomous and connected vehicles (AV/CV) are poised to change the way transportation operates around the world. Whether AVs are deployed as a first/last mile solution on private campuses and universities or used within cities as a major transportation option, the adoption of AV/CV technology will change the way planners look at future transportation needs. The outlook for AV/CVs, their impact on city planning, and current technological capabilities will all be discussed in this session.

SPEAKER
Chris Pauly, HDR, Inc.

MODERATOR
Karen Stippich, FHWA

TIME
8:00–8:50 AM

ROOM
STEW 302

PDH: 1

84. The Benefits of Sediment Control/Rolled Filtration Devices

This session presents a broad overview of the Clean Water Act, stormwater pollution prevention plan (SWPPP) planning, construction phasing and best management practice review. Highlights include rolled filtration technology and its benefits and ASTM testing results. Cost-benefit analysis and environmental benefits will be discussed.

SPEAKERS
Joe Moore, Siltworm
Michele Meyer, INDOT

MODERATOR
Gregory Pankow, INDOT

85. Wetland Delineation Primer for Engineers

Don't have an experienced scientist by your side 24/7? Ever had a project bog you down with surprises? If you answered yes to either of these questions, this session is for you. Learn how to recognize potential wetland signatures and streams and to formulate a better scope, fee, and schedule to manage your transportation project. An overview of the relevant regulatory agencies and permits will be included as we wade into the muck.

SPEAKERS
Summer Elmore, CHA
Trevor Wieseke, CHA

MODERATOR
Gregory Pankow, INDOT

TIME
9:00–9:50 AM

ROOM
STEW 302

PDH: 1

TIME
10:00–10:50 AM

ROOM
STEW 302

PDH: 1

86. The Write Stuff!

This presentation will help project managers and designers prepare the information required for department contracts with regard to the Standard Specifications and Special Provisions. We will share examples of both the right and wrong ways to present a Unique Special Provision, as well as what 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

Gregory Pankow, INDOT

TIME
1:00–1:50 PM

ROOM
STEW 302

PDH: 1

10B. Best Practices of a Design-Build Best Value

INDOT has procured three design-build best value (DBBV) projects: I-69 Major Moves 2020, I-65 Northwest Major Moves 2020, and the I-65 Southeast Added Travel Lanes projects. This presentation summarizes the lessons learned and best practices developed by both INDOT and the design-build teams (DBTs). INDOT/DBT presenters will provide best practices through the pre-proposal, proposal, and execution stages of a best value project.

SPEAKERS

Katie Rounds, INDOT
Junell O'Donnell, Parsons Corp.
Bradley Miller, HNTB Corp.
Toby Randolph, Parsons Corp.

MODERATOR

Runfa Shi, INDOT

TIME
2:00–2:50 PM

ROOM
STEW 302

PDH: 1

87. The North Split Project: Driving Progress

The North Split project in downtown Indianapolis will address two major needs—deteriorated conditions and safety issues—within the second-busiest interchange in Indiana. In this presentation we detail the project's history, describe the four biggest safety issues and how INDOT has developed a variety of solutions to correct these safety issues and improve traffic operations, and discuss the roles of traffic modeling, engineering, and public engagement in developing a major project like the North Split.

SPEAKERS

Seth Schickel, HNTB Corp.
Kia Gillette, HNTB Corp.

MODERATOR

Runfa Shi, INDOT

88. Culvert Sizing and Considerations

This session presents how to size culverts properly as well as installation and material considerations and use of the HY-8 program. Join us for a discussion.

SPEAKER

Thomas Burke, Christopher B. Burke Engineering, LLC

MODERATOR

Runfa Shi, INDOT

TIME
3:00–3:50 PM

ROOM
STEW 302

PDH: 1

TIME
4:00–4:50 PM

ROOM
STEW 302

PDH: 1

89. City of Carmel Redevelopment: Green Infrastructure, Urban Design, and Walkability

Monon Boulevard Construction: A Case Study in Trail-Oriented Economic Development—At over 20 years old, the Monon Trail in Carmel has become our beach front property. The trail through downtown Carmel has now reached over 2,000 users per day and is driving redevelopment. This presentation shows how the City is investing \$25 million into widening the Monon Trail and new green infrastructure to support the \$200 million in private investment for new office space, restaurants, and housing.

Range Line Road Streetscape: Who Needs Four Lanes When You Have a Bike?—The City of Carmel has focused its growth around redevelopment of older areas that already contain city services, emphasizing urban design and walkability. This session presents the Range Line Road reconstruction project, which has constructed landscaped medians—reducing the number of lanes from five to two and adding an on-street protected bike lane—and replaced traffic signals with roundabouts with raised pedestrian crossings.

SPEAKER

Jeremy Kashman, City of Carmel

MODERATOR

Runfa Shi, INDOT

TIME
8:00–8:50 AM

ROOM
STEW 306

PDH: 1

90. Clear Path I-465/I-69 Project Update and Road Safety Analysis With IHSDM

Clear Path I-465/I-69 Project Update—The presentation provides an update on the Clear Path I-465/I-69 Interchange Modification and Added Travel Lanes Design Project in northeast Indianapolis. We will discuss the recommended alternative as it pertains to overall project schedule, geometry, right-of-way, NEPA (cultural resources, noise, etc.), maintenance of traffic phasing and duration, the Interstate Access Document, traffic operations, and other unique design features.

SPEAKERS

Mark Perron, Parsons Corp.
Daniel McCoy, INDOT

Roadway Safety Analysis: Application /Utilization—IHSDM's Crash Prediction Module—This presentation introduces the Interactive Highway Safety Design Model (IHSDM) and its potential uses. We will discuss real project examples such as Clear Path 465 Interchange Reconstruction. As FHWA and state agencies continue to shift focus to safety- and traffic-driven roadway design, it's important to understand the value the IHSDM can add to your project. Utilizations in alternative and benefit-cost analysis, interstate access documents, design exceptions, and prioritization studies will be discussed.

SPEAKERS

Tyler Bosshardt, Parsons Corp.
Abell Gelaye, INDOT

MODERATOR

Gary Mrocza, AECOM

TIME
9:00–9:50 AM

ROOM
STEW 306

PDH: 1

91. A Unique Circular Solution to a Complicated Triangle

The most congested area in the city of Greenwood, Indiana, comprises three busy intersections connected by multilane roadways in a triangle shape and located only 300 to 600 feet from each other. The proposed solution constructed in 2018 includes a combination of a multilane roundabout metered by a nearby signal as well as a jug handle to remove left turn movements at the state highway intersection. Join us for a discussion.

SPEAKERS

Daniel Johnston, City of Greenwood
Trent Newport, Crossroad Engineers, PC

MODERATOR

Gary Mroczka, AECOM

TIME
10:00–10:50 AM

ROOM
STEW 306

PDH: 1

92. Identifying Post-WWII Housing/Historic Districts

This presentation focuses on the analysis and identification of potential National Register-eligible post-WWII housing and historic districts. This analysis is critical for ensuring compliance with Section 106 of the National Historic Preservation Act and Section 4(f) of the Department of Transportation Act.

SPEAKERS

Anthony Ross, INDOT
Linda Weintraut, Weintraut & Associate, Inc.
Daniel Miller, Parsons Corp.

MODERATOR

Gary Mroczka, AECOM

TIME
1:00–1:50 PM

ROOM
STEW 306

PDH: 1

93. Developments in Maintenance of Traffic

This presentation covers recent developments in design guidance on construction standards, highlighting new techniques and devices that are being implemented to improve safety and operations in work zones.

SPEAKERS

David Boruff, INDOT
Dan Osborn, Indiana Constructors, Inc.
Philip Kuntz, HNTB Corp.

MODERATOR

Paul Boone, INDOT

94. "If It Ain't Broke..." and Other Safety Lessons

A key consideration when implementing practical design solutions is the impact on safety. Safety is also an important metric when selecting a preferred alternative or prioritizing projects. This presentation uses real project examples to illustrate how safety analyses, specifically the quantitative methods in the Highway Safety Manual (HSM), have been used to justify and implement practical design solutions, evaluate multiple alternatives, and prioritize projects.

SPEAKER

Kendra Schenk, Burgess & Niple, Inc.

MODERATOR

Paul Boone, INDOT

TIME
2:00–2:50 PM

ROOM
STEW 306

PDH: 1

TIME
3:00–3:50 PM

ROOM
STEW 306

PDH: 1

95. 3D Road Design and Digital/Electronic Construction

This presentation provides an update on INDOT's e-construction initiatives. Advancements in roadway design include efforts to move toward 3D CAD models for roadway design and 3D subsurface utility design and analysis (SUDA); advancements in digital/electronic construction include the development of inspection checklists, piloting a mobile inspection application, and investigating e-ticketing for materials delivery.

SPEAKERS

Christopher Martin, INDOT
Andrew Pangallo, INDOT
Derek Fuller, INDOT

MODERATOR

Paul Boone, INDOT



TIME
4:00–4:50 PM

ROOM
STEW 306

PDH: 1

96. Redevelopment Project Success Stories: State Street and the City of Elkhart

Converting a Former Highway Into a Walkable Urban Environment—The City of Elkhart is investing in the redevelopment of a former commercial and industrial area to create the River District. A key part of this investment is the redevelopment of Jackson Blvd. from a four-lane highway (US 20) to a two-lane walkable urban street, with parking, landscaping, and other urban amenities. Join us for a discussion.

SPEAKERS

Jeffrey Schaffer, City of Elkhart
Chris Chockley, Jones Petrie Rafinski Corp.
Ken Jones, Jones Petrie Rafinski Corp.

The State Street Redevelopment Project Success Story—Formally launched at Purdue Road School in 2015, the State Street Redevelopment Project finished construction at the end of 2018. This presentation provides an overview of this transformational town-gown, public-private partnership project from inception to completion. Learn about the unique component of this project and how it improves safety, traffic circulation, and community vibrancy and development.

SPEAKERS

Don Petersen, Purdue University
Michael Cline, Purdue University

MODERATOR

Paul Boone, INDOT

TIME
8:00–8:50 AM

ROOM
LOEB THEATER

PDH: 1

97A. Indiana Statutes and Rules for Professional Engineers

This session presents an updated discussion of the Indiana Code and Indiana Administrative Code applied to the practice of engineering. We will cover the following topics: changes to steps for 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; and the process for becoming a member of the board.

SPEAKER

Vincent Drnevich, Purdue University

MODERATOR

David Kish, Purdue University

TIME
9:00–9:50 AM

ROOM
LOEB THEATER

PDH: 1

98A. Ethics and the Practice of Engineering and Surveying

This session presents 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.

SPEAKER

Vincent Drnevich, Purdue University

MODERATOR

David Kish, Purdue University

99. HA1002 in 2019

HA1002 is now 2 years old. In this session we discuss what has changed, how the funds are coming in, and changes INDOT sees with regard to asset management.

SPEAKERS

Julie Sutton, INDOT
Kathy Eaton-McKalip, INDOT
Louis Feagans, INDOT

MODERATOR

Keith Hoernschemeyer, FHWA

100. Advancing Asset Management at INDOT

INDOT completed its initial Transportation Asset Management Plan in April 2018 and is now working on a final version, which is due to FHWA in July 2019. This presentation summarizes highlights from the initial plan and provides an update on INDOT's subsequent asset management efforts, which include developing performance targets, developing a risk register, identifying lower cost strategies for managing assets, and assessing INDOT's existing asset management business practices.

SPEAKERS

Louis Feagans, INDOT
Joe Guerre, HNTB Corp.

MODERATOR

Keith Hoernschemeyer, FHWA

TIME
8:00–8:50 AM

ROOM
STEW 311

PDH: 1

TIME
9:00–9:50 AM

ROOM
STEW 311

PDH: 1

TIME
10:00–10:50 AM

ROOM
STEW 311

PDH: 1

101. HB 1267 Infrastructure Task Force: Quantifying the Problem and Finding the Solution

During the 2018 Indiana Legislative Session, House Enrolled Act No. 1267 was passed requiring the establishment of an infrastructure task force to study issues concerning drinking water, wastewater, and stormwater management; create a decision-making tool for policymakers; and develop a long-term management plan. As a member of the task force, I will share how the infrastructure problem was quantified, the process to address it, and the solution being contemplated in the 2019 legislative session.

SPEAKER

Chris Gale, HNTB Corp.

MODERATOR

Keith Hoernschemeyer, FHWA

TIME
1:00–1:50 PM

ROOM
STEW 311

PDH: 1

102. Transportation Funding: “Chasing the Money”

When there isn't enough money to sustain our transportation systems, state and local governments must pursue funding from all available sources. This presentation explains why today's funding needs are so much more pronounced, addresses the types and pitfalls of funding typically being pursued, and encourages all transportation entities to get involved in the national, state, and local transportation funding dialogue.

SPEAKER

Michael Hancock, HMB Professional Engineers, Inc.

MODERATOR

Angela Hobbs, INDOT

TIME
2:00–2:50 PM

ROOM
FOWLER HALL

PDH: 1

103. The Past, Present, and Future of Innovation Project Delivery

This session presents the past, present, and future of innovative project delivery. Highlights include the Indiana Toll Road deal (10+ years later), Ohio River bridges, and State Street.

SPEAKERS

Timothy Wilschetz, KPMG
Steven Schultz, Purdue University
Robert Poole, Reason Foundation

MODERATOR

Jay Wasson, Purdue University



TIME
8:00–8:50 AM

ROOM
PMU 240/FACE

PDH: 1

104. Unconscious Bias: Creating Positive Change

We all have our biases. By creating a safe environment for your team to learn about bias, you can create positive change. In this session, leaders will learn how to increase awareness of their own cultural identity, understand the sources of unconscious bias and how bias can influence interaction with others, and develop strategies to combat bias and to use differences synergistically to improve intercultural effectiveness.

SPEAKERS

Julie Kratz, Pivot Point
Tiffany White, Rolls-Royce
Maria Alvim-Gaston, Eli Lilly and Co.
Tony Newcome, ActiveCampaign
Lee White, Bosma Enterprises

MODERATOR

K. D. Thurman, INDOT

TIME
9:00–9:50 AM

ROOM
PMU 240/FACE

PDH: 1

105. Principles and Practical Applications of Indirect Leadership

In a metric-driven world, answers rule: it's how those answers are developed, delivered, and acted upon that drives a world-class organization. This presentation offers insight into indirect leadership through the inner thoughts and motives of a project manager. Using the rubric of humility, honesty, and trust while indirectly causing something to happen in a way that affirms the effort of others is the ultimate goal of unselfish, indirect leadership in world-class fashion.

SPEAKERS

Doug Burgess, INDOT
Chris Gentry, INDOT
Brad McNair, INDOT

MODERATOR

K. D. Thurman, INDOT

TIME
10:00–10:50 AM

ROOM
PMU 240/FACE

PDH: 1

106. Success From Student to Professional Engineer

Anyone can go through the motions of becoming a professional engineer. But internship experience is not enough. To become more versatile technically and socially, we must be willing to step outside our comfort zone. Discover the importance of exploring diverse opportunities, taking on leadership roles, and preparing for the future as a young engineer.

SPEAKERS

Mark Spence, HNTB Corp.
Molly Rice, HNTB Corp.

MODERATOR

K. D. Thurman, INDOT

107. Leveraging Leadership

Grasping the powerful implications of “the easiest hardest part of leadership” is simple but tough. It requires being and doing what you want your people to be and do. Discover how intentionally working first, hardest, and longest on changing yourself will pave the way for you to empower others to expand and explore their own leadership potential.

SPEAKER

Amy Barg, The John Maxwell Team

MODERATOR

Brian Rivette, INDOT

TIME
1:00–1:50 PM

ROOM
PMU 240/FACE

PDH: 1

TIME
2:00–2:50 PM

ROOM
PMU 240/FACE

PDH: 1

108. Human Capital Attributes of the Transportation and Logistics Industries in Indiana

This presentation explores human capital attributes of the transportation and logistics industries in Indiana, emphasizing the occupations, educational attainment, jobs postings and talent needs, supply and demand gaps, and potential impacts of automation. The presenters are engaged in workforce development in several regions in Indiana and will be sharing analyses from multiple workforce models. Considering the important role transportation and logistics industries play in the state's economy, the emerging trend in human capital is worth deliberation.

SPEAKERS

Bo Beaulieu, Purdue University
Andrey Zhalnin, Purdue University
Indraneel Kumar, Purdue University

MODERATOR

Brian Rivette, INDOT

TIME
3:00–3:50 PM

ROOM
PMU 240/FACE

PDH: 1

109. Workforce Attraction for the Transportation Industry

Beyond Work in the Workplace—There is a battle now to find, hire, and retain the best talent. What do firms need to consider and offer employees beyond the actual work at hand? Do your employees feel they have an opportunity to learn, grow, and have some fun? In this session we discuss culture, professional development, recognition, and what happens at work. A job description will be provided, along with lots of examples and ideas to reinvent your workplace.

SPEAKERS

Andy Hahn, CHA
Alison Krupski, Hamilton County

Workforce Attraction for Transportation Industry—The transportation industry is actively pursuing programs that attract and develop the workforce of tomorrow. This session will discuss FHWA's efforts to market opportunities for careers in transportation sectors.

SPEAKER

Mayela Sosa, FHWA

MODERATOR

Brian Rivette, INDOT

TIME
8:00–8:50 AM

ROOM
STEW 218AB

PDH: 1

110. Local Federal Aid Funding Topics

Federal funding mandates went into effect on December 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 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

Jay DuMontelle, FHWA

TIME
9:00–9:50 AM

ROOM
STEW 218AB

PDH: 1

111. INDOT's Non-Marketable Property Program

This session introduces a new program by which INDOT can transfer released mitigation sites to land management nonprofits, in addition to the existing political notification process.

SPEAKERS

Kathy Heistand, INDOT
Sandra Bowman, INDOT
Laura Hilden, INDOT

MODERATOR

Jay DuMontelle, FHWA

TIME
10:00–10:50 AM

ROOM
STEW 218AB

PDH: 1

112. Complete Streets Corridors Don't Have to Be Expensive!

With public agencies facing shrinking funding budgets, planners and engineers must have a practical mindset when planning projects to address capacity, safety, and multimodal concerns while still meeting the community's most basic goals and needs in urban corridors. This session explores lessons learned on two recent preliminary engineering projects, discussing the benefits of practical design in the planning process to provide capacity, improve safety, and create multimodal corridors on a budget.

SPEAKERS

Amy Rosepiler, Burgess & Niple, Inc.
Louis Feagans, INDOT
Kendra Schenk, Burgess & Niple, Inc.

MODERATOR

Jay DuMontelle, FHWA

113. LPA Design Certification for Non-National Highway System Projects

This session presents the LPA Certification Program. This program enables all locals to take more control of their projects with federal funding for non-NHS facilities. We will share success stories and have plenty of time to answer questions.

SPEAKERS

Kathy Eaton-McKalip, INDOT
Craig Parks, Boone County

MODERATOR

Thomas Murtaugh, Tippecanoe County

TIME
1:00–1:50 PM

ROOM
STEW 218AB

PDH: 1

TIME
2:00–2:50 PM

ROOM
STEW 218AB

PDH: 1

114. Funding Opportunities for Local Public Agencies

This session provides information to local government agencies on funding opportunities and resources for local roads and bridges.

SPEAKERS

Kathy Eaton-McKalip, INDOT
Patricia Yount, Lochmueller Group, Inc.

MODERATOR

Thomas Murtaugh, Tippecanoe County

TIME
3:00–3:50 PM

ROOM
STEW 218AB

PDH: 1

115. Local Public Agency Consultant Contract Negotiation Tools and Tips

Join us to learn tools and tips on negotiating contracts to guarantee you are receiving and/or providing the proper amount of technical support and utilizing the taxpayer dollars to the best of your ability throughout the project development process.

SPEAKER

Lora Phillippe, INDOT

MODERATOR

Thomas Murtaugh, Tippecanoe County

TIME
4:00–4:50 PM

ROOM
STEW 218AB

PDH: 1

116. Coordinating Your LPA Project With a State Project

Join us to learn how to coordinate your LPA transportation project with a state transportation project to help your LPA have greater project impact, improve safety and traffic flow, and provide a cost savings to your community.

SPEAKERS

Rachel Christenson, Town of Pendleton
Kimberley Bowdell, INDOT

MODERATOR

Thomas Murtaugh, Tippecanoe County

TIME
8:00–8:50 AM

ROOM
STEW 214CD

PDH: 1

117. Results of a Comprehensive Fleet Management Plan

In early 2016 the fleet in INDOT's Crawfordsville District was not only in poor shape, but there was no plan of action to turn things around. Through a targeted plan of preventative maintenance, biannual inspections, life-cycle evaluation, and budgetary planning/forecasting, today's fleet is greatly improved—and has a multiyear replacement/financial plan. This comprehensive approach was not easy, but it allowed for a massive turnaround and large-scale win for our operations and assets. Join us for a discussion.

SPEAKER

Melody Coleman, INDOT

MODERATOR

Bill Smith, INDOT

TIME
10:00–10:50 AM

ROOM
STEW 214CD

PDH: 1

119. Creation of Statewide Inventory for INDOT's Retaining Walls

INDOT is implementing its Retaining Wall Inventory Program as part of its Transportation Asset Management Plan. The program was developed in response to observed incidences of deficiencies during construction as well as post-construction performance and maintenance issues. In this session we present the inventory collection process and share thoughts on potential applications of inventory data to improve the methodology for design, construction, and maintenance of retaining walls.

SPEAKERS

Nikhil Khedekar, Resource International, Inc.
Aamir Turk, INDOT
Robert Goldner, CTL Engineering, Inc.
Andrew Bain, WSP

MODERATOR

Bill Smith, INDOT

TIME
1:00–1:50 PM

ROOM
STEW 214CD

PDH: 1

120. Laser Scanners for Monitoring MSE Walls With Precast Panels

This session presents the use of static terrestrial laser scanners to measure the performance of MSE walls with precast panels. Operational and theoretical aspects of the proposed strategy will be discussed.

SPEAKER

Ayman Habib, Purdue University

MODERATOR

Bryan Donze, Kaskaskia Engineering Group, LLC

TIME
2:00–2:50 PM

ROOM
STEW 214CD

PDH: 1

121. The Renewal of I-69 Section 5 CMP Culverts With an Innovative Spray-On Geopolymer Mortar

The construction of the I-69 Section 5 roadway included the rehabilitation of several existing metal and concrete culvert crossings under the SR 37 alignment. The option for replacement for many was deemed impractical during earlier assessment inspections. This presentation explores the use and viability of the trenchless centrifugally cast geopolymer lining option on several of the more deteriorated culverts.

SPEAKER

Dwight Silva, Inland Pipe Rehabilitation

MODERATOR

Bryan Donze, Kaskaskia Engineering Group, LLC

122. Highway Asset Data Collection, Usage, and Management Tools

This session discusses the use of GIS mapping to identify enhanced maintenance operations. ArcGIS online and ESRI application tools are used for data collection, then Excel and Access tabular data are integrated to create layers of data for analysis. Maps and tools for use in budgeting, workload, and capital planning efforts will be presented.

SPEAKER

Craig Hardy, Iowa County Highway Department

MODERATOR

Bryan Donze, Kaskaskia Engineering Group, LLC

TIME
3:00–3:50 PM

ROOM
STEW 214CD

PDH: 1

TIME
4:00–4:50 PM

ROOM
STEW 214CD

PDH: 1

123. Ready Mix Concrete Basics: Keys to a Successful Project

Everybody looks to you for answers—for everything! So when it's time to repair sidewalks or pour new curb and gutter, there is a lot you will need to know about ready mix concrete. In this session ready mix experts cover the terminology and tips from the pros that can make the difference between project success and project failure. After you leave this session, you will have all the tools you need to do the job right.

SPEAKERS

Jerry Larson, Indiana Ready Mixed Concrete Association
Christopher Tull, CRT Concrete Consulting, LLC

MODERATOR

Bryan Donze, Kaskaskia Engineering Group, LLC



TIME
8:00–8:50 AM

ROOM
STEW 278

PDH: 1

124. Build in My Backyard! The Positive Impact of Trails

Build in My Backyard! TOD in Carmel—NIMBY (not in my backyard) attitudes in the United States have shifted over the past decade, particularly in communities that are embracing trails and active living components to attract residents and businesses. Carmel, Indiana, is one such forward-thinking city. This session examines the environmental, social, and economic impacts of trail-oriented development surrounding the Monon Greenway.

SPEAKERS

Neil Myers, V3 Companies
Jeremy Kashman, City of Carmel

The Economic Impact of Trails—It is easy to recognize how trails are important to building local quality of life, but it is more challenging to assess the direct economic benefit of trails. This session examines case studies in Indiana and across the country to summarize how trails result in increased tourism spending, local economic activity, and property values. Strategies for achieving these economic impacts will also be discussed.

SPEAKER

Cory Whitesell, HWC Engineering

MODERATOR

Dan Haake, HDR, Inc.

TIME
9:00–9:50 AM

ROOM
STEW 278

PDH: 1

125. Rail Programs Office Technology Upgrades

This session presents newly developed technologies from the Rail Programs Office for internal and public use to streamline processes and make data easily accessible. Discussion will include the Rail Crossing Locator Map, the Grant Rail Projects (GRIP) system, and the new ArcCollector application developed for code enforcement staff use for railroad crossing inventory updates required by the Federal Railroad Administration.

SPEAKERS

Bridgette Hail, INDOT
Tom Rueschhoff, INDOT
Matt Cook, INDOT

MODERATOR

Dan Haake, HDR, Inc.

TIME
10:00–10:50 AM

ROOM
STEW 278

PDH: 1

126. Leveraging Freight for Economic Development

This presentation starts with an overview of freight planning and implementation strategies then moves on to a conversation about the role of freight in driving Indiana's economic development. To round out the session, we will discuss Whitestown as a case study on how communities can leverage freight to their advantage.

SPEAKERS

Keith Bucklew, HDR, Inc.
Pamela Fisher, INDOT
Dax Norton, Town of Whitestown

MODERATOR

Dan Haake, HDR, Inc.

TIME
1:00–1:50 PM

ROOM
STEW 278

PDH: 1

127. Multimodal Innovation and the Ports of Indiana

Multimodal Innovation: Railroad Partnerships With Barge, Truck, and Warehousing—Freight railroad partnerships with other modes to move freight into and out of Indiana are important for minimizing both transportation costs for businesses and damage to Indiana roads. In this session we discuss how Indiana Rail Road has used public-private partnerships to build an international intermodal facility and warehousing and transloading operations.

SPEAKER

Bob Babcock, The Indiana Rail Road Co.

Ports of Indiana—Ports of Indiana staff will provide an overview of the Ports and its business opportunities for freight, agriculture, and steel industries and a status update on the potential fourth port.

SPEAKERS

Andrea Hermer, Ports of Indiana
Pamela Fisher, INDOT

MODERATOR

Venetta Keefe, INDOT

TIME
2:00–2:50 PM

ROOM
STEW 278

PDH: 1

128. NICTD Westlake and Double Track Update

Northern Indiana Commuter Transportation District (NICTD) is embarking on historical growth of the South Shore Line commuter rail serving downtown Chicago, addressing existing running time and capacity needs and providing an extension of service. The history of the planning approach, the Federal Transit Administration (FTA) process, and engineering/environmental examples will be discussed. Highlights of this presentation include funding, transit-oriented development (TOD), use of National Park Service parkland, and restoration of historical properties.

SPEAKERS

Marty Joyce, HDR, Inc.
Nicole Barker, Northern Indiana Commuter Transportation District

MODERATOR

Venetta Keefe, INDOT



TIME
3:00–3:50 PM

ROOM
STEW 278

PDH: 1

129. Leveraging Bicycle Network Performance and Safe and Equitable Routes

Leveraging Bicycle Network Performance Measures—This session provides an overview of how agencies have leveraged bicycle facility and network performance measures to improve planning and management strategies. Examples of agencies identifying and assessing roadway networks for bicycle facilities by scalable and adaptable methodologies will be presented. In addition, project examples from Ohio regions and Washington, DC, will highlight how agencies have integrated bicycle network data and performance measures to plan for future improvements.

SPEAKER

Kevin Lee, Kittelson & Associates

Safe and Equitable Routes to Parks: Planning and Site Assessments—This session presents lessons learned from Safe Routes to Parks action planning in both Terre Haute and Indianapolis, and how pedestrian safety data and site assessments were used to create safe and equitable access to parks.

SPEAKERS

Alison Redenz, Marion County Public Health Department
Pete Fritz, ISDH

MODERATOR

Venetta Keefe, INDOT

TIME
8:00–8:50 AM

ROOM
FOWLER HALL

PDH: 1

130. Determining the Optimal Traffic Opening Time Using In-Situ NDT for Concrete Monitoring

This session presents a novel NDT (nondestructive testing) method of using a piezoelectric sensor to monitor the strength gain process of concrete to determine the readiness of pavement and structures for service. We will review the current experimental data at the laboratory as well as the field implementation and discuss the correlation between lab data and field results.

SPEAKER

Luna Lu, Purdue University

MODERATOR

Patrick Long, American Concrete Pavement Association

TIME
9:00–9:50 AM

ROOM
FOWLER HALL

PDH: 1

29B. HMA Specification Update

INDOT's HMA specifications and testing procedures went through significant changes for the 2018 construction season. As a result of lessons learned in 2018, INDOT is making some additional changes to the HMA specifications for 2019. This session presents a summary of those changes and what to expect.

SPEAKER

Matt Beeson, INDOT

MODERATOR

Patrick Long, American Concrete Pavement Association

TIME
10:00–10:50 AM

ROOM
FOWLER HALL

PDH: 1

131. Local Roads: Specifications and Scope of Work for Concrete Pavements

The mayor just announced that your city has agreed to upgrade one of its roads to accommodate a new development. Now you have to write concrete pavements specs and develop a scope of work. We can help. In this session, experts review the process of developing specifications for pavement design, mix design, and maintenance of traffic. After this session, you will be able to call on the best resources to build a new road that will last 25+ years and crack only where you decide.

SPEAKERS

Jerry Larson, Indiana Ready Mixed Concrete Association
Christopher Tull, CRT Concrete Consulting, LLC

MODERATOR

Patrick Long, American Concrete Pavement Association

132. Is Today a Good Day to Pave 2? The Laydown

So you are going to pave today—now what? Do you have enough rollers? Is there a tack coat? Is your traffic control in place? 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 that are available to help you make the right decisions on your asphalt-paving project.

SPEAKER

Brian Crume, E&B Paving, Inc.

MODERATOR

Jaymie Hunckler, APAI

TIME
1:00–1:50 PM

ROOM
FOWLER HALL

PDH: 1

TIME
8:00–8:50 AM

ROOM
STEW 214AB

PDH: 1

133. Recap of Lessons Learned on Thin PCC Overlay Projects

Indiana has designed, bid, and built multiple thin fiber-reinforced concrete overlay across the state. This presentation provides a recap of lessons learned from the near 1.5 million sy of thin PCC overlay projects built.

SPEAKERS

Mike Byers, American Concrete Pavement Association
David Holtz, INDOT

MODERATOR

Tommy Nantung, INDOT

TIME
9:00–9:50 AM

ROOM
STEW 214AB

PDH: 1

134. Pavement Designer: A New Web-Based Pavement Design Tool

PavementDesigner.org is a comprehensive new web-based pavement design tool for streets, local roads, parking lots, and intermodal/industrial facilities. This presentation provides a tutorial on design tool components and offers various pavement design examples using those tools.

SPEAKERS

Mike Byers, American Concrete Pavement Association
Eric Ferrebee, American Concrete Pavement Association

MODERATOR

Tommy Nantung, INDOT

TIME
10:00–10:50 AM

ROOM
STEW 214AB

PDH: 1

135. Use of Penetrating Asphalt Emulsions to Address High-Void Pavement Areas

Longitudinal joints are high in air voids due to compaction limitations. Lowering the void content of these areas improves the durability of the pavement. Project data indicate that rapid penetrating emulsion (RPE) fills the voids beneath the surface of the pavement, reducing air and water intrusion while maintaining surface texture, whereas traditional emulsions seal the surface only. Lab tests have been developed to quantify the penetrating ability of an emulsion and resistance to water exposure. Join us for a discussion.

SPEAKERS

Andrew Eicher, Asphalt Materials, Inc.
Curt Higginbotham, Hendricks County

MODERATOR

Tommy Nantung, INDOT

136. IDM Chapter 304 (Pavement Design) Revisions and Updates

Chapter 304 (“Pavement Design”) of the Indiana Design Manual was revised in 2014. Since then, INDOT has implemented many changes and employed new techniques that have been incorporated in a new revised draft version. Changes and updates include pavement design process flow charts, details of thin concrete overlay, catalog design for small structures, MEPDG inputs, and more. Join us for a discussion.

SPEAKERS

Kumar Dave, INDOT
Mitchell Wilcox, Michael Baker International

MODERATOR

Curt Higginbotham, Hendricks County

TIME
1:00–1:50 PM

ROOM
STEW 214AB

PDH: 1

TIME
2:00–2:50 PM

ROOM
STEW 214AB

PDH: 1

137. Asphalt Mixture Performance Testing

Maintaining a balance between performance and economics is critical in today's highly competitive marketplace. Mixture design and production requires proper understanding of mixture performance for rutting and cracking. This session provides an overview of the commonly used mixture performance tests and illustrates how they can be effectively utilized to obtain an optimized and balanced mixture design.

SPEAKER

Shane Buchanan, Oldcastle Materials

MODERATOR

Curt Higginbotham, Hendricks County

TIME
3:00–3:50 PM

ROOM
STEW 214AB

PDH: 1

138. Superpave5: Field Performance and Implementation

This session presents Superpave5 research, including the impact on asphalt content and cost. We will discuss a trial section constructed between 2013 and 2016, the performance evaluation of a 2013 trial section, INDOT plans for Superpave5, and opportunities for local agencies.

SPEAKER

Matt Beeson, INDOT

MODERATOR

Curt Higginbotham, Hendricks County

TIME
4:00–4:50 PM

ROOM
STEW 214AB

PDH: 1

139. Effective Patching Methods and Plan Preparation

INDOT has developed new techniques that are proving to be durable solutions to localized failures. The department is very interested in exploring how its patching tables are being implemented in construction. In this session we present an overview of these newly developed techniques. Most of the session will focus on findings from discussions with INDOT construction personnel who implement the patching tables.

SPEAKERS

Matt Taylor, Parsons Corp.
Kumar Dave, INDOT

MODERATOR

Curt Higginbotham, Hendricks County



TIME
1:00–1:50 PM

ROOM
LOEB THEATER

PDH: 1

140. Rough Roads Ahead?

Have you ever found yourself in the public's crosshairs when it is time to implement a few roadway improvements? Are you handicapped in your ability to describe the true value of community planning and economic development planning? Come hear from one dynamic trio with the ability to identify issues and opportunities that others might not see and work to uncover even more ways in which we are better together.

SPEAKERS

Sarah Reed, City of Noblesville
Brooke Thomas, IndyGo
Jim Hellmann, City of Noblesville

MODERATOR

Katie England, INDOT



TIME
2:00–3:50 PM

ROOM
LOEB THEATER

PDH: 2

141. Utility Coordination Best Practices and Conflict Resolution

Utility Coordination Best Practices—This session introduces INDOT's Central Office Utility Division coordination efforts. We will provide examples and lessons learned along with utility coordination best practices from the perspective of both INDOT and a utility company.

SPEAKERS

William Plant, INDOT
Tim Lawson, INDOT
Cindy Rowland, Duke Energy
Samantha Anderson, INDOT

Strategies for Successful Utility Conflict Resolution—In this session we discuss utility relocation issues from the perspective of the utility, including the challenges faced such as material acquisition, contractor selection, customer notification, systems integration, and time restrictions.

SPEAKERS

Brian Cravens, Ellis Engineering, Inc.
Cindy Rowland, Duke Energy
Adam Lamb, Ellis Engineering, Inc.
Kimberly Pitcher, Smithville

MODERATOR

Katie England, INDOT

TIME
4:00–4:50 PM

ROOM
LOEB THEATER

PDH: 1

142. INDOT/Local Partnerships

This session presents opportunities for INDOT/local government partnership on capital programs projects. Examples of best practices, success stories, and lessons learned will be shared. One highlight is the SR 46/SR 11 interchange project in Columbus, Indiana, where the locals and private business contributed 50% of the project funding (\$15 million) to make the project a reality.

SPEAKERS

Greg Prince, INDOT
David Hayward, City of Columbus
Nick Batta, Crawford Murphy & Tilly, Inc.
Chris Wahlman, INDOT

MODERATOR

Katie England, INDOT

TIME
8:00–8:50 AM

ROOM
PMU 250/FACW

PDH: 1

143. INDOT Final Tracings Review

This session presents a review of requirements for the final tracings submission. We will discuss what INDOT is looking for in this submittal, share common error and omission trends as well as what to look for during final tracings review, and examine recent and upcoming changes to final tracings requirements.

SPEAKERS

Kayti Adams, INDOT
Susan Languell, INDOT
Chris Wahlman, INDOT

MODERATOR

B. Janice Osadczuk, FHWA

TIME
9:00–9:50 AM

ROOM
PMU 250/FACW

PDH: 1

144. ROW Management: INDOT's Expectations From Soup to Nuts

Delivering clear right-of-way for state and local projects requires the administration, scheduling, and coordination of multiple activities. Funding, schedules, fees, LRS data, and real estate services can cause significant bumps in the road. In this session INDOT Real Estate Division experts discuss ROW management expectations, share lessons learned with innovative practices (some the hard way), and provide advance acquisition options.

SPEAKERS

Todd Clift, INDOT
Don West, INDOT
Mark Tidd, INDOT

MODERATOR

B. Janice Osadczuk, FHWA

145. Redefining Engineering Assessment

Recently INDOT removed Chapter 5 ("Engineering Assessment") from the Indiana Design Manual. This chapter was revised by the Scoping Manager Peer Group into the current Scoping Manual. As part of this process, project scoping has been given a new focus to improve project development at INDOT. Join us for a discussion.

SPEAKERS

Paul South, INDOT
Todd Shields, INDOT
Susan Doell, INDOT

MODERATOR

B. Janice Osadczuk, FHWA

TIME
10:00–10:50 AM

ROOM
PMU 250/FACW

PDH: 1

TIME
1:00–1:50 PM

ROOM
PMU 250/FACW

PDH: 1

146. LTAP Data Management Program

There is a new tool available from Indiana LTAP to streamline your asset management plan submission and make approval much quicker. The new program will improve how you submit your asset management plans and your annual operations reports. In this session LTAP staff will be on hand to walk you through the process and provide one-on-one assistance. This is the time to get familiar with the program and ask all of your questions.

SPEAKERS

Richard Domonkos, Purdue University
Patrick Conner, Purdue University

MODERATOR

Louis Feagans, INDOT

TIME
2:00–2:50 PM

ROOM
PMU 250/FACW

PDH: 1

147. Keeping the NEPA Process on Track When Your Project Has Everything

With a new alignment interstate, a major river crossing, and the need for toll-supported financing, the I-69 Ohio River Crossing project touches on a wide range of social, economic, and environmental issues: historic bridges and properties, environmental justice, endangered species, hundreds of potential relocations, and navigation, to name a few. Managing this process and delivering an on-time, reader-friendly NEPA document signed by two states has required aggressive schedule, process, and quality management and coordination with ... everyone. Join us for a discussion.

SPEAKERS

Dan Prevost, Parsons Corp.
Jim Poturalski, INDOT

MODERATOR

Louis Feagans, INDOT

TIME
3:00–3:50 PM

ROOM
PMU 250/FACW

PDH: 1

148. Addressing Economic Resilience in Transportation Decision Making: The Case of Indiana

Economic resilience (ERES) is associated with a region's ability to mitigate the effects shocks and return to normal or improved paths of economic growth. ERES is not typically considered in transportation project appraisals because of the lack of indicators for transportation decision making. In this session we discuss a framework to assess the role of transportation accessibility on economic resilience as well as how this role could be incorporated into transportation decision making.

SPEAKERS

Yue Ke, Purdue University
Davis Chacon-Hurtado, Purdue University
Lisa Lorena Losada Rojas, Purdue University
Konstantina Gkritza, Purdue University
Jon Fricker, Purdue University

MODERATOR

Louis Feagans, INDOT

149. The Surveyor's Toolbox: What's Available for You?

With the rapid advancement of technology in professional surveying and mapping, the surveyor now has many more tools available to complete projects. In this session we discuss the pros and cons of conventional surveying, static scanning, mobile LiDAR, unmanned aerial vehicles (UAVs), and other methods of collecting and processing data valuable to the project designer.

SPEAKERS

Dan Kovert, SJCA, PC
Rod Kelly, Etica
Ryan Swingley, ESP Associates, Inc.

MODERATOR

Louis Feagans, INDOT

TIME
4:00–4:50 PM

ROOM
PMU 250/FACW

PDH: 1

TIME
8:00–8:50 AM

ROOM
STEW 218CD

PDH: 1

150. What Should You Do if OSHA Knocks at Your Door?

So you get the message that OSHA is here to see you. Are you prepared? What are your rights and what are your employees' rights? What will the OSHA inspector want to see? This session provides tips that you can take with you now that will prepare you for before, during, and after the inspection.

SPEAKER

Robert Davidson, Indiana Public Employers' Plan

MODERATOR

Michael Holowaty, INDOT

TIME
9:00–9:50 AM

ROOM
STEW 218CD

PDH: 1

151. Pedestrian Work Zone Safety and the ADA

In this session FHWA and INDOT present technical guidance and best practices for accommodating pedestrians safely and accessibly through and around work zones. Topics will include temporary disability access, barrier installation, and project phasing.

SPEAKERS

Ken Woodruff, FHWA
Rick Drumm, FHWA
Jay Ritter, INDOT

MODERATOR

Michael Holowaty, INDOT

TIME
10:00–10:50 AM

ROOM
STEW 218CD

PDH: 1

152. Safety Improvements for Horizontal Curves

This presentation highlights the progress INDOT has made in improving safety at horizontal curves by upgrading the signing and delineation and by applying high friction surface treatments at some locations. We will also discuss the MUTCD (Manual on Uniform Traffic Control Devices) requirements for signing horizontal curves and the approaching (December 31, 2019) FHWA target date for compliance.

SPEAKERS

Joe Bruno, INDOT
David Boruff, INDOT
Damon Brown, INDOT

MODERATOR

Michael Holowaty, INDOT

153. Temporary Trials for Transportation Safety Projects

Temporary project trials and tactical urbanism are becoming more common in the transportation profession as methods to improve safety, calm traffic, and create a sense of place without committing to expensive construction. Come share ideas and lessons learned as the City of Bloomington, Indiana, discusses a variety of recent efforts, including improving crosswalks, enhancing visibility of stop signs, calming traffic on detour routes, enhancing bicycle boulevards, and more using a toolbox of temporary materials.

SPEAKER

Neil Kopper, City of Bloomington

MODERATOR

Thomas Hall, Purdue University

TIME
1:00–1:50 PM

ROOM
STEW 218CD

PDH: 1

TIME
2:00–2:50 PM

ROOM
STEW 218CD

PDH: 1

154. Focused, Proven Safety That Counts

There are many options when it comes to improving safety on the roads, whether under local or state jurisdiction. FHWA has several safety initiatives: Proven Safety Countermeasures, Focused Approach to Safety, and Every Day Counts. All have had recent updates using better data and improved materials to help make your roads safer for the traveling public. Join us for a discussion.

SPEAKER
Rick Drumm, FHWA

MODERATOR
Thomas Hall, Purdue University

TIME
3:00–3:50 PM

ROOM
STEW 218CD

PDH: 1

155. Indiana's First Local Road Safety Plan

As part of a federal safety initiative, Harrison County, Indiana, LTAP and FHWA worked together to create the first Local Road Safety Plan (LRSP) for an Indiana county. Come hear how this plan was created and how LRSPs can help your local agency save lives on your roads.

SPEAKERS
Kevin Russel, Harrison County
Laura Slusher, Purdue University

MODERATOR
Thomas Hall, Purdue University

TIME
4:00–4:50 PM

ROOM
STEW 218CD

PDH: 1

156. HFST Initiatives by INDOT

In-House Project Design, Special Provision Specification, and Initial Test Results—High-friction surface treatment (HFST) has been proactively utilized as a cost-effective solution to reducing vehicle crashes at curves across the country. As an initiative, INDOT is currently installing HFST at 26 locations statewide, mainly horizontal curves with high crash rates. This session consists of two presentations to share the information on the development, expected benefits, project design, and initial test results based on the HFST at these locations.

SPEAKERS
Shuo Li, INDOT
Prakash Patel, INDOT
Joe Bruno, INDOT

Project Development, Expected Benefit, and Field Experience—High-friction surface treatment (HFST) has been proactively utilized as a cost-effective solution to reducing vehicle crashes at curves across the country. As an initiative, INDOT is currently installing HFST at 26 locations statewide, mainly horizontal curves with high crash rates. This session consists of two presentations to share the information on the development, expected benefits, project design, and initial test results based on the HFST at these locations.

SPEAKERS
Rick Drumm, FHWA
Michael Holowaty, INDOT
Todd Richardson, American Structurepoint, Inc.

MODERATOR
Thomas Hall, Purdue University

TIME
8:00–8:50 AM

ROOM
STEW 310

PDH: 1

157. Advanced Traffic Signal Management and Assessing Freeway Speed Reductions During Rain Events

Maintenance-Focused ATMS Implementation Case Study—This session presents a case study of the implementation of a maintenance-focused advanced traffic signal management system by Elkhart County. We review the incorporated performance measures, procurement and contracting phase, and use of the completed product by county signal operations staff. The product focuses on automated identification of maintenance issues early to reduce user delay and efficiently schedule repairs.

SPEAKERS

Jay Grossman, Valparaiso University
Charles McKenzie, Elkhart County Highway Department

Using Probe Data Analytics for Assessing Freeway Speed Reductions During Rain Events—Rain impacts roadways through wet pavement, standing water, decreased visibility, and wind gusts and can lead to hazardous driving conditions. This study investigates the use of high-fidelity Doppler data at 1 km spatial and 2-minute temporal resolution in combination with commercial probe speed data on freeways. Join us for a discussion.

SPEAKER

William Downing, Purdue University

MODERATOR

Jeremy Grenard, City of Lafayette

TIME
9:00–9:50 AM

ROOM
STEW 310

PDH: 1

158. Case Study of the Dallas I-30 Movable Barrier System

In 1991 a contraflow HOV facility opened on I-30 in central Dallas. Seeking a short-term strategy to increase capacity on the corridor, TxDOT and Dallas Area Rapid Transit collaborated on the implementation of the first contraflow HOV facility to use a movable barrier system in Texas. This presentation provides a detailed case study focused on the decision-making process, qualitative benefits and costs, and lessons learned from the project experience.

SPEAKERS

Laura Huizinga-Barton, Lindsay Corp.
Nick Wood, Texas A&M University

MODERATOR

Jeremy Grenard, City of Lafayette

159. Overview of Available Signal Detection Technologies

This session presents an overview of new technology for stop bar detection at traffic signals, including new single fish-eye camera systems, in-pavement magnetometers, radar, and thermal systems, to familiarize traffic operations staff with available and emerging technologies.

SPEAKER

Jay Grossman, Valparaiso University

MODERATOR

Jeremy Grenard, City of Lafayette

TIME
10:00–10:50 AM

ROOM
STEW 310

PDH: 1

TIME
1:00–1:50 PM

ROOM
STEW 310

PDH: 1

160. Truck Parking Information Management System Update

This session provides a construction and go-live update on the Truck Parking Information Management System (TPIMS). Safe, convenient parking is essential for long-haul truck drivers, the lifeblood of our freight transportation network. Yet drivers often struggle for up to an hour each day to find areas to safely rest. That's why eight states—Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Ohio, and Wisconsin—have joined together to develop this real-time, multistate system.

SPEAKERS

Benjamin Fischer, INDOT
Ryan Elliott, AECOM
Gretchen Ivy, HNTB Corp.
Donna Luley, INDOT

MODERATOR

Brad Steckler, INDOT

TIME
2:00–2:50 PM

ROOM
STEW 310

PDH: 1

161. Temporary Traffic Control for Local Roads: Planning and Design

Managing traffic during road construction can be a challenge for our local agencies and the public. It is all about good planning and communication. This session covers the basics of good planning and design for temporary traffic control on our local roads. Become familiar with the MUTCD (Manual on Uniform Traffic Control Devices) and learn to use it as a reference for designing temporary traffic control plans.

SPEAKER

Todd Morrison, University of Kentucky

MODERATOR

Brad Steckler, INDOT

TIME
3:00–3:50 PM

ROOM
STEW 310

PDH: 1

162. Thinking Outside the Box With Portable Traffic Signals

Portable traffic signals have been proven to dramatically increase work zone safety as well as improve overall traffic efficiency. But sometimes an application has unique circumstances that require special consideration. Heavy pedestrian traffic, driveways within a work zone, roundabouts, and more can complicate the design process. This presentation examines specific case studies and discusses how portable traffic signals have been used in unique ways. Special components and system capabilities will also be covered.

SPEAKERS

Chris Blair, Horizon Signal Technologies
Jeremy Grenard, City of Lafayette

MODERATOR

Brad Steckler, INDOT



TIME
4:00–4:50 PM

ROOM
STEW 310

PDH: 1

163. Temporary Traffic Control for Local Roads

Temporary Traffic Control for Local Roads: Setup and Removal—Managing traffic during road construction can be a challenge for our local agencies and the public. It is all about good planning and communication. One of the most dangerous activities during the temporary traffic control process is setting up and taking down the traffic control devices. Join us to become familiar with the MUTCD (Manual on Uniform Traffic Control Devices) and learn the best practices and safe procedures for our work crews and the public.

Temporary Traffic Control for Local Roads: Managing the Jobsite—Managing traffic during road construction can be a challenge for our local agencies and the public. It is all about good planning and communication. Often we are working in a narrow jobsite with both construction traffic and the public in close proximity to our work crews. Join us to become familiar with the MUTCD (Manual on Uniform Traffic Control Devices) and learn the best practices and safe procedures for our work crews and the public.

SPEAKER
Todd Morrison, University of Kentucky

MODERATOR
Brad Steckler, INDOT

TIME
1:00–3:00 PM

ROOM
INDIANAPOLIS
CONVENTION
CENTER
ROOM 238

PDH: 2

164. Making Cents of Platooning: What's Coming?

Driver-assisted truck platooning improves driver teamwork, enhanced safety, and fuel economy. A panel of industry, policy, and research leaders share what is current in platooning for Class 8 trucks. Join us to learn about the expected impact on fleets, drivers, and transportation systems.

SPEAKERS
Greg Shaver, Purdue University
Steven Boyd, Peloton Technologies
Mike Roeth, NACFE

MODERATOR
Elizabeth Hagerman, Conexus Indiana



TIME
9:30–10:30 AM

ROOM
INDIANAPOLIS
CONVENTION
CENTER
ROOM 238

PDH: 1

97B. Indiana Statutes and Rules for Professional Engineers

This session presents an updated discussion of the Indiana Code and Indiana Administrative Code applied to the practice of engineering. We will cover the following topics: changes to steps for 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; and the process for becoming a member of the board.

SPEAKER & MODERATOR
Vincent Drnevich, Purdue University

TIME
10:30–11:30 AM

ROOM
INDIANAPOLIS
CONVENTION
CENTER
ROOM 238

PDH: 1

98B. Ethics and the Practice of Engineering and Surveying

This session presents 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.

SPEAKER & MODERATOR
Vincent Drnevich, Purdue University

165. LTAP Fleet Educational Program: The Blizzard of 2039

Winter maintenance equipment and operations have changed a lot over the last 20 years. We have seen the greatest impact with the introduction of electronic controls, liquid deicers, and global positioning systems. No one knows for sure what our industry will look like 20 years from now, but if we want to be prepared to meet tomorrow's demands, the planning should begin today. Come take part in the discussion about what the Blizzard of 2039 may look like.

SPEAKER & MODERATOR
Richard Domonkos, Purdue University

TIME
9:30–11:30 AM

ROOM
INDIANAPOLIS
CONVENTION
CENTER
ROOM 240

PDH: 2



EXHIBITORS

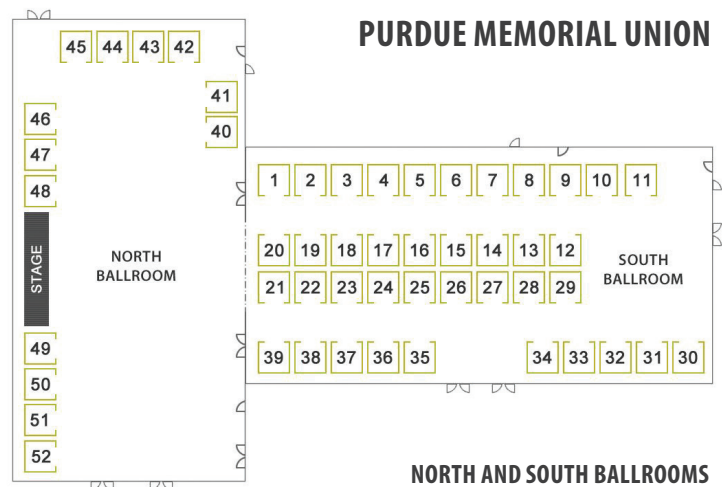
EXHIBITORS LISTED BY NAME

- 36 3M
- 14 Acrow Corp. of America
- 40 American Structurepoint, Inc.
- 44 Amtrak
- 30 ASC Group, Inc.
- 39 Asphalt Pavement Association of Indiana
- 50 Asphalt Registration Services
- 19 Avery Dennison
- 33 Blood Hound
- 47 Brown Equipment Co.
- 35 Burgess Niple, Inc.
- 42 Cargill Road Safety
- 11 CHA Consulting, Inc.
- 2 Ciorba Group, Inc.
- 7 Collins Engineers, Inc.
- 29 Contech Engineered Solutions
- 43 CountryMark
- 38 D2 Land & Water Resource, Inc.
- 16 Data Transfer Solutions, LLC
- 13 Ennis-Flint
- 34 Equipment Marketing Co.
- 24 Fleis & VandenBrink
- 52 The Fort Miller Co., Inc.
- 23 GAI Consultants, Inc.
- 6 Gallagher Asphalt Inc.
- 28 GeoStabilization International
- 45 Globe Asphalt Paving Co., Inc.
- 41 Hanson Professional Services
- 4 Highway Safety Specialists
- 20 The Hoosier Co.
- 9 Hydro Technologies Inc.
- 5 IKO Concrete Pipe Association
- 1 IMI
- 17 International Municipal Signal Association (IMSA)
- 12 KSE Testing Equipment
- 46 K-Tech Specialty Coatings, Inc.
- 48 MGI Traffic Control Products

EXHIBITORS

EXHIBITORS LISTED BY NAME

- 27 Milliken Infrastructure Solutions
- 37 Motz Enterprises, Inc.
- 26 National Gunite
- 21 Osburn Associates, Inc.
- 3 Parsons
- 32 Primera Engineers, Ltd.
- 22 Reading Rock, Inc.
- 51 Redi-Rock
- 18 Resource International, Inc.
- 15 Roadsoft-Michigan Tech University
- 8 Roadway Bioseal, LLC
- 10 SealMaster Indy
- 49 Sherwin Industries, Inc.
- 25 United Consulting
- 31 Winter Equipment



EXHIBITORS



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STRUCTUREPOINT
INC.



ASC
GROUP, INC.

EXHIBITORS



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EQUIPMENT
COMPANY

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 **READING ROCK**
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Rii

 **Roadsoft**

EXHIBITORS

 **ROADWAY BIOSEAL**

SealMaster

Pavement Products & Equipment

 **Sherwin Industries, Inc.**

 **UNITED**
Consulting

 **WINTER**

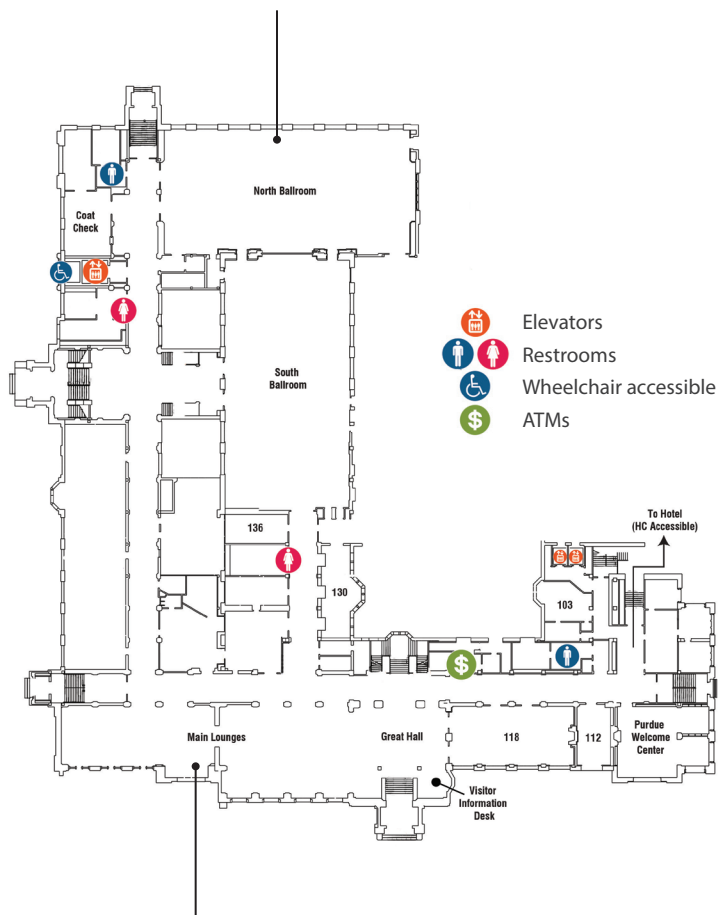
PURDUE MEMORIAL UNION, FIRST FLOOR

- 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

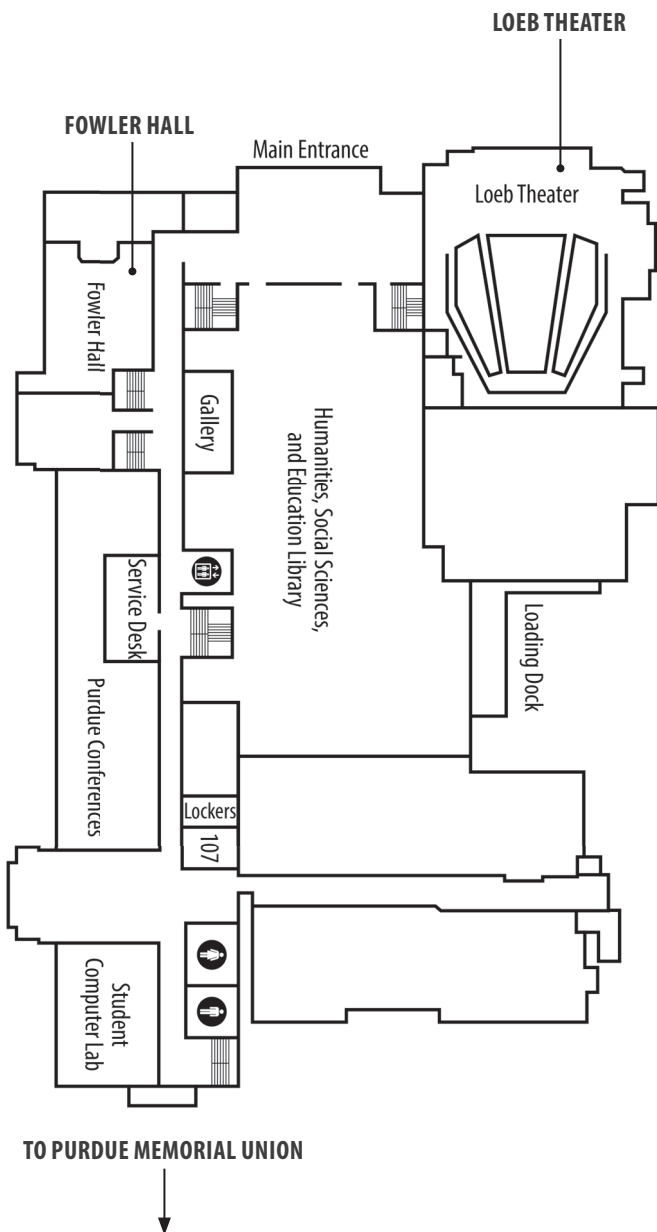
- Technical sessions



PMU 250 & 240

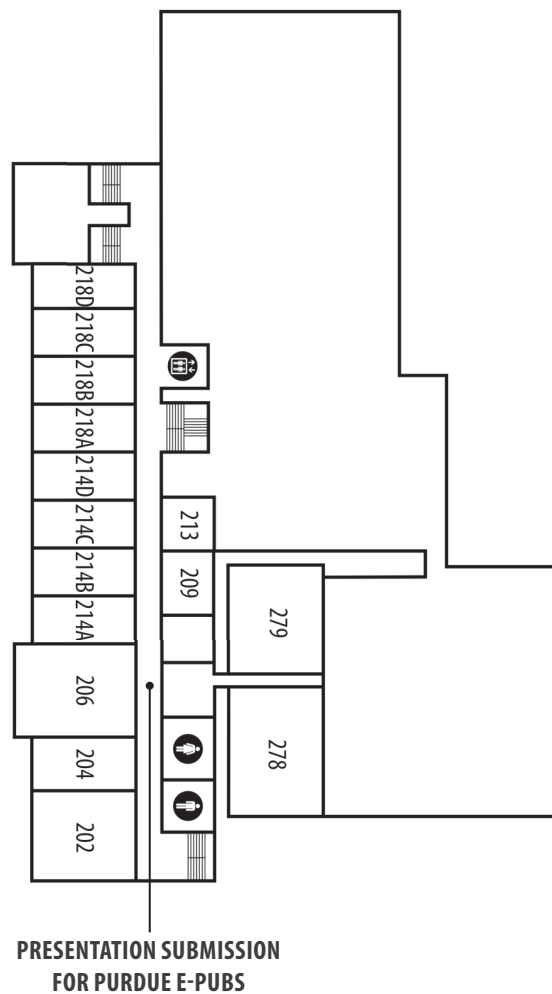
STEWART CENTER, FIRST FLOOR

- Opening session
- Technical sessions



STEWART CENTER, SECOND FLOOR

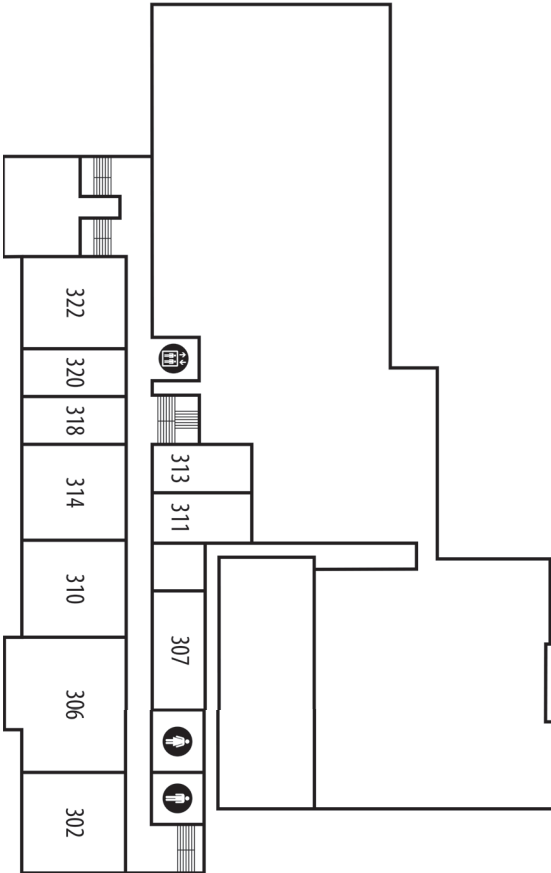
- Technical sessions
- Presentation submission for Purdue e-Pubs



MAPS

STEWART CENTER, THIRD FLOOR

- **Technical sessions**
- **LTAP room**





Purdue Road School

2019 Exhibitors

- 3M
- Acrow Corp. of America
- American Structurepoint, Inc.
- Amtrak
- ASC Group, Inc.
- Asphalt Pavement Association of Indiana
- Asphalt Registration Services
- Avery Dennison
- Blood Hound
- Brown Equipment Co.
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- Roadway Bioseal, LLC
- SealMaster Indy
- Sherwin Industries, Inc.
- United Consulting
- Winter Equipment