

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

## Transportation Conference & Expo



March 14 & 15, 2023

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# TUESDAY

## SCHEDULE OF EVENTS

# Opening Session

**Tuesday, 9:30–10:30 AM**

**Loeb Theater, Stewart Center**

### **WELCOME**

**Karen Plaut**

Executive Vice President for Research, Purdue University

### **FIRESIDE CHAT**

**Eric Holcomb**

Governor, State of Indiana

**Michael Smith**

Commissioner, Indiana Department of Transportation

**Chris Jensen**

Mayor, City of Noblesville

**Richard Hedgecock**

President, Indiana Constructors, Inc.



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

# EXHIBITOR VISIT & LUNCH

## SCHEDULE OF EVENTS

### VISIT WITH THE EXHIBITORS

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**Tuesday & Wednesday, 8:00 AM–5:00 PM**  
**North & South Ballrooms, Purdue Memorial Union**

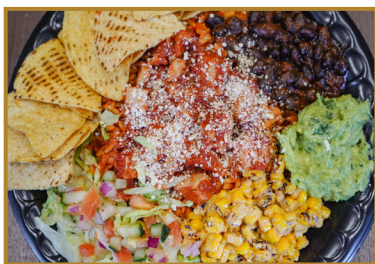
While visiting with our exhibitors, you can also enjoy a continental breakfast in the morning and desserts in the afternoon.

### EXHIBITOR LUNCHEON

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**Tuesday & Wednesday, 11:00 AM–2:00 PM**  
**North & South Ballrooms, Purdue Memorial Union**

Provided by our exhibiting partners, lunch will be served buffet style from the PMU Commons (lower level of Purdue Memorial Union). We encourage our attendees to visit the exhibit hall in the North and South Ballrooms for dessert.



Tuesday Lunch - Taco Salad/Nacho Bar



Wednesday Lunch - BBQ Buffet

# OTHER EVENTS

## OTHER ROAD SCHOOL EVENTS

### STUDENT POSTER SESSION

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

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

### INDIANA LTAP

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Visit Indiana LTAP in the Purdue Memorial Union, room 118 near registration, to receive a free print copy of LTAP's 2023 Directory of Indiana State, County, City, and Town Officials as supplies last. The directory is also available in Excel format and as a phone and desktop app. Visit <https://www.purdue.edu/inltap/> for more information.

The LTAP staff will also be available to walk you through our Learning Management System, our Road Scholar program, and other free resources for local agencies.

Vote for the first annual Indiana Transportation Innovators People's Choice Award on Tuesday. Look for booklets with this year's entries and voting information at the registration desk and in the LTAP room. Please visit the Indiana Transportation Innovators booth in the Indiana LTAP room with your questions or to cast your vote by paper. Voters receive a complimentary cookie.

### ITE INDIANA ROAD SCHOOL DINNER / BANQUET

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**Wednesday, 5:00–7:00 PM**  
**Discovery Learning Research Center, Room 131**  
**207 S Martin Jischke Dr**  
**West Lafayette, IN 47907**

For more information and to register, please visit <http://www.indianaite.org/meetinginfo.php>.

MARCH 9, 2023

# THURSDAY

## ETHICS

**TIME**  
1:00-2:00 PM

**ROOM**  
INDIANA  
CONVENTION  
CENTER

**PDH: 1**

**122A. Indiana Statutes and Rules for Professional Engineering Licensure**

This session will explain the Indiana Code versus the Indiana Administrative Code; selected statutes and rules applied to the practice of engineering; registration by comity; registrant’s seal; computer-based testing for FE and PE exams; rules for continuing education, audits, board structure; and threats to professional licensure.

**SPEAKER**  
Tim Jensen, The Veridus Group

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**TIME**  
2:00-3:00 PM

**ROOM**  
INDIANA  
CONVENTION  
CENTER

**PDH: 1**

**123A. Ethics for Professional Engineers**

This presentation will provide participants with an overview of ethics, how they are formed, and how, as professional engineers, we use them to make decisions in every situation.

**SPEAKER**  
Tim Jensen, The Veridus Group

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**TIME**  
11:00-11:50 AM

**ROOM**  
STEW 206

**PDH: 1**

**1. Performance of an Instrumented MSE Bridge Abutment Wall**

INDOT recently completed the construction of an MSE wall bridge end bent located at the interchange of I-65 and CR 550S in Boone County. The MSE wall was instrumented with an array of sensors (e.g., earth pressure cells, strain gauges, and inclinometers) for measuring in-situ stresses, strains, and deflections. The results obtained from the sensors will be presented and compared with predictions obtained from MSE wall design methods reported in the literature.

**SPEAKERS**

Peter Becker, INDOT  
Monica Prezzi, Purdue University  
Abhishek Sakleshpur, Purdue University

**MODERATOR**

Stephanie Wagner, INDOT

**TIME**  
12:00-12:50 PM

**ROOM**  
STEW 206

**PDH: 1**

**2. An Innovation for Building Reinforced Concrete Bridges**

Pre-casting concrete for bridges has its limitations and that is why we still build many onsite bridge casts. The InQuik Bridge System was developed to give the benefit of offsite fabrication, whilst being fully cast onsite. The system provides prefabricated formwork and reinforcement, while the components are fully self-supporting, placed into position onsite, tied together, and filled with concrete in a matter of days. Over 170 bridges have been built since the introduction of this innovation.

**SPEAKER**

Keith Plokhoy, InQuik Inc.

**MODERATOR**

Stephanie Wagner, INDOT

# TUESDAY

## BRIDGES

**TIME**  
1:00-1:50 PM

**ROOM**  
STEW 206

**PDH: 1**

### 3. US 36 Bridge Replacement Case Study

This session presents a case study on the replacement of the US 36 WBL Bridge in Avon, IN. The project required complex MOT for the heavily traveled roadway, several nearby intersections, and two trail crossings in the project area. During project development, a bank failure nearby required modifications to the trail beneath the bridge, and another trail constructed in the area required additional design modifications. Significant coordination with Avon and INDOT was required for successful project delivery.

#### SPEAKERS

Randall Brooks, RQAW Corporation  
Richard Gilyeat, INDOT  
Rose Walther, RQAW Corporation

#### MODERATOR

Anne Rearick, INDOT

**TIME**  
2:00-2:50 PM

**ROOM**  
STEW 206

**PDH: 1**

### 4. NEXT Beams on County Bridges

The Northeast Extreme Tee (NEXT) beam cross section was developed by the Northeast Chapter of PCI as an alternative to adjacent box beams in the 45-ft to 90-ft span ranges. The first bridge constructed with these new beams opened in York, Maine in November 2010, and INDOT presented the concept of these new beams at the Bridge Design Conference in 2016. INDOT is currently moving forward with three design projects to demonstrate the applications of these new beam shapes, which will be an additional alternative for short-to mid-span bridges across the state.

#### SPEAKER

Michael McCool, Beam, Longest and Neff, LLC

#### MODERATOR

Anne Rearick, INDOT

MARCH 14, 2023

# TUESDAY

## BRIDGES

**TIME**  
3:00-3:50 PM

**ROOM**  
STEW 206

**PDH: 1**

### 5. Load Rating Arch Structures and Metal Pipes

This presentation will walk through sample load rating evaluations for a reinforced concrete arch and a metal pipe structure underfill. The reinforced concrete arch load rating evaluation will be performed using Culvert ANalysis and Design (CANDE), which will compare and contrast the results with a MIDAS model. A spreadsheet example for load rating metal pipe structures will be shared, and future plans about the development of AASHTOWare BrR load ratings modules for underfill structures will also be discussed.

#### SPEAKERS

Amy Huebschman, EMCS  
Chris Andrzejewski, United Consulting  
Jennifer Hart, INDOT

#### MODERATOR

Anne Rearick, INDOT

**TIME**  
4:00-4:50 PM

**ROOM**  
STEW 206

**PDH: 1**

### 6. Beauty and the Bridge

Over 65,000 vehicles per day use the US 20/US 31 interchange in South Bend. The bridge has suffered multiple truck hits due to low vertical clearance over US 31. Ciorba was tasked with designing options to improve the vertical clearance by over 1'. In conjunction with this objective, the city sought beautification enhancements to the structure. We will review the several renditions that were produced during the city's search to fund the beautification.

#### SPEAKERS

Brett Sauter, Ciorba Group  
Andrew Borden, INDOT

#### MODERATOR

Anne Rearick, INDOT



TIME  
11:00-11:50 AM

ROOM  
FOWLER HALL

PDH: 1

7. Flood Risk Data for Highway Projects

This presentation will provide project managers and engineers with a clear understanding of available FEMA Risk MAP flood hazard data to better inform project design. This presentation will broadly define flood risk, review the FEMA flood risk database as a source of risk parameters, contrast the regulatory Special Flood Hazard Area (SFHA) with Risk MAP depth and probability grids, and highlight the variability of risk within the SFHA.

SPEAKER  
Nabil Ghalayini, WSP USA, Inc.

MODERATOR  
Lisa Ridge, Monroe County

TIME  
1:00-2:50 PM

ROOM  
FOWLER HALL

PDH: 2

8. INDOT Post-Construction Stormwater Management Update

INDOT released a design memo and a guidance document in the fall of 2022 as its first step in implementing IDEM’s Construction Stormwater General Permit (CSGP) requirement for post-construction stormwater measures when a project adds an impervious surface. This presentation will provide a project update that includes measure design, submittal, review, supporting draft documents, and other implementation information.

SPEAKERS  
Jessica Eichhorst, HNTB Corporation  
Sandra Bowman, INDOT

MODERATOR  
Jason Lowther, INDOT

**TIME**  
3:00-3:50 PM

**ROOM**  
FOWLER HALL

**PDH: 1**

**9. Hart Ditch Two-Stage Improvement Project**

This presentation outlines the process of excavating approximately 14 acre-feet of storage and reshaping the banks along Hart Ditch in Dyer. The banks had severe erosion issues and the surrounding area was susceptible to flooding. Following the project’s completion, the base flood elevation was reduced by 0.8 feet locally. The improvements made included planting 400 trees and 1,100 shrubs to enhance the water quality, providing an aesthetically pleasing site adjacent to the town hall, and providing a demonstration project for the nearby schools.

**SPEAKERS**  
Thomas Burke, Christopher B. Burke Engineering, Ltd.  
William Emerson, Lake County  
Bryan Lane, Town of Dyer

**MODERATOR**  
Jason Lowther, INDOT

**TIME**  
4:00-4:50 PM

**ROOM**  
FOWLER HALL

**PDH: 1**

**10. MSE Retaining Walls: Design and Construction Issues**

MSE walls are robust with redundancy in terms of connection, reinforcement strength, length requirements, and external stability requirements. However, a host of performance issues can occur when they are not designed or built properly. This presentation will highlight certain issues that should be considered during the design and construction of MSE walls.

**SPEAKER**  
Malek Smadi, GEOTILL Inc.

**MODERATOR**  
Jason Lowther, INDOT

# TUESDAY

## DESIGN/CONSTRUCTION

**TIME**  
1:00-1:50 PM

**ROOM**  
STEW 302

**PDH: 1**

### 11. Best Practices for Storm Pipe Installation

This session teaches how properly adhering to DOT standards for pipe installation will increase infrastructure longevity and value by reducing potential failures and decreasing maintenance costs. Attendees will gain an understanding of the differences between the installation of flexible and rigid culverts at the city, county, and state levels. This session empowers specifiers, designers, inspectors, and installers to ensure existing and upcoming pipe projects adhere to specified standards.

**SPEAKER**  
Donald McNutt, American Concrete Pipe Association

**MODERATOR**  
Daniel Saldivar-Carranza, Purdue University

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**TIME**  
2:00-2:50 PM

**ROOM**  
STEW 302

**PDH: 1**

### 12. INDOT Hydraulics: Design Guidance

This presentation answers common questions about infiltration design. When do I need a bridge scour? When is a hydraulic analysis required? What to do when I have a cover issue or when the proposed structure size is significantly larger than the existing structure? Come explore these questions with us.

**SPEAKERS**  
Mark Bailey, INDOT  
Jim Emerick, INDOT  
Alex Schwinghamer, INDOT

**MODERATOR**  
Daniel Saldivar-Carranza, Purdue University

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# TUESDAY

## DESIGN/CONSTRUCTION

**TIME**  
3:00-3:50 PM

**ROOM**  
STEW 302

**PDH: 1**

### 13. The Write Stuff

This presentation will help project managers and designers prepare the information required for Department contracts that involve standard specifications and special provisions. Participants will be exposed to examples of both the right and wrong way to present a Unique Special Provision and be given helpful tips for navigating the new Sharepoint review process. This presentation will also assist Subject Matter Experts with their review of the USPs.

**SPEAKER**  
Scott Trammell, INDOT

**MODERATOR**  
Daniel Saldivar-Carranza, Purdue University

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**TIME**  
4:00-4:50 PM

**ROOM**  
STEW 302

**PDH: 1**

### 14. Complete Streets Assessment of High-Volume Urban Arterial

Even on arterial roads that historically have not contained pedestrian and bicycle features, complete streets are a vital consideration. On Meridian Street between the White River and 96th Street, Indianapolis is installing two new traffic signals, traffic calming pavement markings, pedestrian signals, and several pedestrian refuges. This project will provide much-needed pedestrian and cycling crossing improvements to a stretch of road that has been a barrier to connectivity for its thousands of local users.

**SPEAKERS**  
Kevin Hetrick, Clark Dietz, Inc.  
Jordan Williams, Indianapolis DPW

**MODERATOR**  
Daniel Saldivar-Carranza, Purdue University

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TIME  
1:00-1:50 PM

ROOM  
STEW 306

PDH: 1

15. Implementing Innovative MOT Strategies

The traveling public is demanding increased mobility but displaying less tolerance for delays, increased travel times, and inconvenience because of congestion. This is forcing designers to become more creative with the maintenance of traffic (MOT) during construction. This presentation will highlight some innovative strategies to add to the MOT toolbox, including freeway realignment, the use of interchange ramps to divert traffic, and even new interchange configurations. These examples will be highlighted through several case study examples.

SPEAKER  
Brian Toombs, Burgess & Niple, Inc.

MODERATOR  
Dana Plattner, INDOT

TIME  
2:00-2:50 PM

ROOM  
STEW 306

PDH: 1

16. Value-Added Geotechnical Solutions at a Peat Bog

SR 26 at CR 200E in Blackford County was constructed over a 40-ft deep peat bog. Continual settlement had been a challenge, leading to substandard vertical curves and drainage issues. Geotechnical analysis and hydraulic modeling in conjunction with county input and cooperation resulted in a unique culvert mat foundation requiring little profile grade-raise on SR 26. The design decisions resulted in project delivery of less than half of INDOT’s budget and a significantly reduced life-cycle cost.

SPEAKERS  
Mike Wigger, Terracon  
Kevin Hetrick, Clark Dietz, Inc.  
Joann Wooldridge, INDOT

MODERATOR  
Dana Plattner, INDOT

TIME  
3:00-4:50 PM

ROOM  
STEW 306

PDH: 2

17. Construction of MSE Walls  
for INDOT Projects

Due to their lower costs, Mechanically Stabilized Earth (MSE) walls have become the preferred type of retaining structure by transportation agencies across the United States. However, costs associated with the repair or reconstruction of poor-performing MSE walls can outweigh their initial cost savings. Therefore, MSE walls must be properly constructed in accordance with agency specifications and manufacturer guidelines. This presentation outlines the requirements and best practices involved with constructing MSE walls for INDOT projects.

SPEAKER  
Peter Becker, INDOT

MODERATOR  
Dana Plattner, INDOT

TIME  
1:00-1:50 PM

ROOM  
WTHR 200

PDH: 1

18. Nearing the I-69 Finish Line

The construction of the I-69 Finish Line from Martinsville to Indianapolis is both the newest interstate in the nation and INDOT’s largest project under construction. The presentation of this \$2B construction project will include a summary of construction quantities, workforce demands and staffing, public involvement efforts, and the path to a 2024 completion. This presentation will include photos, videos, and drone footage of ongoing and completed construction.

SPEAKERS  
Tim Miller, HNTB Corporation  
Sarah Rubin, INDOT

MODERATOR  
Lyndsay Quist, INDOT

TIME  
2:00-2:50 PM

ROOM  
WTHR 200

PDH: 1

19. Introduction to INDOT Construction Compliance

Doing business with INDOT on construction contracts involves complying with numerous state and federal laws and INDOT specifications and contract requirements. As part of the INDOT Legal Department’s 2023 strategic plan, the agency is reviewing all areas of compliance and working to produce administrative policy directives that explain the requirements of each rule and regulation. This presentation will provide an overview of INDOT construction compliance, including a review of the specific requirements of the most commonly used regulations. Discussion time will be available so that vendors and government stakeholders can ask questions and express their opinion on INDOT construction compliance.

SPEAKERS

Christopher Serak, INDOT  
Melissa Beaucaire, INDOT  
Crystal Weaver, INDOT

MODERATOR

Lyndsay Quist, INDOT

TIME  
3:00-3:50 PM

ROOM  
WTHR 200

PDH: 1

20. Utility Coordination Conflict Analysis Best Practices

This presentation unpacks best practices for determining utility conflicts with various types of transportation projects.

SPEAKERS

Holliston Huhn, Parsons  
Matthew Witt, INDOT  
Katie Olson, HNTB Corporation

MODERATOR

Lyndsay Quist, INDOT

# TUESDAY

## DESIGN/CONSTRUCTION

**TIME**  
4:00-4:50 PM

**ROOM**  
WTHR 200

**PDH: 1**

### 21. Planning for Pedestrians and Bicyclists During Construction Projects

This session will explore how the Texas Department of Transportation Waco District addressed pedestrian/bicyclist safety and mobility during a multi-year construction project along I-35. This presentation will demonstrate the value of online tools, field implementations, and data collection. Attendees will learn the value of assembling a stakeholder steering committee; counting pedestrian and bicyclists before, during, and after construction; effectively using pavement clings; and using a webpage dedicated to pedestrian/bicyclist updates.

**SPEAKER**  
John Habermann, Texas A&M Transportation Institute

**MODERATOR**  
Lyndsay Quist, INDOT

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**TIME**  
1:00-1:50 PM

**ROOM**  
STEW 218 CD

**PDH: 1**

**22. Economic Development and Business Panel**

Join for a panel discussion about the cross section between research and data, strategic planning, and economic development. HNTB, INDOT, the Indiana Chamber, and the IEDC will share how each entity provides expertise and leverages the knowledge of others to ensure Indiana remains the Crossroads of America in an ever-evolving landscape.

**SPEAKERS**

Joe Guerre, HNTB Corporation  
Danielle Judin, INDOT  
David Ober, Indiana Chamber of Commerce  
Mark Wasky, IEDC

**MODERATOR**

Bryce Carpenter, Conexus

**TIME**  
2:00-2:50 PM

**ROOM**  
STEW 218 CD

**PDH: 1**

**23. Excise Fuel Tax Refund: Program Overview**

Join us for a discussion about preparing claims with panel representatives from the Porter County Highway Department. This presentation will begin with an overview of the program administered by the Indiana Department of Revenue and then followed by “real-world” county, city, and town experiences. We will conclude with a big-picture view that describes the effects of claiming on the annual MVH funds and refunds distributed between the general and highway funds.

**SPEAKERS**

Charles Malinowski, Malcon Malinowski Consulting, Inc.  
Jim Polarek, Porter County

**MODERATOR**

Bryce Carpenter, Conexus

MARCH 14, 2023

# TUESDAY

## FINANCE/ADMINISTRATION

**TIME**  
3:00-3:50 PM

**ROOM**  
STEW 218 CD

**PDH: 1**

**24. Federal Project Management:  
Competitive Grants/Local Federal Aid**

Managing more money means having more money to lose. This session will help you identify when a project might lose its eligibility for federal funds. We also explain managing capital projects, including discussions on the new federal act (BIL), competitive grants, federal performance end dates, inactive project funds, and other important factors for managing the federal resources of your projects.

**SPEAKERS**  
Jeremy Bartell, FHWA  
Paul Reed, INDOT  
Mike Hopper, INDOT

**MODERATOR**  
Bryce Carpenter, Conexus

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# TUESDAY

## LOCAL AGENCY

**TIME**  
12:00-12:50 PM

**ROOM**  
KRAN G016

**PDH: 1**

### 25. Marketing for Government Agencies

It has never been more important for agencies to communicate with their audiences. This session will provide basic principles of communication and how people are driven to action. Participants will leave with several practical techniques for improving your agency's communications and ways to better connect with the people most important to you. You will also learn a better alternative to the dreaded elevator speech.

**SPEAKER**  
Kevin Elliott, Applied Research Associates

**MODERATOR**  
Hardik Shah, American Structurepoint

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**TIME**  
1:00-1:50 PM

**ROOM**  
KRAN G016

**PDH: 1**

### 26. Economic Development and Infrastructure

This presentation will cover how the developments on the Olivo Road Corridor have affected Hancock County's roadway deterioration and construction, revenue and funding, and public involvement.

**SPEAKERS**  
Gary Pool, Hancock County  
Gary McDaniel, Hancock County

**MODERATOR**  
Hardik Shah, American Structurepoint

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TIME  
2:00-2:50 PM

ROOM  
KRAN G016

PDH: 1

**27. Best Practices and Lessons Learned from Federal Discretionary Projects**

Join us for an overview of what has been learned by FHWA, INDOT, and local public agencies on the management of recently approved RAISE grant projects.

**SPEAKERS**

Kathy Eaton-McKalip, INDOT  
Jay DuMontelle, FHWA  
Dustin Anderson, Town of Munster

**MODERATOR**

Hardik Shah, American Structurepoint

TIME  
3:00-3:50 PM

ROOM  
KRAN G016

PDH: 1

**28. Is Your Municipality Prepared for Electric Vehicles?**

This session will cover many common questions about electric vehicles (EVs) that many cities and towns ask. What are the different charger types? Where do EV charging stations fall in our zoning guidelines? Are there public safety considerations with charging stations? Should we electrify our fleets? Are there funding opportunities for any of this? What can we do to be prepared? Join us as we answer these questions and more.

**SPEAKERS**

Peter Flynn, HNTB Corporation  
Diane Newton, HNTB Corporation  
Kerri Garvin, Greater Indiana Clean Cities, Inc.  
John Haddock, Purdue University

**MODERATOR**

Hardik Shah, American Structurepoint

MARCH 14, 2023

# TUESDAY

LOCAL AGENCY

TIME  
4:00-4:50 PM

ROOM  
KRAN G016

PDH: 1

**29. Maintaining Pavement Marking Retroreflectivity**

On August 5, 2022, the FHWA published a final rule in the federal register adding new provisions to the MUTCD relating to maintaining minimum levels of pavement marking retroreflectivity. This session will answer the following questions. What are the new requirements? What are the methods for maintaining pavement marking retroreflectivity? What is INDOTs approach to maintaining pavement marking retroreflectivity?

**SPEAKERS**

Karen Stippich, FHWA  
David Boruff, INDOT  
Laura Slusher, Purdue University

**MODERATOR**

Hardik Shah, American Structurepoint

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# TUESDAY

## MAINTENANCE & OPERATIONS

**TIME**  
1:00-1:50 PM

**ROOM**  
STEW 218 AB

**PDH: 1**

**30. Think Outside the Pothole:  
Spray Injection Road Repair**

There are over 200 Spray Injection Patchers repairing the streets and highways in Indiana. Many counties and cities use these machines to make permanent pavement repairs, and INDOT has 19 machines working statewide. However, many of these users are just scratching the surface of what can be accomplished with this type of repair method. This session will teach users how to use permanent repairs to save more roads for less money.

**SPEAKER**  
Cliff Dickehut, Equipment Marketing Company

**MODERATOR**  
Zach Beasley, Tippecanoe County

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**TIME**  
2:00-2:50 PM

**ROOM**  
STEW 218 AB

**PDH: 1**

**31. The Use of Polymers for Concrete  
Restoration and Rehabilitation**

Kwik Bond Polymers is celebrating 40 years as a manufacturer and supplier of polymer-based products that restore and rehabilitate concrete surfaces. We have recently developed and introduced HCSC, a direct alternative to UHPC, which can be mixed and placed by a local contractor at a fraction of the cost. Come learn more about this new cost-saving product.

**SPEAKER**  
Bobby Scarpitto, Kwik Bond Polymers

**MODERATOR**  
Zach Beasley, Tippecanoe County

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**TIME**  
3:00-3:50 PM

**ROOM**  
STEW 218 AB

**PDH: 1**

**32. Exploration of Engineering Design Methods for Cementitious Spray Applied Liner Systems**

Over the past decade, cementitious spray-applied mortar linings have gained increasing popularity in Indiana and the nation due to their competitive cost structure for large diameter pipe rehabilitation and other installation considerations. However, the engineering community, especially bodies such as ASCE and ASTM, has yet to define a standard design methodology. We will review the scientific studies that have been conducted to reline existing pipe structures and determine a proper design method. We will also analyze the test data from five different engineering studies, the experimental methods of each study, and the limitations of each dataset.

**SPEAKERS**  
Joseph Royer, GeoTree  
David Keaffaber, GeoTree

**MODERATOR**  
Zach Beasley, Tippecanoe County

**TIME**  
4:00-4:50 PM

**ROOM**  
STEW 218 AB

**PDH: 1**

**33. Stormwater Management from a Beginner’s Perspective**

This presentation looks at some of the day-to-day activities and work needed for operating a stormwater management program for the West Lafayette area.

**SPEAKER**  
Jeffrey Kuhn, City of West Lafayette

**MODERATOR**  
Zach Beasley, Tippecanoe County

# TUESDAY

## MULTIMODAL TRANSPORTATION

**TIME**  
11:00-11:50 AM

**ROOM**  
STEW 278

**PDH: 1**

### 34. Working With the Railroad: A Guide to Public Projects

Working with the railroad requires specific engineering standards and safety protocols. This presentation will provide a general overview of how to interact with the railroad on any number of public projects, from constructing overhead bridges to utilizing the railroad right of way for utility infrastructure.

#### SPEAKERS

Derek Sublette, Norfolk Southern Corporation  
Eldridge Chambers, Norfolk Southern Corporation

#### MODERATOR

Venetta Keefe, INDOT

**TIME**  
1:00-1:50 PM

**ROOM**  
STEW 278

**PDH: 1**

### 35. The 7-Line: Bloomington’s 7th Street-Protected Bike Lane Corridor

The 7-Line provides an enhanced east-west multimodal corridor to connect downtown, the Indiana University campus, and eastside and westside neighborhoods along 7th Street. This presentation will provide an overview of the project from the early planning stages through post-construction maintenance and operation. The discussion will highlight significant decision points, early trends post-project completion, and lessons learned.

#### SPEAKER

Andrew Cibor, City of Bloomington

#### MODERATOR

Venetta Keefe, INDOT



TIME  
2:00-2:50 PM

ROOM  
STEW 278

PDH: 1

36. Indiana Statewide Freight Plan

INDOT recently updated its statewide multi-modal freight plan. The plan complies with new federal requirements as part of the Bipartisan Infrastructure Law (BIL) and meets INDOT’s major freight planning goals. The new plan evaluates Indiana’s freight assets and demands for all modes, and stakeholders and the logistics industry were heavily involved during the plan’s development. Traditional solutions and freight operations/ITS strategies are recommended to address identified needs. Proposed projects are prioritized using a data-driven approach. Join us for a discussion.

SPEAKERS

Leslie Morgan, INDOT  
Johnny Han, The Corradino Group  
Joe Guerre, HNTB Corporation

MODERATOR

Venetta Keefe, INDOT

TIME  
3:00-3:50 PM

ROOM  
STEW 278

PDH: 1

37. Integrated Traffic Signal Performance Measures for IndyGo Red Line and Connected Vehicles using Trajectory Data

The trajectory data of connected buses and general traffic consumer passengers were used to develop performance measures along the Red Line in Indianapolis. Over 3 million data records were analyzed over 3 months to develop visualizations and recommend retiming opportunities.

SPEAKER

Jijo Mathew, Purdue University

MODERATOR

Venetta Keefe, INDOT

MARCH 14, 2023

# TUESDAY

## PAVEMENTS

### TIME

11:00-11:50 AM

### ROOM

STEW 279

### PDH: 1

## 38. Full-Scale Testing of Power Transfer Roadways

A dynamic wireless power transfer roadway refers to the integration of wireless power transfer technology into a new and existing road infrastructure to provide motive power, battery charging, or both to electric vehicles. The objective of this presentation is to evaluate the mechanical and thermal performance of the system when incorporated in both flexible and rigid pavement structures.

### SPEAKER

Oscar Moncada, Purdue University

### MODERATOR

Gerry Huber, Heritage Research Group

### TIME

1:00-1:50 PM

### ROOM

STEW 279

### PDH: 1

## 39. Verifying Aggregate Drainage Layer Permeability During Construction

Water management in pavement engineering commonly involves incorporating aggregate drainage layers (ADL) that allow for the rapid removal of water. Although ADLs have specified permeabilities, current practice lacks the ability to verify as constructed permeabilities. Therefore, this presentation summarizes the results of the SPR-4327 JTRP research study that aimed to develop procedures for measuring in situ ADL permeability. Our presentation scope includes recommendations for developing ADL construction performance-related specifications and QC/QA plans.

### SPEAKERS

Marika Santagata, Purdue University  
Luis Garzon Sabogal, Purdue University  
Peter Becker, INDOT

### MODERATOR

Steve Moriarty, Kosciusko County

PAVEMENTS

TIME  
2:00-2:50 PM

ROOM  
STEW 279

PDH: 1

40. Freezing-Thawing Resistance of Concrete Incorporated with Polymeric Microsphere

The addition of impermeable polymeric microspheres in concrete provides better resistance to cyclic freezing-thawing damage compared to traditional concrete with an air-entraining agent (AEA). To evaluate the freezing-thawing resistance, the ASTM C666 procedure A method was adopted, and the dynamic modulus of elasticity of concrete specimens were tested per ASTM C215. This session discusses the relative dynamic modulus of elasticity, the durability factor, the scaling mass loss of concrete over freezing-thawing cycles, and the reason behind the freezing-thawing resistance of concrete.

SPEAKER  
Rui He, Purdue University

MODERATOR  
Steve Moriarty, Kosciusko County

TIME  
3:00-3:50 PM

ROOM  
STEW 279

PDH: 1

41. Field-Validated Models to Determine Pavement Structural Parameters

This session focuses on the validation of falling weight deflectometer (FWD) deflection-based models to determine critical strains, an effective structural number, and the structural parameters of full-depth asphalt pavements. FWD testing was conducted on field sections and field cores were collected to obtain field-measured structural parameters. The new models were successfully validated with field data, and it was concluded that new models can be used to estimate structural conditions of full-depth asphalt pavements based on FWD data. Join us for a discussion.

SPEAKERS  
Seonghwan Cho, INDOT  
Bongsuk Park, Purdue University

MODERATOR  
Steve Moriarty, Kosciusko County

# TUESDAY

## PAVEMENTS

**TIME**  
1:00-1:50 PM

**ROOM**  
WALC 1055

**PDH: 1**

### 42. What Lies Underneath: The Base of Your Road

If you have roads and streets that pothole or crack prematurely, it may be the gravel under the surface that is the culprit. Come learn what the sweet spot is for good gravel, how to test your own gravel, and how to make your poor materials better using full-depth reclamation (FDR).

**SPEAKER**  
David Orr, Cornell University

**MODERATOR**  
Brandon Hardin, E & B Paving, Inc.

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**TIME**  
2:00-2:50 PM

**ROOM**  
WALC 1055

**PDH: 1**

### 43. Recycling Pavement: It's in the Pavement Design Toolbox

This presentation outlines INDOT's history and future with pavement recycling methods. We will address pavement recycling options (CIR, CCPR, FDR) and what makes a project a good candidate for recycling. Some project case studies will be presented that outline some construction issues and lessons learned.

**SPEAKERS**  
Nicholas Cosenza, INDOT  
Tony Jones, INDOT

**MODERATOR**  
Brandon Hardin, E & B Paving, Inc.

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MARCH 14, 2023

# TUESDAY

## PAVEMENTS

**TIME**  
3:00-3:50 PM

**ROOM**  
WALC 1055

**PDH: 1**

### 44. Sustainable Asphalt Pavements

The asphalt industry has committed to reducing carbon emissions as part of a national initiative to halt climate change. The Road Forward was created to engage, educate, and empower the U.S. asphalt community to produce and construct net zero carbon emission asphalt pavements. This presentation will look at the future of the asphalt industry and how sustainable initiatives make good business, environmental, and societal sense.

**SPEAKER**  
Gerry Huber, Heritage Research Group

**MODERATOR**  
Brandon Hardin, E & B Paving, Inc.

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# TUESDAY

## PROJECT MANAGEMENT/PLANNING

**TIME**  
1:00-1:50 PM

**ROOM**  
CL50 224

**PDH: 1**

### 45. Section 106: Frequently Asked Questions and Post-Review Discoveries

INDOT will provide answers to frequently asked questions about successfully navigating the Section 106 process. We will discuss examples of successfully handling post-review or “accidental” discoveries during construction. Time for Q&A will be included.

**SPEAKERS**  
Matthew Coon, INDOT  
Clint Kelly, INDOT

**MODERATOR**  
Dan Osborn, Indiana Constructors

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**TIME**  
2:00-2:50 PM

**ROOM**  
CL50 224

**PDH: 1**

### 46. INDOT Planning and Environmental Linkage Program

Join us for an update on INDOT’s experiences with the latest Planning Environmental Linkages (PEL) and a status report on program development.

**SPEAKERS**  
Roy Nunnally, INDOT  
Daniel McCoy, INDOT  
Laura Hilden, INDOT  
Adin McCann, HNTB Corporation

**MODERATOR**  
Dan Osborn, Indiana Constructors

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# TUESDAY

## PROJECT MANAGEMENT/PLANNING

**TIME**  
1:00-1:50 PM

**ROOM**  
LOEB THEATER

**PDH: 1**

### 47. Compelling Project Management

Successfully delivering a project, task, or even a group decision requires effective collaboration skills, and the great thing about skills is that they can be learned. With collaboration, you can effectively lead a team toward decision making and deliver results. In this session, we will analyze different methods of collaboration to help you build this skill and make you a more persuasive and compelling project manager.

**SPEAKERS**  
Jonathan Wallace, INDOT  
Jennifer Goins, HNTB Corporation

**MODERATOR**  
Travis Kohl, Ports of Indiana

**TIME**  
2:00-2:50 PM

**ROOM**  
LOEB THEATER

**PDH: 1**

### 48. Piece of Cake: It’s Just a Small Structure Replacement, Right?

This presentation will discuss the complications of delivering small projects. Topics will include the importance of getting through Stage 1 and PFC as early as possible, selecting the correct project management methodology tools that can be used throughout project development, examples of utility and environmental delays, and success stories.

**SPEAKERS**  
Nathan Frey, Clark Dietz, Inc.  
Greg Prince, INDOT  
Deborah Porter, Clark Dietz, Inc.

**MODERATOR**  
Travis Kohl, Ports of Indiana

# TUESDAY

## PROJECT MANAGEMENT/PLANNING

**TIME**  
3:00-3:50 PM

**ROOM**  
LOEB THEATER

**PDH: 1**

### 49. Planning and Projects: Putting Together the Pieces

Indiana DOT, MPOs, and local public agencies are working diligently to identify and implement transportation projects. However, there are many planning components and requirements that can affect an organization’s ability to deliver projects. What are these components and why do they matter? Learn how to navigate planning requirements and expedite the delivery of projects in this fun, interactive session!

#### SPEAKERS

Erica Tait, FHWA  
Dan Avery, Northeastern Indiana  
Regional Coordinating Council  
Rebecca Packer, INDOT

#### MODERATOR

Travis Kohl, Ports of Indiana

**TIME**  
4:00-4:50 PM

**ROOM**  
LOEB THEATER

**PDH: 1**

### 50. Project Delivery Methods

With so many project delivery methods available to cities, towns, and counties across Indiana, how do public officials decide which ones to use on each project? This session will review available project delivery methods and talk through the risks and decisions which must be made when making a selection, whether knowingly or unknowingly.

#### SPEAKERS

Tim Jensen, The Veridus Group  
Tim Belcher, Town of Plainfield

#### MODERATOR

Travis Kohl, Ports of Indiana



TIME  
1:00-1:50 PM

ROOM  
STEW 214 CD

PDH: 1

**51. Monon South: Creating a Vision for a Regional Rail Trail**

Building a rails-to-trails project is a difficult task but creating a rail trail that spans 44 miles across four counties requires strategic planning and an inspirational vision. Join us as we share lessons from the Monon South Greenway Visioning project—a coalition-building effort that challenged community leaders to envision a regional recreational trail that could enhance the quality of life for each community while serving as an economic generator for the Southern Indiana Region.

**SPEAKERS**

Ryan Hughes, Clark Dietz, Inc.  
Jeffrey Quyle, Radius Indiana

**MODERATOR**

Ryan Huebschman, HNTB Corporation

TIME  
2:00-2:50 PM

ROOM  
STEW 214 CD

PDH: 1

**52. Solid Safety Barriers for Traffic Noise Reduction**

Placing solid safety barriers instead of steel guard rails along a highway can help reduce traffic noise at nearby sensitive sites. As part of NCHRP Project 25-57, the effect of solid safety barriers was investigated for both city streets and freeways using the FHWA's Traffic Noise Model (TNM). TNM-predicted noise level reductions were also calculated for real-world projects in Ohio and Pennsylvania.

**SPEAKER**

Karel Cubick, ms consultants, inc.

**MODERATOR**

Ryan Huebschman, HNTB Corporation

**Session 52 is cancelled.**

TIME  
3:00-3:50 PM

ROOM  
STEW 214 CD

PDH: 1

**53. EV Battery Manufacturing in Kokomo: Project Update**

Samsung and Stellantis announced in 2022 that they will build a new 2.5-billion-dollar electric vehicle battery factory in Kokomo, creating 1,400 new jobs. This presentation will provide an update on the project and will discuss the roadway, drainage, and utility infrastructure improvements required to deliver this major development on an extremely accelerated schedule. The flexible planning and coordination by multiple parties that led to the successful commencement of the project will also be discussed.

**SPEAKERS**

Carey Stranahan, Hanson Professional Services  
Sam Robertson, Clark Dietz, Inc.  
Jim Loew, Clark Dietz, Inc.

**MODERATOR**

Ryan Huebschman, HNTB Corporation

TIME  
4:00-4:50 PM

ROOM  
STEW 214 CD

PDH: 1

**54. Engaging Commercial Specialists Early to Avoid and Mitigate Disputes**

This presentation discusses how the early engagement of commercial specialists can help avoid/mitigate disputes. Avoiding/mitigating disputes requires clear communication supported by clear documentation, both of which depend upon a proper understanding of the commercial issues at play. Through active and early engagement of commercial specialists, you can ensure the right resources are available at the right time to avoid/mitigate disputes. Learn what commercial specialists to involve, when to involve them, and the value they bring.

**SPEAKERS**

Nathan Minear, HNTB Corporation  
Jesse Finke, HNTB Corporation  
Anden Lovig, HNTB Corporation

**MODERATOR**

Ryan Huebschman, HNTB Corporation

# TUESDAY

## PUBLIC RELATIONS/COMMUNICATIONS

**TIME**  
1:00-1:50 PM

**ROOM**  
STEW 202

**PDH: 1**

### 55. Engineering and Communications: Where They Intersect

Improving our transportation systems and building roads and bridges is a complex process full of technical information, detailed analysis, careful coordination, and lots of acronyms! That’s where engineering and communications intersect. Strategic messaging, targeted outreach, and engaging materials set the stage for project success. This session will focus on communication challenges and successes on major INDOT projects and practical tips to help engineers become communicators or at least feel more comfortable in this important role.

#### SPEAKERS

Mindy Peterson, Parsons  
Andy Dietrick, INDOT  
Natalie Garrett, INDOT

#### MODERATOR

Debbie Calder, INDOT

**TIME**  
2:00-2:50 PM

**ROOM**  
STEW 202

**PDH: 1**

### 56. INDOT @Home: A Case for Virtual Public Involvement

Virtual became necessary during the pandemic. We saw parties, meetings, Thanksgiving, conferences, and everything else shift to virtual. We’ve been virtual-ed out, but the convenience remains. The challenge is meeting people where they are and keeping them informed and involved. INDOT has found the sweet spot of virtual through intentional usage. We’ll cover virtual involvement from a district level, how we use virtual town halls for important education, and how we’ve brought projects into living rooms with interactive websites.

#### SPEAKERS

Jennifer Clark, INDOT  
Adam Parkhouse, INDOT

#### MODERATOR

Debbie Calder, INDOT

# TUESDAY

PUBLIC RELATIONS/COMMUNICATIONS

**TIME**  
3:00-3:50 PM

**ROOM**  
STEW 202

**PDH: 1**

**57. Creative Media Approaches  
for Cultural Mitigation**

Transportation projects do more than connect people, they provide opportunities to connect cultures. Explore how media production was incorporated as unique mitigation in two projects to address the cultural history of two different geographic areas. Participants will learn of the successes and challenges in producing the Cultural Audio Tours for the INDOT-sponsored I-69 project and the video documentary for the historically African American “Foot” Neighborhood as part of the Missouri DOT-sponsored Rex Whitton Expressway.

**SPEAKERS**  
Gary Quigg, Lochmueller Group  
Hannah Blad, Lochmueller Group

**MODERATOR**  
Debbie Calder, INDOT

# TUESDAY

## PUBLIC SAFETY

**TIME**  
11:00-11:50 AM

**ROOM**  
STEW 214 AB

**PDH: 1**

### 58. See a Sign? Make a Call

DOT staff and technology resources have the proven potential to help combat human trafficking if DOT employees know the indicators of human trafficking and how to cooperate with requests from agencies for information that can be derived from DOT assets. The Texas A&M Transportation Institute, NCHRP, and the Heart of Texas Human Trafficking Coalition will discuss the intersection of human trafficking with the transportation sector. Attendees will also learn the main components of human trafficking, the basic signs of human trafficking on DOT facilities, and resources to use in their own states.

#### SPEAKER

John Habermann, Texas A&M Transportation Institute

**TIME**  
1:00-1:50 PM

**ROOM**  
STEW 214 AB

**PDH: 1**

### 59. Going the Extra Mile: Responding to Eastern Kentucky Flooding

The Kentucky Transportation Cabinet (KYTC) responded to one its worst transportation challenges ever when historic flooding struck Appalachia and Eastern Kentucky counties in 2022. The transportation agency responded immediately to the disaster, and in the months following the event, KYTC was charged with assessing bridges for safety, clearing roads and streams, and restoring access to allow responders to reach those in need. New programs were quickly developed to address needs ranging from the installation of temporary bridges to the creation of temporary shelters for displaced residents. During this, C2 Strategic Communications partnered with KYTC to develop a communications campaign to help share important information and inspire hope in the impacted region.

#### SPEAKER

Ed Green, C2 Strategic Communications

#### MODERATOR

Keith Pugh, American Public Works Association

TIME  
2:00-2:50 PM

ROOM  
STEW 214 AB

PDH: 1

**60. Assessment of the Indiana Unmanned Aerial System Crash Scene Mapping Program**

Many public safety agencies in the US have initiated a UAS-based procedure to document and map crash scenes to significantly reduce the time it takes to document evidence and ensure first responder safety. This session investigates measurement errors observed by a centralized processing center at Purdue University that has processed 252 crash scenes that were mapped using 29 unique cameras from 35 public agencies over the past 3 years.

**SPEAKER**  
Robert Hainje, Tippecanoe County Sheriff’s Office

**MODERATOR**  
Keith Pugh, American Public Works Association

TIME  
3:00-3:50 PM

ROOM  
STEW 214 AB

PDH: 1

**61. Identifying Traffic Incident Management Event Sequence Using CV Data, Crash Reports, and ITS Images**

Presenters will walk attendees through after-action case studies to identify and evaluate response and clearance intervals using CV data, crash/incident report data, and ITS camera images. Attendees will also explore an engine fire and a secondary crash incident along I-70 WB on August 27, 2022, and a rolled-over incident along I-65 NB on October 3, 2022.

**SPEAKERS**  
Rahul Sakhare, Purdue University  
Hillary Lowther, INDOT

**MODERATOR**  
Keith Pugh, American Public Works Association

TIME  
4:00-4:50 PM

ROOM  
STEW 214 AB

PDH: 1

62. 2024 Indiana Total Solar Eclipse Plan

Indiana has learned from other states to be prepared for the cascading effects solar eclipses will have on our local communities. Representatives from the Indiana Department of Homeland Security and the Indiana Department of Transportation will share the planning and coordination efforts for the April 8, 2024, total solar eclipse. The State of Indiana will provide key information and guidance on addressing communication, transportation, and logistical and education resources for our citizens and visitors.

SPEAKERS

Mary Moran, Indiana Department of Homeland Security  
Allison Curry, Indiana Department of Homeland Security  
Mike Nichols, INDOT  
Lyle Sadler, INDOT

MODERATOR

Keith Pugh, American Public Works Association

TIME  
12:00-12:50 PM

ROOM  
MATH 175

PDH: 1

**63. Pedestrian Maintenance  
of Traffic for Designers**

This presentation will summarize current guidance being developed for the maintenance of pedestrian traffic during construction. The presentation will provide designers with guidance on INDOT’s decision-making hierarchy and expectations related to the documentation and development of pedestrian maintenance of traffic plans.

**SPEAKER**  
Katherine Smutzer, INDOT

**MODERATOR**  
Michael Lane, INDOT

TIME  
1:00-1:50 PM

ROOM  
MATH 175

PDH: 1

**64. Experimenting with Orange Pavement  
Markings on Indiana Roadways**

This session presents the status of experimental orange pavement markings on Indiana roadways. The presentation includes a summary of the MUTCD experimentation request and an evaluation of orange pavement marking types— including tapes and paints with a focus on color and retroreflectivity retention. The effects of driving behavior on the safety of work zones, vehicle lane positioning, and public opinion are also discussed.

**SPEAKERS**  
Michael Williamson, Indiana State University  
Joseph Bruno, INDOT

**MODERATOR**  
Michael Lane, INDOT



TIME  
2:00-2:50 PM

ROOM  
MATH 175

PDH: 1

65. Indiana’s New Strategic Highway Safety Plan

Over the past 2 years, Indiana has been part of a nation-wide surge in the number of motor vehicle fatalities and serious injuries. Even before that time, traffic deaths remained stubbornly high in comparison to other industrial peer nations. In 2022, INDOT engaged with stakeholders and partners inside and outside of state government to create a new Strategic Highway Safety Plan (SHSP). The new SHSP is aligned with the FHWA Safe Systems Approach and will help facilitate the changes brought by the Bipartisan Infrastructure Legislation (BIL Act) to state and local safety programs. This presentation will introduce the structure of the new SHSP, how data-driven analysis leads us to these strategies, and action plans to improve roadway safety throughout Indiana.

SPEAKER  
Michael Holowaty, INDOT

MODERATOR  
Michael Lane, INDOT

TIME  
3:00-3:50 PM

ROOM  
MATH 175

PDH: 1

66. Railroads and First Responders: A GIS Link

The Louisville & Indiana Railroad (L&I) was awarded a \$300,000 Consolidated Rail and Safety Improvements Program (CRISI) Grant to develop a geographic information mobile application linking L&I dispatch and first responders to aid communication and response during railroad incidents. This is an important development in promoting safety at rail-highway intersections.

SPEAKERS  
Jeremy Kramer, Louisville & Indiana Railroad  
Brett Rape, Global Information Systems  
Mike White, Global Information Systems

MODERATOR  
Michael Lane, INDOT

MARCH 14, 2023

# TUESDAY

## SAFETY

**TIME**  
4:00-4:50 PM

**ROOM**  
MATH 175

**PDH: 1**

### 67. Staying Safe in the ROW

Being in the right-of-way (ROW) has plenty of hazards beyond the obvious one of traffic. Come learn a bucketful of ideas to make sure everyone gets home safely every single day.

**SPEAKER**  
David Orr, Cornell University

**MODERATOR**  
Michael Lane, INDOT

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# TUESDAY

## TRAFFIC OPERATIONS

**TIME**  
1:00-1:50 PM

**ROOM**  
STEW 310

**PDH: 1**

### 68. Innovative Intersection Traffic Modeling: Tips, Tricks, and Things Often Overlooked

INDOT is actively pursuing innovative intersection treatments across the state to improve safety and mobility. Traffic analysis of these intersections is critical to ensure they will perform as intended, but these analyses can often be complex. This session will explore several best practices for modeling innovative intersections and will highlight commonly overlooked elements that are key to proper traffic analysis.

#### SPEAKERS

David Reamer, INDOT  
Nathan Shellhamer, INDOT

#### MODERATOR

James Sturdevant, INDOT

**TIME**  
2:00-2:50 PM

**ROOM**  
STEW 310

**PDH: 1**

### 69. Innovative Methods for Smarter and Safer Indiana Highways

In this session, we plan to present a summary of the main results and findings from two JTRP sponsored research projects—Integration of the Lane-Specific Traffic Data Generated from Real-Time CCTV Videos Into INDOT’s Traffic Management System (SPR-4638) and Geometric Constraints and Visual Field Related to Speed Management (SPR-4640).

#### SPEAKERS

Yaobin Chen, IUPUI  
Stanley Chien, IUPUI  
Renran Tian, IUPUI

#### MODERATOR

James Sturdevant, INDOT

# TUESDAY

## TRAFFIC OPERATIONS

**TIME**  
3:00-3:50 PM

**ROOM**  
STEW 310

**PDH: 1**

### 70. Interstate Highway Congestion Policy Request: When and How

This session will highlight current IHCP tables, policy tables, request templates, analysis tools, INDOT queue analysis spreadsheet, INDOT detour route summary spreadsheet, hourly day-of-the-week conversion factors, additional modeling efforts, common and repeated mistakes, IHCP exception checklist, and example projects.

#### SPEAKERS

Alan Holderread, INDOT  
Michelle Witkowski, INDOT  
Douglas Homan, HNTB Corporation

#### MODERATOR

James Sturdevant, INDOT

**TIME**  
4:00-4:50 PM

**ROOM**  
STEW 310

**PDH: 1**

### 71. Addressing Concerns with Roundabouts and Schools

Join us as we walk through the design considerations, challenges, and public relations approaches of roundabouts in school zones.

#### SPEAKERS

Andrew Wolf, CrossRoad Engineers  
Jeremy Kashman, City of Carmel  
Bradley Pease, City of Carmel

#### MODERATOR

James Sturdevant, INDOT

# WEDNESDAY

## APWA - INDIANA CHAPTER

**TIME**  
8:00-8:50 AM

**ROOM**  
STEW 278

**PDH: 1**

### 72. Fort Wayne EVSE Case Study

The City of Fort Wayne, IN received an IDEM Grant for the installation of 27 L2 EV Chargers. The city purchased an additional 10 chargers and completed construction in 2022. Come discover some lessons learned from this project and see how your community can do the same.

**SPEAKER**  
Kyle Winling, City of Fort Wayne

**MODERATOR**  
Jeromy Grenard, City of Lafayette

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**TIME**  
9:00-9:50 AM

**ROOM**  
STEW 278

**PDH: 1**

### 73. Project Evolution: From Tactical Urbanism to Permanent Infrastructure

The public has lots of ideas for traffic calming projects, but it can be quite the undertaking to determine what ideas are feasible, have serious community backing, and are adaptable. Learn how the City of Fort Wayne has partnered with community organizations on quick-build projects that have evolved into long-term and permanent changes. Participants will learn of Fort Wayne’s program guidelines for community-led demonstration projects, such as the types of projects, locations, materials used, and funding resources.

**SPEAKER**  
Anna Baer, City of Fort Wayne

**MODERATOR**  
Jeromy Grenard, City of Lafayette

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# WEDNESDAY

## APWA - INDIANA CHAPTER

**TIME**  
10:00-10:50 AM

**ROOM**  
STEW 278

**PDH: 1**

### 74. Field Reconnaissance: Updating Bloomington’s Street Asset Condition Data

The City of Bloomington engaged a contractor to perform a first-ever LiDAR inventory assessment in 2017. This project captured a wide range of real-time infrastructure data in a matter of just a few months compared to the old visual inspection method which was time-consuming and labor-intensive. This project was updated in 2022 to get a fresh look at current conditions. Join us for a fun discussion about things we wish we knew at the start and the lessons learned along the way.

#### SPEAKERS

Nate Nickel, City of Bloomington  
Joe VanDeventer, City of Bloomington

#### MODERATOR

Jeromy Grenard, City of Lafayette

**TIME**  
1:00-1:50 PM

**ROOM**  
STEW 278

**PDH: 1**

### 75. Barrett Law for Private Commercial Roadways

This session will focus on the Indiana Barrett Law process used to improve existing private infrastructure that acts and has the characteristics of public infrastructure. The City of Fishers leveraged Barrett Law for the purposes of improving, repairing, and even reconstructing existing private roads which act as public roadways without using tax dollars. This effort will result in the dedication of those private roads to the city inventory and bring the level of maintenance and service in line with other city public roads.

#### SPEAKERS

Rich Bassett, City of Fishers  
Jason Taylor, City of Fishers

#### MODERATOR

Ben Colucci, Puerto Rico LTAP

# WEDNESDAY

## APWA - INDIANA CHAPTER

**TIME**  
2:00-2:50 PM

**ROOM**  
STEW 278

**PDH: 1**

### 76. 5G/Small Cell Structures in Your Right of Way

As telecommunication companies are pushing towards 5G technology and the installation of small cell facilities in residential areas, the City of Fishers has been at the front of state legislation. They passed an ordinance in 2017 that requires telecommunication companies to follow a waiver process that allows residents to work directly with the telecommunication companies on the placement of cell facilities. As state regulations continue to change, Fishers has modified the waiver process to continue to allow public input. Join this session to learn more.

#### SPEAKERS

Tami Houston, City of Fishers  
Jason Taylor, City of Fishers

#### MODERATOR

Ben Colucci, Puerto Rico LTAP

**TIME**  
3:00-3:50 PM

**ROOM**  
STEW 278

**PDH: 1**

### 77. The Growth of City Services: Public Works or Street Commissioner

In this panel discussion, panelists will share insight into the increasing demand for agency services. How do you structure your departments to best respond to the needs of your community? Should you consider combining services into a public works department, or is the street department model still working? Join us for an exploration into these questions.

#### SPEAKERS

Shan Gunawardena, City of Fort Wayne  
Eric Pethtel, City of Fishers  
Brent Warren, City of Nappanee  
Patty Johnson, City of Noblesville  
Keith Pugh, American Public Works Association

#### MODERATOR

Ben Colucci, Puerto Rico LTAP

MARCH 15, 2023

# WEDNESDAY

APWA - INDIANA CHAPTER

TIME  
4:00-4:50 PM

ROOM  
STEW 278

PDH: 1

**78. Fleet: To Lease, or Not to Lease**

This fleet discussion will focus on replacement options for your fleet by either purchasing or leasing to own and what the options available are depending on how your budget works. Some considerations we discuss include the replacement cycle, depreciating considerations, recovery programs, and options you may want to consider at the end of a lease term.

**SPEAKER**  
Larry Campbell, City of Fort Wayne

**MODERATOR**  
Ben Colucci, Puerto Rico LTAP

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MARCH 15, 2023

# WEDNESDAY

## AVIATION

TIME  
8:00-8:50 AM

ROOM  
STEW 202

PDH: 1

### 79. Portland Airport Runway Extension/ South Bend Airport Reconstruction

**South Bend Airport TW B Realignment and Apron Project** - South Bend Airport is in the process of a major reconstruction project to realign Taxiway B to provide a Runway Incursion Mitigation (RIM), separate Taxiway B from the Terminal Apron, and make adjustments to the terminal apron to correct drainage. This presentation will provide a full review of the project.

#### SPEAKERS

Patrick Mac Carthaigh, South Bend International Airport  
Lisa Kinsman, Mead & Hunt  
Jeff Thoman, Mead & Hunt  
Ashley Thorsen, South Bend International Airport

**Portland Airport Runway Extension: Challenges and Successes** - A runway extension at the Portland Airport was recently opened to traffic and was the culmination of well over a decade of effort. The project presented numerous engineering challenges beyond design, such as environmental approval, land acquisition, and ditch mitigation. Phase I required the enclosure of Alexander Ditch and substantial soil for grading the site. Phase II included the paving and lighting of the runway and taxiway extensions. Join us for a discussion of this project.

#### SPEAKER

John Feister, Butler, Fairman & Seufert, Inc.  
Jason Clearwaters, Butler, Fairman & Seufert, Inc.

#### MODERATOR

Michael Buening, INDOT

# WEDNESDAY

AVIATION

TIME  
9:00-9:50 AM

ROOM  
STEW 202

PDH: 1

**80. Building Hangars/The Evansville Airport Terminal and Passenger Access**

**Evansville Airport Terminal and Passenger Access**

- The Evansville Airport has completely updated the terminal area and passenger access to the terminal. A plan is underway to expand the passenger parking area in the future. This presentation will review the past updates and walk through future goals.

**SPEAKERS**

Jamin Heldt, CHA Consultants  
Nate Hahn, Evansville Airport

**So, You Want to Build a Hangar?** - Driven by corporate growth, companies are buying, maintaining, and piloting their own fleets of planes. Companies need a place to store and care for these multi-million-dollar assets, so the demand for corporate hangars is growing. But hangars aren't like other commercial buildings; they have distinctive features from other structures. This presentation will address how clients need to work with aviation designers to educate themselves on the distinct characteristics of hangars and construction in an airport environment.

**SPEAKERS**

Carla Fischer, Woolpert  
Peter Uberto, Jet Access

**MODERATOR**

Michael Buening, INDOT

TIME  
10:00-10:50 AM

ROOM  
STEW 202

PDH: 1

**81. FAA Runway Airspace Management/  
Airport Operational Sustainability**

**Airport Operational Sustainability Practices in US Small Hub Airports** - Operational sustainability focuses on everyday activities that facilitate seamless and efficient operations of an airport. While a holistic view of sustainability is necessary when planning for the long term, each of the four dimensions of sustainability can be assessed independently. This session will analyze data, including sustainable master plans, from US small hub airports to assess the effectiveness of operational sustainability initiatives. Participants will learn the benefits of incorporating sustainability in airport planning and promoting the adoption of sustainability planning in airports of all sizes.

**SPEAKER**  
Caroline Marete, Purdue University

**FAA Runway Airspace Management Tool Update** - The FAA has recently introduced the Runway Airspace Management (RAM) Tool. This presentation will review the tool and discuss updates that allow airport operators or delegated consultants to mitigate obstacles from the FAA's obstacle database.

**SPEAKER**  
Carlton Lambiasi, FAA

**MODERATOR**  
Michael Buening, INDOT

MARCH 15, 2023

# WEDNESDAY

## AVIATION

**TIME**  
1:00-1:50 PM

**ROOM**  
STEW 202

**PDH: 1**

### 82. INDOT UAS Activities/ Unmanned Aircraft System Sightings

**INDOT UAS Activities** - INDOT’s Aviation and Surveying offices have been using UAS for multiple applications and coordinating with District offices for UAS applications. This presentation will review the applications and coordination efforts.

#### SPEAKERS

James Kinder, INDOT  
Tyler Lewandowski, INDOT  
Adam French, INDOT

**Characteristics of Unmanned Aircraft System Sightings and Airport Safety** - The prevalence of UASs has grown dramatically in recent years. With increasing UASs, an important consideration is UAS sightings around airports. A UAS sighting may result in an airport delay or shutdown, which disrupts airport operations and can lead to significant economic losses. This presentation will discuss the characteristics of UAS sightings based on reports from the Federal Aviation Administration (FAA) and how these UAS sightings relate to airport operations.

#### SPEAKER

Cheng Wang, Minnesota State University

#### MODERATOR

Chris Creighton, INDOT

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# WEDNESDAY

## AVIATION

**TIME**  
2:00-2:50 PM

**ROOM**  
STEW 202

**PDH: 1**

**83. IND RW 5R-23L Strengthening Capacity Project Update**

The Indianapolis International Airport is in the middle of a multimillion-dollar strengthening and capacity enhancement project for Runway 5R/23L and Taxiway D. This presentation will provide details and an update on the current project.

**SPEAKERS**

Tony McMichael, Indianapolis Airport Authority  
John Baer, Woolpert  
Nathan Summers, Kimley-Horn and Associates, Inc.

**MODERATOR**

Chris Creighton, INDOT

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**TIME**  
3:00-3:50 PM

**ROOM**  
STEW 202

**PDH: 1**

**84. INDOT Airport Pavement Management System IDEA Website**

INDOT Aviation’s Airport Pavement Management System IDEA website has new features installed with the last updates. This presentation will show all the features of the website and open discussion with airport users of the web application.

**SPEAKER**

Kyle Potvin, Applied Pavement Technology

**MODERATOR**

Chris Creighton, INDOT

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# WEDNESDAY

## BRIDGES

**TIME**  
8:00-8:50 AM

**ROOM**  
STEW 206

**PDH: 1**

### 85. Disc Bearing for Curved Girder Bridge

A bridge in downtown Richmond, IN has recently been designed by Parsons. A special type of bearing, disc bearing, was selected for this bridge due to site constraints. Disc bearings have rarely been used in Indiana, especially in combination with girder superstructure. This presentation intends to provide a broad view of the behavior of these bearing devices and the reasoning for selecting them.

#### SPEAKERS

Yen-Chen Chiang, Parsons  
Matthew Kohut, Parsons

#### MODERATOR

Abdullah Nafakh, Purdue University

**TIME**  
9:00-9:50 AM

**ROOM**  
STEW 206

**PDH: 1**

### 86. I-70 Over Buck Creek: A Case Study

The I-70 over Buck Creek Bridge was recently widened as part of the I70 ATL in the Hancock County Design-Build project. This bridge, built in 1967, has undergone five separate rehabs that included overlays, widenings, an addition of a ramp lane, and partial joint replacements. The structure is on a 45-degree skew and has MSE walls near but not associated with the bridge. Challenges and solutions for this unique layout will be discussed.

#### SPEAKER

Brad Kahn, Parsons

#### MODERATOR

Abdullah Nafakh, Purdue University

# WEDNESDAY

## BRIDGES

**TIME**  
10:00-10:50 AM

**ROOM**  
STEW 206

**PDH: 1**

### 87. Rehabilitation of Two Ohio River Cable Stay Bridges

KYTC retained Burgess & Niple to inspect, perform NDT, and generate rehabilitation plans for two cable stay structures across the Ohio River. The William H. Natcher Bridge is 4,505 feet long, supported by 96 stay cables and two diamond-shaped towers, and it was once the longest stay cable, inland, waterway-supported bridge in the US. The William H. Harsha Bridge is 2,420 feet long and is supported by 80 stay cables and two plain semi-harped towers. This session will explore the challenges of rehabilitating these bridges.

#### SPEAKERS

Ed Spahr, Burgess & Niple, Inc.  
Dallas Montgomery, Burgess & Niple, Inc.

#### MODERATOR

Abdullah Nafakh, Purdue University

**TIME**  
11:00-11:50 AM

**ROOM**  
STEW 206

**PDH: 1**

### 88. Bats and Bridges: What You Need to Know

Bats' use of bridges is well documented. With more bat species being added to the endangered species list, this is a significant issue for maintenance, rehabilitation, and replacement. From defining bat species using specific bridges to monitoring bat use through in-depth analysis, several techniques can facilitate USFWS coordination and ensure negative impacts to endangered species are avoided or minimized throughout transportation improvements. This session will detail these techniques and approaches and educate transportation planners on best practices.

#### SPEAKERS

Jason DuPont, Lochmueller Group  
Rusty Yeager, Lochmueller Group

#### MODERATOR

Abdullah Nafakh, Purdue University

# WEDNESDAY

## BRIDGES

**TIME**  
1:00-1:50 PM

**ROOM**  
STEW 206

**PDH: 1**

**89. Innovative Design and Construction for I-69’s DBBV Contract 5 Bridges**

This presentation will cover public involvement and its impact on bridge designs and aesthetics, design-build best value and why INDOT chose this delivery method, and risks and mitigation strategies impacting the bridge design and construction. Other topics will include innovative materials and construction techniques, either written into the contract by INDOT or implemented by the design-build contractor (DBC); alternative technical concepts and design solutions implemented by the DBC; and construction progress of the bridges.

**SPEAKERS**  
Jim Lesh, INDOT  
Burleigh Law, HNTB Corporation

**MODERATOR**  
Jeremy Hunter, INDOT

**TIME**  
2:00-2:50 PM

**ROOM**  
STEW 206

**PDH: 1**

**90. Reality Capture and Emerging Technologies in Bridge Inspection**

B&N inspectors are using augmented reality (AR), drones, and 3D digital twins, to align, overlay, and scale 3D models and photos to the structure while on site. Utilizing immersive reality headsets, field and office personnel have access to files, photos, 3D models, and other resources to minimize human subjectivity and give contractors accurate, to-scale visuals of repairs. Improving the overall productivity and quality of deliverables will lead to lower lifecycle costs for owners.

**SPEAKERS**  
Ed Cinadr, Burgess & Niple, Inc.  
Ed Spahr, Burgess & Niple, Inc.

**MODERATOR**  
Jeremy Hunter, INDOT



# WEDNESDAY

## BRIDGES

**TIME**  
3:00-3:50 PM

**ROOM**  
STEW 206

**PDH: 1**

### 91. Oh Karst! Lost River Bridge Replacement

A bridge replacement project on SR 337 over Lost River encountered karst features during foundation design, which ended up altering the preliminary span arrangement and overall bridge length. Through geophysical assessment, a large void was discovered under the bridge location, particularly the preliminary pier location. Construction updates, lessons learned, and perspectives on project challenges and solutions will be shared by a bridge designer and consultant project manager.

**SPEAKERS**  
Karl Krukenberg, WSP USA, Inc.  
Raghu Vuppula, WSP USA, Inc.

**MODERATOR**  
Jeremy Hunter, INDOT

**TIME**  
4:00-4:50 PM

**ROOM**  
STEW 206

**PDH: 1**

### 92. Bridge of Flowers: Opportunity for New Public Space

As placemaking becomes critical in attracting talent, the City of Noblesville in Hamilton County and valued community partners envisioned a creative opportunity to transform the Logan Street Bridge in downtown Noblesville into a community destination. The project includes 1,000 square feet of custom designed raised planters, 90 linear feet of seating, two overhead shade structures, lighting, irrigation, and a donor recognition area. The result is a unique bridge treatment and a model for enhancing existing bridges.

**SPEAKERS**  
Jonathan Mooney, DLZ  
Andrew Rodewald, City of Noblesville  
Matt Lee, Hamilton County

**MODERATOR**  
Jeremy Hunter, INDOT

MARCH 15, 2023

# WEDNESDAY

## DESIGN/CONSTRUCTION

**TIME**  
8:00-8:50 AM

**ROOM**  
FOWLER HALL

**PDH: 1**

### 93. Reducing Construction Change Orders With 3D CIM Technology

As long as 2D paper plans are the construction contract document, 3D Civil Information Management (CIM) technology will improve bid-ability, constructability, and overall plan quality. The CIM process leverages modeling technology to reverse engineer 2D plans and build the project electronically prior to letting. Used with engineering best practices, CIM identifies plan errors, conflicts, and other challenges which ultimately reduce construction change orders. Featured projects will include I-69 in Bloomington and the Ohio River Bridges.

#### SPEAKERS

Aaron Bubb, Kapur & Associates  
Sammy Van Pelt, Kapur & Associates  
John Langmaid, Kapur & Associates

#### MODERATOR

Jim Poturalski, INDOT

**TIME**  
9:00-9:50 AM

**ROOM**  
FOWLER HALL

**PDH: 1**

### 94. Indiana’s First Displaced Left Turn Intersection

Indiana’s first displaced left-turn intersection was completed in the fall of 2022 at the intersection of US 31 and SR 135/Thompson Road on Indy’s south side. Join this presentation to learn why the project was needed, the design and construction challenges that were overcome, how this project was presented to the public, and how it is operating today.

#### SPEAKERS

Ryan Huebschman, HNTB Corporation  
Thomas Platte, INDOT

#### MODERATOR

Jim Poturalski, INDOT

# WEDNESDAY

## DESIGN/CONSTRUCTION

**TIME**  
10:00-10:50 AM

**ROOM**  
FOWLER HALL

**PDH: 1**

### 95. Quantifying Geogrid Effectiveness with Automated Plate Load Testing

The resilient modulus (Mr) of the subgrade and construction materials is a governing design input in multiple pavement design methods. Automated Plate Load Testing (APLT) can be used to measure the Mr of a subgrade and the composite Mr of gravel base layers, with and without geogrid. A comparison of APLT results allows designers to make informed decisions to determine gravel section thickness and appropriate geogrid stabilization selection. Join us to learn more.

#### SPEAKERS

James Elsey, Tensar International Corporation  
Sean Roche, Tensar International Corporation

#### MODERATOR

Jim Poturalski, INDOT

**TIME**  
11:00-11:50 AM

**ROOM**  
FOWLER HALL

**PDH: 1**

### 96. Hydraulics Boot Camp

With a continuing need for additional hydraulic analysis for projects, we will walk through some of the common requirements for projects, discuss common errors, and highlight how to improve hydraulic submittals.

#### SPEAKERS

Robert Page, HNTB Corporation  
Mark Bailey, INDOT

#### MODERATOR

Jim Poturalski, INDOT

MARCH 15, 2023

# WEDNESDAY

## DESIGN/CONSTRUCTION

**TIME**  
1:00–1:50 PM

**ROOM**  
FOWLER HALL

**PDH: 1**

### 97. What Is LiDAR and How Does It Impact Projects?

Join us for a discussion on LiDAR and how it impacts projects. Together, we will dive into the various uses and types of this technology, discuss how LiDAR has impacted the engineering and survey community, and how these changes impact projects. A brief Q&A will follow the presentation.

**SPEAKERS**  
William Jones, HNTB Corporation  
Mike Ernst, HNTB Corporation

**MODERATOR**  
Jeff Clanton, INDOT

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**TIME**  
2:00–2:50 PM

**ROOM**  
FOWLER HALL

**PDH: 1**

### 98. Under Water: How to Green Up Your Roadway Project

Learn effective streambank stabilization techniques and funding resources that can be used to protect your roadways. Presenters will explain how to select the most effective stream bank restoration technique—natural channel design, traditional engineering, or both. Also learn how to maximize water quality and asset protection through stream bank stabilization using case studies that compare cost, form, and function. Lastly, we will review funding opportunities for the proposed green strategies.

**SPEAKERS**  
Matthew Kestner, Burgess & Niple, Inc.  
Betsy Ehler, Burgess & Niple, Inc.  
Brian Tornes, Burgess & Niple, Inc.

**MODERATOR**  
Jeff Clanton, INDOT

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# WEDNESDAY

## DESIGN/CONSTRUCTION

**TIME**  
3:00–3:50 PM

**ROOM**  
FOWLER HALL

**PDH: 1**

**99. Innovation and Considerations for a Floating Roadway**

This presentation will discuss the innovations, considerations, and design and construction challenges of reconstructing a roadway and bridge across a quarter-mile peat deposit while dealing with an Amish community and tourist season. The project on SR 5 in Shipshewana will highlight its use of partial depth cold-in-place recycled paving, lightweight/floating concrete, and continuously reinforced PCC pavement. We will also discuss the coordination with locals, tourists, and the Amish.

**SPEAKERS**  
Jeffrey Andrews, Burgess & Niple, Inc.  
Matthew Witt, INDOT

**MODERATOR**  
Jeff Clanton, INDOT

**TIME**  
4:00–4:50 PM

**ROOM**  
FOWLER HALL

**PDH: 1**

**100. Certificate of Approval: Friend or Foe?**

A certificate of approval (COA) is required for state-funded projects that impact historic properties. Sometimes seen as a preferable alternative to Section 106, this presentation will discuss the challenges and opportunities for local governments in following the COA process.

**SPEAKERS**  
Linda Weintraut, Weintraut & Associates, Inc.  
Bethany Natali, Weintraut & Associates, Inc.  
Elizabeth Warn, Weintraut & Associates, Inc.

**MODERATOR**  
Jeff Clanton, INDOT

MARCH 15, 2023

# WEDNESDAY

## DESIGN/CONSTRUCTION

**TIME**  
8:00–8:50 AM

**ROOM**  
STEW 302

**PDH: 1**

### 101. Cost-Saving Strategies for Randolph County Bridges

This presentation summarizes two bridge projects in Randolph County that used cost-saving strategies. For a deck replacement project on Bridge 110, SJCA designed a lightweight concrete mixture to limit the dead load on existing beams, prepared construction/materials specifications, and assisted the contractor during construction. SJCA also performed an engineering judgment load rating analysis of Bridge 85 using concrete coring and testing data to remove a weight limit that restricted emergency vehicle use, thus improving public safety.

#### SPEAKERS

Rouzbeh Khajehdehi, SJCA Inc.  
Dan Mullaney, SJCA Inc.  
Michael Ficcaglia, SJCA Inc.  
Joseph Copeland, Randolph County

#### MODERATOR

David Orr, Cornell University

# WEDNESDAY

## DESIGN/CONSTRUCTION

**TIME**  
9:00–9:50 AM

**ROOM**  
STEW 302

**PDH: 1**

### 102. Shelbyville Downtown Square Reimagined

This revitalization project was a build-operate-transfer project for the reconstruction of old SR 9 through downtown Shelbyville. Butler, Fairman & Seufert worked alongside the city, RATIO architects, and Genesis Property Development toward the complete revision and full reconstruction of Shelbyville’s downtown public square and approaching streets. The relinquished state highway and large traffic circle intersection is now an example of “Complete Streets”, accommodating all modes of transportation while enhancing storefront spaces with inviting lawns, seating, and lighting.

#### SPEAKERS

Carly Sheets, Butler, Fairman & Seufert, Inc.  
Adam Rude, City of Shelbyville  
Tom Davis, Genesis Property Development

#### MODERATOR

David Orr, Cornell University

**TIME**  
10:00–10:50 AM

**ROOM**  
STEW 302

**PDH: 1**

### 103. Fishers Nickel Plate Trail Tunnel at 116th Street

The City of Fishers has long been committed to developing trails and greenways throughout the community. When the corridor became available, developing the Nickel Plate Trail was the next clear choice for the city’s growing network. This session will illustrate how the city and its design team approached and overcame the numerous obstacles of developing this major pathway through the heart of the city and across one of the busiest sections of road in Central Indiana.

#### SPEAKERS

Jason Taylor, City of Fishers  
Kevin Hintz, Butler, Fairman & Seufert, Inc.  
Doug Valmore, Butler, Fairman & Seufert, Inc.

#### MODERATOR

David Orr, Cornell University

# WEDNESDAY

## DESIGN/CONSTRUCTION

**TIME**  
11:00–11:50 AM

**ROOM**  
STEW 302

**PDH: 1**

### 104. Berne-Geneva Historical Truss Bridge Trail

The Berne-Geneva trail is a multi-use facility that follows the old railway lines. This project required the repair of an existing steel truss and the bridging of the existing floodplain. The solution was relocating another historic steel truss and analyzing both structures for multi-use trail loads. In the end, construction plans were developed for the trusses that required both to be completely disassembled and repaired before being repainted and set along the proposed alignment. Join us as we unpack the details of this restoration.

#### SPEAKERS

Bryan Wright, Butler, Fairman & Seufert, Inc.  
Chad Whitesel, Butler, Fairman & Seufert, Inc.

#### MODERATOR

David Orr, Cornell University

**TIME**  
8:00–8:50 AM

**ROOM**  
STEW 306

**PDH: 1**

### 105. Adding Lanes is More Than Just Pavement

Adding interstate travel lanes may seem like a simple process on the surface, but this presentation will highlight the challenges no one sees from the point of view of the design engineer, INDOT (PM and area engineers), and the construction team. Topics will include a tight schedule during covid, identifying and securing funding sources, the challenging environmental process, and updates from the first year of construction.

#### SPEAKERS

Austin Hastings, HNTB Corporation  
Dave Garwood, Butler, Fairman & Seufert, Inc.  
Arshad Ahmed, INDOT

#### MODERATOR

James Colonis, INDOT



MARCH 15, 2023

# WEDNESDAY

## DESIGN/CONSTRUCTION

**TIME**  
9:00–9:50 AM

**ROOM**  
STEW 306

**PDH: 1**

### 106. P3 Construction Oversight: Gordie Howe International Bridge

Gain insight into the risk-based approach to the ongoing construction and quality oversight of the Gordie Howe International Bridge project. This presentation will dissect the project into five segments, while highlighting the unique challenges each segment presents and how to combat those challenges with a risk-based approach to ensure the safety, quality, cost, schedule, and reputation of the project.

#### SPEAKERS

Tyler Johnson, Parsons  
Zaher Yousif, Windsor Detroit Bridge Authority  
Jason Bunselmeier, Parsons

#### MODERATOR

James Colonis, INDOT

**TIME**  
10:00–10:50 AM

**ROOM**  
STEW 306

**PDH: 1**

### 107. Concrete Admixtures

This presentation will take the audience through the basic requirements of current admixture products and the admixtures of tomorrow. We will discuss how ready-mix producers are using products to solve everyday problems.

#### SPEAKER

Chad Clark, Irving Materials, Inc.

#### MODERATOR

James Colonis, INDOT

MARCH 15, 2023

# WEDNESDAY

## DESIGN/CONSTRUCTION

**TIME**  
8:00–8:50 AM

**ROOM**  
WTHR 200

**PDH: 1**

### 108. Reimagining Safety and Mobility for Interstate Work Zones

Strategic traffic management planning around interstate work zones avoids gridlock and community outrage due to safety and congestion issues. This presentation will engage the audience in a discussion on the importance of a safety-first approach to traffic management plans, real-world lessons from infrastructure rehabilitation projects prioritizing safety and mobility, and technology-based solutions for safety and mobility in interstate work zones.

#### SPEAKERS

Smita Sharma, Lindsay Corporation  
Jessica Miller, INDOT

#### MODERATOR

Hillary Lowther, INDOT

**TIME**  
9:00–9:50 AM

**ROOM**  
WTHR 200

**PDH: 1**

### 109. Design Insights on Successful Work Zone Safety

This session describes a case study of work zone safety improvements on an I-65 added travel lanes project in the Seymour District. We will share insights on the impact of design decisions and the implementation of the latest safety technology and policies (including queue trucks, automated queue detection and warning, and incident management) to reduce the number and severity of accidents within the work zone.

#### SPEAKERS

Matthew Harding, INDOT  
Mischa Kachler, INDOT

#### MODERATOR

Hillary Lowther, INDOT

# WEDNESDAY

## DESIGN/CONSTRUCTION

**TIME**  
10:00–10:50 AM

**ROOM**  
WTHR 200

**PDH: 1**

### 110. Traffic Control Implementation and Phase Switches

This presentation will show designers how their plan is implemented, how laborers move traffic while setting up a phase, how laborers need to move traffic to go from one phase to another, and interstate and multi-lane roadway setups when traffic is shifted from one side to another.

**SPEAKER**  
Brian Triska, Traffic Control Specialists

**MODERATOR**  
Hillary Lowther, INDOT

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**TIME**  
1:00–1:50 PM

**ROOM**  
WTHR 200

**PDH: 1**

### 111. The North Split Project

Due to multiple structures having complex roadway geometry, the North Split project required intricate detail and problem-solving for each structure. Navigating the varying geotechnical properties, material types and availability, and the nuances that pop up during construction resulted in a unique set of design requirements for each structure. By reviewing these challenges, complex structural solutions, and the required construction phasing, you will see this was a special and masterful engineering feat.

**SPEAKERS**  
Bryan Wright, Butler, Fairman & Seufert, Inc.  
Troy Willard, Butler, Fairman & Seufert, Inc.  
Jeff Lietzan, Superior Construction  
Dan Isaacs, Butler, Fairman & Seufert, Inc.

**MODERATOR**  
Jim Poturalski, INDOT

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# WEDNESDAY

## DESIGN/CONSTRUCTION

**TIME**  
2:00–2:50 PM

**ROOM**  
WTHR 200

**PDH: 1**

### **112. I-69 Finish Line: EPS Fill Under the Interstate**

This presentation will look inside the unique design, analysis, and construction of the I-69 bridge structure at SR-252, which utilized expanded polystyrene (EPS) fill. We will discuss the design constraints, geotechnical challenges, and construction methods used to complete this challenging project and keep the I-69 Finish Line project in Martinsville on track for completion.

#### **SPEAKERS**

Jennifer Goins, HNTB Corporation  
Daniel Homm, Atlas  
Dave Garwood, Butler, Fairman & Seufert, Inc.

#### **MODERATOR**

Jim Poturalski, INDOT

**TIME**  
3:00–3:50 PM

**ROOM**  
WTHR 200

**PDH: 1**

### **113. Securing Today’s Technology for Tomorrow’s Advancements**

As technology continues to advance, standards and protocols have not yet been formally adopted on a large scale. We will examine several new techniques that INDOT has taken advantage of and discuss their significant impact and the collaboration between the owner, contractor, and inspection team to increase trust, effectiveness, communication, and risk reduction. All efforts are focused on a more developed technology standard for the future.

#### **SPEAKERS**

Andrew Pangallo, INDOT  
Eric Everett, HNTB Corporation  
Molly Rice, HNTB Corporation

#### **MODERATOR**

Jim Poturalski, INDOT

# WEDNESDAY

## ELECTED OFFICIALS

**TIME**  
1:00–1:50 PM

**ROOM**  
STEW 302

**PDH: 1**

### 114. Crisis and Conflict Management

This session reviews project management fundamentals and how the LPA organizational structure must be established to address the inevitable conflicts and crises involved with construction projects. Using Crisis Management in Construction Projects by Martin Loosemore as a guide, the topics of project ownership, risk allocation, the cycle of crisis management, creeping crisis, sudden crisis, and optimistic-pessimistic organization will be discussed.

**SPEAKER**  
Nathaniel Rumschlag, Wells County

**MODERATOR**  
Mark Ahearn, Purdue University

**TIME**  
2:00–2:50 PM

**ROOM**  
STEW 302

**PDH: 1**

### 115. Working Toward Organizational Excellence

This presentation looks at what it takes to achieve organizational excellence in a government department, office, or company. This presentation will explore the basic steps which can be taken by any organization to work toward excellence. Organizational excellence helps keep organizations functioning efficiently when staff and leaders retire, quit, or are cut.

**SPEAKERS**  
Tim Jensen, The Veridus Group  
Pete Olson, The Veridus Group  
Ben Lipps, Town of Cumberland

**MODERATOR**  
Mark Ahearn, Purdue University

MARCH 15, 2023

# WEDNESDAY

## ELECTRIC & CONNECTED VEHICLES

**TIME**  
8:00–8:50 AM

**ROOM**  
STEW 214 AB

**PDH: 1**

### 116. Wireless Inductive Charging

This presentation provides an overview of inductive charging technologies, specifically the dynamic wireless power transfer technology developed at Purdue and Cummins’ involvement in a US DOE project on stationary wireless charging.

#### SPEAKERS

John Kresse, Cummins  
Veda Galigekere, Oak Ridge National Laboratory  
Dionysios Aliprantis, Purdue University

#### MODERATOR

Scott Manning, INDOT

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# WEDNESDAY

## ELECTRIC & CONNECTED VEHICLES

**TIME**  
9:00–9:50 AM

**ROOM**  
STEW 214 AB

**PDH: 1**

**117. Automation System Performance Issues/Truck and Car CV Penetration**

**Truck and Passenger Car Connected Vehicle Penetration on Indiana Roadways** - One of the major concerns of probe data for agencies is data sampling, particularly during low-volume overnight hours. The average truck penetration is 3.4% during overnight hours from 1 am to 5 am when the connected passenger car penetration was at the lowest. When both connected trucks and connected car penetration were analyzed, the overall CV penetration was 6.32% on interstates and 5.30% on non-interstate roadways. Join this session to learn more.

**SPEAKER**  
Rahul Sakhare, Purdue University

**A Catalogue of Infrastructure-Related Driving Automation System Performance Issues in Highway Environments** - A Driving Automation System’s performance is influenced by the quality and features of its operating environment. The I-70 Truck Automation Corridor (TAC) project provides an opportunity to understand the infrastructure features of a roadway that has the potential to influence driving automation system performance by conducting an automation readiness route audit. A catalogue of such features that impact driving automation performance, including their type and quality, is presented from observations on the I-70 TAC project’s first route audit.

**SPEAKER**  
Anmol Sidhu, Transportation Research Center Inc.

**MODERATOR**  
Scott Manning, INDOT

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# WEDNESDAY

## ELECTRIC & CONNECTED VEHICLES

**TIME**  
10:00–10:50 AM

**ROOM**  
STEW 214 AB

**PDH: 1**

### 118. Preparing for Deployment of Truck Automation on I-70

Truck automation arrived in the Midwest in 2022 with the advertising of procurement for truck platooning and Level 2 and 4 automations on trucks in operations on I-70. We will discuss the readiness of infrastructure and industry to accept this technology, debunk the headlines on automation, discuss real-world feedback from both technology and trucking industries, and spotlight the partners who are helping INDOT and DriveOhio advance this project.

#### SPEAKERS

Scott Manning, INDOT  
Diane Newton, HNTB Corporation  
Anmol Sidhu, Transportation Research Center Inc.

#### MODERATOR

Scott Manning, INDOT

**TIME**  
1:00–1:50 PM

**ROOM**  
STEW 214 AB

**PDH: 1**

### 119. Indiana Electric Vehicle Infrastructure Implementation Update

2022 was a big year for EV infrastructure in Indiana. Starting with the approval of Indiana’s EV Implementation Plan in September 2022, INDOT has been working fast and furiously to plan and deploy a network of DC Fast Charging Stations across the state. We will give an update on the plan implementation and next steps to inform Indiana stakeholders what they need to know for the next few years.

#### SPEAKERS

Scott Manning, INDOT  
Diane Newton, HNTB Corporation  
Kerri Garvin, Greater Indiana Clean Cities, Inc.

#### MODERATOR

Scott Manning, INDOT



# WEDNESDAY

## ELECTRIC & CONNECTED VEHICLES

**TIME**  
2:00–2:50 PM

**ROOM**  
STEW 214 AB

**PDH: 1**

**120. Leveraging CV Data to Assess Interstate Exit Usage and Identify Charging Infrastructure Investment Opportunities**

With an influx of public and private sector investment in the electric vehicle (EV) domain, public agencies and stakeholders need objective, equitable, and systematic processes for identifying candidate sites for siting charging stations. This study uses 13 billion connected vehicle (CV) records to analyze Indiana interstates and exits for usage patterns and ways they may be leveraged towards building out Indiana’s Alternative Fuel Corridors.

**SPEAKER**  
Jairaj Desai, Purdue University

**MODERATOR**  
Scott Manning, INDOT

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**TIME**  
3:00–3:50 PM

**ROOM**  
STEW 214 AB

**PDH: 1**

**121. Development of Autonomous Mowing Equipment Testing Protocols and Performance Measures**

For institutional organizations and commercial establishments that must manage thousands of acres of mowing area each year, staffing a sustainable and effective mowing program is a challenge that has emerged as an early opportunity for deploying autonomous equipment. This session presents performance measures in the autonomous mowing field in terms of man hours saved, trajectory consistency/deviation, and turn performance.

**SPEAKER**  
Abdullah Nafakh, Purdue University

**MODERATOR**  
Scott Manning, INDOT

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# WEDNESDAY

## ETHICS

**TIME**  
8:00–8:50 AM

**ROOM**  
LOEB THEATER

**PDH: 1**

**122B. Indiana Statutes and Rules for Professional Engineering Licensure**

This session will explain the Indiana Code versus the Indiana Administrative Code; selected statutes and rules applied to the practice of engineering; registration by comity; registrant’s seal; computer-based testing for FE and PE exams; rules for continuing education, audits, board structure; and threats to professional licensure.

**SPEAKER**  
Tim Jensen, The Veridus Group

**MODERATOR**  
David Kish, Purdue University

**TIME**  
9:00–9:50 AM

**ROOM**  
LOEB THEATER

**PDH: 1**

**123B. Ethics for Professional Engineers**

This presentation will provide participants with an overview of ethics, how they are formed, and how, as professional engineers, we use them to make decisions in every situation.

**SPEAKER**  
Tim Jensen, The Veridus Group

**MODERATOR**  
David Kish, Purdue University

# WEDNESDAY

## HUMAN CAPITAL/LEADERSHIP

**TIME**  
8:00–8:50 AM

**ROOM**  
STEW 218 CD

**PDH: 1**

### 124. Now Hiring: Best Practices for Successful Internship Programs

This presentation is a case study of South Bend’s non-traditional “problem-to-project” and team-based summer internship program where interns work on real projects. In 2022, engineering interns completed two collaborative projects related to traffic calming and South Bend’s MS4 program. This presentation will explore the rejection of the traditional, autocratic, leadership-driven structure in lieu of a collaborative, peer-directed organization, which uses community involvement to create project success. Best practices, paired with detailed takeaways, will be shared.

#### SPEAKERS

Kara Boyles, City of South Bend  
Rebecca Plantz, City of South Bend  
Sarah Barber, City of South Bend

#### MODERATOR

Mindy Peterson, Parsons

**TIME**  
9:00–9:50 AM

**ROOM**  
STEW 218 CD

**PDH: 1**

### 125. Please Don’t Go: Advocating for Solutions—Part 2

This presentation is a follow-up to my 2022 presentation, “Helping Women Persist in Engineering.” In part one, it was explained how we use evidence-based management to study the factors that affect a woman’s commitment to engineering. At the 2022 conference, a survey was launched to collect data to compare with benchmark data. In this session, participants will learn insights from the survey on how we can advocate for smart solutions to this complex problem.

#### SPEAKER

Kara Boyles, City of South Bend

#### MODERATOR

Mindy Peterson, Parsons

MARCH 15, 2023

# WEDNESDAY

## HUMAN CAPITAL/LEADERSHIP

**TIME**  
10:00–10:50 AM

**ROOM**  
STEW 218 CD

**PDH: 1**

### 126. INDOT and LTAP Innovation and Collaboration

LTAP and INDOT have developed a collaborative relationship to forward innovations that benefit both organizations. Focused on capturing innovative ideas from the grassroots level, INDOT and LTAP are developing a sharing platform that moves the agencies forward. In addition to discussing the sharing platform, we will also celebrate the inaugural Indiana Road School People’s Choice Award, which is given to an innovation selected by Road School attendees.

#### SPEAKERS

Todd May, INDOT  
Jennifer Sharkey, Purdue University

#### MODERATOR

Mindy Peterson, Parsons

**TIME**  
11:00–11:50 AM

**ROOM**  
STEW 218 CD

**PDH: 1**

### 127. Public Speaking for Engineers and Local Officials

Public speaking is a lost art and is not taught in many schools. Engineers and public officials are often asked to speak in front of the public, councils, and commissions with frequently negative results. This presentation will provide some basic hints, tips, and examples of public speaking best practices.

#### SPEAKER

Tim Jensen, The Veridus Group

#### MODERATOR

Mindy Peterson, Parsons

# WEDNESDAY

## HUMAN CAPITAL/LEADERSHIP

**TIME**  
1:00–1:50 PM

**ROOM**  
STEW 218 CD

**PDH: 1**

### 128. Bridging the Generational Gap

This presentation will focus on multi-generational communication within the civil engineering industry. Since the first fully digital generation, Generation Z has entered the workforce, there are now four generations in the workplace. As technology and social awareness continue to change, it is important for engineers to adapt. This session will unpack generational stereotypes while providing guidance on collaboration and interaction among varying age groups.

#### SPEAKERS

Holli Buretta, Parsons  
Caroline Arnold, Parsons  
Brian Shattuck, INDOT

#### MODERATOR

Ed Cox, INDOT

**TIME**  
2:00–2:50 PM

**ROOM**  
STEW 218 CD

**PDH: 1**

### 129. Communicating Our Knowledge With Our Next Generation of Engineers!

The engineering industry experiences continuous change from advancing software, updated standards and requirements, and—most importantly—a new generation of engineers entering the field with different expectations, communication, and learning styles. Experienced engineers with open minds who welcome questions are key; however, it is still paramount to allow younger engineers to work through problems on their own to gain valuable experience and confidence. This session, led by younger engineers, discusses generational challenges in passing along knowledge.

#### SPEAKERS

Satyasri Kantamani, Parsons  
Daniel Corbin, INDOT  
Kirsten Roys, Parsons

#### MODERATOR

Ed Cox, INDOT

MARCH 15, 2023

# WEDNESDAY

## HUMAN CAPITAL/LEADERSHIP

**TIME**  
3:00–3:50 PM

**ROOM**  
STEW 218 CD

**PDH: 1**

### 130. Positive Collaborations That Break Down Functional Silos

Many organizations have silos. While some consider their silo as “spheres of excellence,” the reality is rarely that positive. Silos often reduce the organization’s efficiency, weaken trust, and kill motivation, which results in frustration for all. Successful teams must learn how to change that culture. This session will provide tips and skills to assist conscientious teammates in breaking down functional silos and building holistic and positive workforces with improved reliability, employee retention, and job satisfaction.

**SPEAKERS**  
Kenny Franklin, Parsons  
Jessica Miller, INDOT

**MODERATOR**  
Ed Cox, INDOT

**TIME**  
4:00–4:50 PM

**ROOM**  
STEW 218 CD

**PDH: 1**

### 131. Are Professional Organizations Worth It?

Attendees will discuss the benefits of joining a professional organization. Learn how to boost your career as a young professional, expand your professional network, and stay up to date on the latest trends.

**SPEAKER**  
Sarah Baty, Lochmueller Group

**MODERATOR**  
Ed Cox, INDOT

# WEDNESDAY

## LOCAL AGENCY

**TIME**  
8:00–8:50 AM

**ROOM**  
KRAN G016

**PDH: 1**

### 132. In-House CCMG Program Management Case Study

This presentation will provide lessons learned and best practice recommendations for in-house management of Community Crossings Matching Grant projects from the perspective of the LPA, with a focus on Porter County’s program from 2019–2022. Topics will include grant application, internal decision-making, HMA inlay design, custom spec writing, alternative pavement treatments, and construction observation. Each topic will account for in-house staff manhours to help participants evaluate which items they can complete with in-house staff.

**SPEAKER**  
Matt Gavelek, Town of Chesterton

**MODERATOR**  
Stewart Kline, Tippecanoe County

**TIME**  
9:00–9:50 AM

**ROOM**  
KRAN G016

**PDH: 1**

### 133. Asphalt Specification for Local Projects

The Asphalt Pavement Association of Indiana (APAI) has put together an asphalt specification guide to assist counties, cities, and towns with their road projects for Community Crossings. This guidance document aligns with current INDOT specifications and stresses the most important design and construction best practices that lead to high-performing, durable asphalt pavements. Come hear the current asphalt buzzwords and how you can make sure you’re getting quality asphalt pavement for your local project.

**SPEAKERS**  
Elizabeth Pastuszka, E&B Paving  
Jeff Austin, Brooks Construction  
Kirsten Fowler, APAI

**MODERATOR**  
Stewart Kline, Tippecanoe County

# WEDNESDAY

## LOCAL AGENCY

**TIME**  
10:00–10:50 AM

**ROOM**  
KRAN G016

**PDH: 1**

### 134. Introduction to Road Impact Fees

The state law that enables communities to collect impact fees has been around for a few decades and is becoming more popular. This presentation will go over the process to enact road impact fees, what the fees can be used for, what they cannot be used for, and a community’s perspective of their benefit.

#### SPEAKERS

James Hellmann, City of Noblesville  
Matt Brown, A&F Engineering

#### MODERATOR

Stewart Kline, Tippecanoe County

**TIME**  
11:00–11:50 AM

**ROOM**  
KRAN G016

**PDH: 1**

### 135. Design, Collaborate, Thrive: The Broad Ripple Avenue Project

Broad Ripple Avenue (College Avenue to Winthrop Avenue) needed large-scale stormwater improvements. With the help of the Lochmueller Group and the Broad Ripple Village Association, Indianapolis DPW perceptively took this opportunity to also improve pedestrian facilities and regional multi-modal connectivity by combining multiple regional projects into one construction contract. This consolidation allowed for a cohesive public message through proactive public involvement. Presenters will share how consensus was built between invested parties through a successful public and private partnership.

#### SPEAKERS

Jessica Hawley, Lochmueller Group  
Emily Nelson, Lochmueller Group  
Ericka Miller, Indianapolis DPW

#### MODERATOR

Stewart Kline, Tippecanoe County



# WEDNESDAY

## LOCAL AGENCY

**TIME**  
1:00–1:50 PM

**ROOM**  
KRAN G016

**PDH: 1**

### 136. Environmental Assessments on a Local Project

This presentation will go through the environmental process of a recent \$125M local project within Noblesville. What are the major differences between the National Environmental Policy Act (NEPA) and State Environmental Policy Act (SEPA) process as it relates to an environmental assessment (EA)? What is required, what is not required, and what is optional? How long does the process take? Join us as we walk through this exciting process and experience.

#### SPEAKERS

Alison Krupski, City of Noblesville  
Trevor Wieseke, Lochmueller Group  
Robert Winebrinner, Lochmueller Group  
Summer Elmore, CHA Consultants  
Mike Maurovich, American Structurepoint

#### MODERATOR

Justin Mahlberg, Purdue University

**TIME**  
2:00–2:50 PM

**ROOM**  
KRAN G016

**PDH: 1**

### 137. Indiana LTAP Municipal CDL Training Program

This session will look at Indiana LTAP’s new municipal CDL training program, including training provider requirements, online theory instruction, train-the-trainer course, behind-the-wheel (BTW) instruction, CDL training registration, and simulator-based driver training programs.

#### SPEAKERS

Richard Domonkos, Purdue University  
Jack Bell, Purdue University  
Meredith Camp, Purdue University

#### MODERATOR

Justin Mahlberg, Purdue University

MARCH 15, 2023

# WEDNESDAY

## LOCAL AGENCY

**TIME**  
3:00–3:50 PM

**ROOM**  
KRAN G016

**PDH: 1**

**138. How to Make Indiana LTAP’s Road Scholar Program Work for Your Local Agency**

Come learn from a panel of elected officials and personnel from LTAP and local agencies as they discuss how the Road Scholar program can be used for employee development.

**SPEAKERS**

Tyler Rankins, City of Greenfield  
Meredith Camp, Purdue University  
Richard Domonkos, Purdue University

**MODERATOR**

Justin Mahlberg, Purdue University

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MARCH 15, 2023

# WEDNESDAY

## MAINTENANCE & OPERATIONS

**TIME**  
8:00–8:50 AM

**ROOM**  
STEW 218 AB

**PDH: 1**

### 139. Interactive Visualization of Vehicle and Aerial LiDAR and Imagery Data

This presentation will cover the development of an interactive visualization of image and LiDAR data captured by wheel-based and unmanned aerial vehicles. The visualization environment will be illustrated for work zones while showing multi-temporal data.

**SPEAKERS**  
Ayman Habib, Purdue University  
Jinha Jung, Purdue University

**MODERATOR**  
John Habermann, Texas A&M Transportation Institute

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**TIME**  
9:00–9:50 AM

**ROOM**  
STEW 218 AB

**PDH: 1**

### 140. Unique Pavement Maintenance Solutions for Agencies Facing a Limited Workforce.

Come explore cutting-edge pavement maintenance materials and applications that agencies can implement with smaller crews and less equipment. We discuss how this new technology requires less labor, can extend pavement life, will reduce worker exposure to traffic, and increase ride quality. Join us as we explore where and how these new materials can be applied and investigate how antiquated pavement maintenance repair methods require a high redundancy of various treatments, which leads to higher mobilization, labor, and material costs.

**SPEAKERS**  
Jim Lippert, Crafco, Inc.  
Robb Melson, Crafco, Inc.

**MODERATOR**  
John Habermann, Texas A&M Transportation Institute

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# WEDNESDAY

## MAINTENANCE & OPERATIONS

**TIME**  
10:00–10:50 AM

**ROOM**  
STEW 218 AB

**PDH: 1**

### 141. Salt Stockpile Inventory Management Using LiDAR Volumetric Measurements

Imagine the implementation of a portable pole-mounted LiDAR system that can be used to inventory a large barn in under 15 minutes! Come learn how this system has been deployed over 90 times at 30 facilities. A quick and easy accuracy test, based on the conservation of volume, was used to provide an independent check on the system performance by repositioning portions of the salt pile, which resulted in an accuracy of 0.1%.

#### SPEAKERS

Ayman Habib, Purdue University  
Darcy Bullock, Purdue University  
Justin Mahlberg, Purdue University

#### MODERATOR

John Habermann, Texas A&M Transportation Institute

**TIME**  
11:00–11:50 AM

**ROOM**  
STEW 218 AB

**PDH: 1**

### 142. Inspection Consistency and Employee Training Through Virtual Reality

Two different VR-based modules were developed in which the users were engaged in immersive, photo-realistic 3D environments. The first module provided the frontline trainees with an opportunity to practice pavement preservation treatments, such as crack sealing and patching. The second module provided a testbed to study the variability among bridge inspectors in terms of inspection and restorative decision-making where the outcome will be the reformation of the current inspection practices. Join us for a discussion.

#### SPEAKERS

Luis David Fernandez Vasquez, Purdue University  
Yu Ting Huang, Purdue University  
Nikkhil Vijaya Sankar, Purdue University

#### MODERATOR

John Habermann, Texas A&M Transportation Institute

MARCH 15, 2023

# WEDNESDAY

## MAINTENANCE & OPERATIONS

**TIME**  
1:00–1:50 PM

**ROOM**  
STEW 218 AB

**PDH: 1**

### 143. LiDAR Intensity as a Surrogate for Evaluating Lane Marking Retro-Reflectivity

This talk will present the findings of using LiDAR intensity as a surrogate for evaluating lane marking retro-reflectivity by starting with the impact of the laser beam incident and viewing angles on recorded intensity. This review will be followed by an analysis of using LiDAR intensity to evaluate the quality of lane marking retro-reflectivity. Join us for a discussion.

#### SPEAKERS

Ayman Habib, Purdue University  
Darcy Bullock, Purdue University

#### MODERATOR

Saumabha Gayen, Purdue University

**TIME**  
2:00–3:50 PM

**ROOM**  
STEW 218 AB

**PDH: 2**

### 144. Snow and Ice Policy Creation and Liquid Implementation

This session walks through how St. Joseph County implemented a snow and ice policy and incorporated liquids into its winter program.

#### SPEAKERS

Charles Porter, Steuben County  
Charles Feirrell, St. Joseph County  
Michael Cutler, St. Joseph County

#### MODERATOR

Saumabha Gayen, Purdue University

# WEDNESDAY

## PAVEMENTS

**TIME**  
8:00–8:50 AM

**ROOM**  
STEW 279

**PDH: 1**

### 145. Dispelling HMA and RAP Myths

Today’s asphalt mixtures are higher in quality than ever before due to an increased understanding of mix design, quality control, production, and laydown operations. If you are a project owner, consultant, or contractor, there are fundamental principles that should be understood and incorporated to ensure long-term HMA performance. This session will address these principles, including the use of RAP, to help separate facts from fiction.

**SPEAKER**  
Bill Pine, Heritage Construction and Materials

**MODERATOR**  
Jijo Mathew, Purdue University

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**TIME**  
9:00–9:50 AM

**ROOM**  
STEW 279

**PDH: 1**

### 146. Use of Natural and Nontraditional Pozzolans for Concrete in Transportation Infrastructure: Part I

This session will review the results collected during the FHWA-EAR research project on the viability of using natural and nontraditional pozzolans (NNPs) as supplementary cementitious materials (SCMs) for potential application in concrete pavement mixtures. The study was motivated by supply shortages of traditional SCMs, such as fly ash and slag cement.

**SPEAKERS**  
Farshad Rajabipour, Penn State University  
Jan Olek, Purdue University

**MODERATOR**  
Jijo Mathew, Purdue University

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# WEDNESDAY

## PAVEMENTS

**TIME**  
10:00–10:50 AM

**ROOM**  
STEW 279

**PDH: 1**

**147. Use of Natural and Nontraditional Pozzolans for Concrete in Transportation Infrastructure: Part II**

This session will cover the emerging topic of geopolymer concrete and present examples of potential formulations of this material using natural and nontraditional pozzolans. This session will also include a presentation of the FHWA's perspective on the use of nontraditional pozzolanic materials in concrete for transportation infrastructure and a review of the ongoing research programs and initiatives related to this topic.

**SPEAKERS**  
Sulapha Peethamparan, Clarkson University  
Robert Spragg, FHWA

**MODERATOR**  
Jijo Mathew, Purdue University

**TIME**  
11:00–11:50 AM

**ROOM**  
STEW 279

**PDH: 1**

**148. Pavement Quality Evaluation Using CV Data**

This session will compare crowdsourced production vehicle-generated roughness data with inertial laser profiler data on over 70 miles of I-65. The crowdsourced data had a linear correlation of  $R^2 = 0.79$  compared to the inertial profiler.

**SPEAKER**  
Justin Mahlberg, Purdue University

**MODERATOR**  
Jijo Mathew, Purdue University

# WEDNESDAY

## PAVEMENTS

**TIME**  
1:00–1:50 PM

**ROOM**  
STEW 279

**PDH: 1**

### 149. Build or Rehabilitate Roundabouts for Long-Term Performance: PCCP Solutions

Roundabouts have been a rapidly growing part of the Indiana landscape since the mid-1990s. When properly configured, they provide safe and efficient movement of traffic. This session addresses the advantages of constructing or rehabilitating these assets for longer-term pavement performance with concrete pavement by citing practical examples of “new builds” and “rehab” for reference.

#### SPEAKERS

Patrick Long, ACPA Indiana Chapter  
Margaret Hershberger, Allen County  
Rick Baumer, Milestone Contractors, LP

#### MODERATOR

Kirsten Fowler, APAI

**TIME**  
2:00–2:50 PM

**ROOM**  
STEW 279

**PDH: 1**

### 150. Fundamentals of Asphalt Binders

This presentation will help local agency personnel, consultants, and contractors to develop a continued understanding of the asphalt binders used in hot mix asphalt. This presentation will cover fundamental aspects of asphalt binders, including how they are produced, how they are tested, and why and how their properties influence constructability and performance. Additional discussion will focus on how certain additives are used with asphalt binders to enhance properties.

#### SPEAKER

Jason Wielinski, Asphalt Institute

#### MODERATOR

Kirsten Fowler, APAI



# WEDNESDAY

## PAVEMENTS

**TIME**  
3:00–3:50 PM

**ROOM**  
STEW 279

**PDH: 1**

### 151. Pavement Preservation: Made in Southern Indiana

When you travel the local roads of Southern Indiana, you find many pleasant surprises—home cooking, beautiful landscapes, and smooth pavements to ride on. But those pavements don’t come easy. Hard work and disciplined pavement management is the key. Pat Conner from Indiana LTAP will lead a panel of street and highway managers from across Southern Indiana as they share their tips on preserving pavements on the hills and curves unique to Southern Indiana.

#### SPEAKERS

Bobby Phillips, Jefferson County  
Kevin Russel, Harrison County  
Bob Sunderman, City of Jasper  
Steven Berg, Dubois County

#### MODERATOR

Kirsten Fowler, APAI

**TIME**  
4:00–4:50 PM

**ROOM**  
STEW 279

**PDH: 1**

### 152. Partners in Pavement Preservation: The Private-Sector Experts

If you’re facing a difficult challenge, you call a pro. Managing hundreds of miles of road network with a budget stretched thin and staff turning over faster than you can learn their names is not easy. You’ll need some help. Pat Conner from Indiana LTAP will lead a panel of contractors who specialize in pavement preservation. Hear first-hand what type of help is available, the best candidates, and when to apply preservation treatments to get the best return on your investment.

#### SPEAKERS

Philip Cornelius, Rejuvtec  
Chris Oakes, Pavement Solutions  
Jeff Beeler, Great lakes Chloride  
David Paramski, SealMaster

#### MODERATOR

Kirsten Fowler, APAI

# WEDNESDAY

## PAVEMENTS

**TIME**  
9:00–9:50 AM

**ROOM**  
WALC 1055

**PDH: 1**

### **153. Resilient Infrastructure: Sustainable Pavements and Drainage Structures**

This presentation will highlight concrete pavement and drainage options for a resilient and sustainable infrastructure. The concrete industry has been working to reduce greenhouse gas emissions, and this session will focus on our efforts and new technologies. Additionally, the benefits of concrete pavements and drainage structures related to impacts caused by climate-changing events will be discussed.

#### **SPEAKERS**

Patrick Long, ACPA Indiana Chapter  
Steve Smart, County Materials

#### **MODERATOR**

Mike Byers, American Concrete Pavement Association

**TIME**  
10:00–10:50 AM

**ROOM**  
WALC 1055

**PDH: 1**

### **154. A Case Study of Rapid Set, High Performance, Full-Depth Concrete Pavement Patching with CSA Cement: I-74 in Western Indiana**

This session provides a case study of INDOT’s use of Calcium Sulfoaluminate Cement (CSA) for concrete pavement patching. CSA is a high-performance, fast-setting, high early-strength material that enables fast repair, early opening to traffic, and long-term performance, thus minimizing traffic disruption during repairs and extending the service life of the asset.

#### **SPEAKERS**

Vanessa McCauley, INDOT  
Eric Brown, Milestone Contractors, LP  
Mike Byers, American Concrete Pavement Association

#### **MODERATOR**

Mike Byers, American Concrete Pavement Association

# WEDNESDAY

## PAVEMENTS

**TIME**  
1:00–1:50 PM

**ROOM**  
WALC 1055

**PDH: 1**

### 155. Seeing Results of Making Data-Driven Decisions: The Right Treatment at the Right Time

Knowing your pavement inventory, the condition of the network, and seeing preservation treatments perform year after year, can be the path to improving your road network. Pat Conner with Indiana LTAP, Chris Oakes with Pavement Solutions, and Dustin Dillion with the City of Warsaw will demonstrate how to analyze your pavement data, compare your network to nearby communities, and measure results on an annual basis.

#### SPEAKERS

Dustin Dillon, City of Warsaw  
Patrick Conner, Purdue University  
Chris Oakes, Pavement Solutions

#### MODERATOR

Brandon Hardin, E & B Paving, Inc.

**TIME**  
2:00–2:50 PM

**ROOM**  
WALC 1055

**PDH: 1**

### 156. The Illinois Certification and Research Track

The IDOT Bureau of Research, in cooperation with IDOT District 8, has constructed a 0.75-mile research and certification track just east of Trenton, IL along US 50. The track features different structural features to calibrate and validate testing equipment that assesses the structural health of our pavements. The track will offer six different pavement surfaces to certify inertial profilers and locked wheel friction testers, and it will also facilitate GPR and pavement marking retroreflectivity certification. Join us for a discussion.

#### SPEAKERS

Paul Dalbey, ARA  
John Senger, Illinois Department  
of Transportation (IDOT)

#### MODERATOR

Brandon Hardin, E & B Paving, Inc.

MARCH 15, 2023

# WEDNESDAY

## PAVEMENTS

**TIME**  
3:00–3:50 PM

**ROOM**  
WALC 1055

**PDH: 1**

### 157. Performance Prediction of Superpave 5 Asphalt Mixtures

INDOT has adopted the Superpave 5 asphalt mixture design method, which selects optimum binder content at 5% air voids content instead of the 4% of the standard method. Using 5% produces mixtures that are more easily compacted, yielding higher construction densities and improved pavement performance. The objective is to develop a Superpave 5 designed mixture property data set for Pavement-ME inputs to improve distress prediction during pavement design.

#### SPEAKERS

Tandra Bagchi, Purdue University  
Jongmyung Jeon, Purdue University  
Seonghwan Cho, INDOT

#### MODERATOR

Brandon Hardin, E & B Paving, Inc.

# WEDNESDAY

## PROJECT MANAGEMENT/PLANNING

**TIME**  
8:00–8:50 AM

**ROOM**  
CL50 224

**PDH: 1**

### 158. Designing to Avoid Utilities: When is It Feasible?

FHWA and INDOT have communicated for some time that successful project designs should avoid impacting utilities to lower risk and improve reliability in delivery. The question is, “When is it feasible?” To answer that question, this session engages participants with various project situations and design considerations to evaluate the feasibility of designing to avoid utilities. Participants from design, ROW, construction, and utility coordination will have the opportunity to interact in this “gamified” discussion.

#### SPEAKERS

Kenny Franklin, Parsons  
Holliston Huhn, Parsons

#### MODERATOR

Jim Knapp, Purdue University

**TIME**  
9:00–9:50 AM

**ROOM**  
CL50 224

**PDH: 1**

### 159. Utility Coordination Deliverables and How to Get There

From certification letters to special provisions, expectations of the utility coordination process are ever evolving. We would like to focus on the timing of when those deliverables should be submitted to limit the risk of letting exceptions. In our interactive session, we will also touch on how utility coordination affects the delivery of right-of-way, environmental, and time-set.

#### SPEAKERS

Matthew Witt, INDOT  
Kenny Franklin, Parsons

#### MODERATOR

Jim Knapp, Purdue University

# WEDNESDAY

## PROJECT MANAGEMENT/PLANNING

**TIME**  
10:00–10:50 AM

**ROOM**  
CL50 224

**PDH: 1**

### 160. So, You Want to Be a Utility Coordinator?

Successful navigation of the utility coordination process during a project involves more than just following the steps listed in the IDM. First, you must know how to start well. This presentation will outline how to develop a schedule that will work alongside the project delivery timeline, identify milestones to keeping utility coordination on track, and provide tips to get relocations completed by RFC.

#### SPEAKERS

Deborah Porter, Clark Dietz, Inc.  
Allen Van Den Boom, Clark Dietz, Inc.  
Karen Arnold, INDOT

#### MODERATOR

Jim Knapp, Purdue University

**TIME**  
11:00–11:50 AM

**ROOM**  
CL50 224

**PDH: 1**

### 161. Best Practices to Schedule Your Road Construction Program Without Tears

This presentation explains the fundamental difference between a project and a program and why they should be managed differently. Using an ongoing INDOT-sponsored construction program to illustrate best practices for the inputs required, tools and techniques used, and the outputs expected in the schedule management of a construction program, we will delve into the INDOT project schedule management requirements and some of the most common compliance issues, errors, and omissions and how to avoid them.

#### SPEAKER

Bernard Nartey, INDOT

#### MODERATOR

Jim Knapp, Purdue University

# WEDNESDAY

## PROJECT MANAGEMENT/PLANNING

**TIME**  
1:00–1:50 PM

**ROOM**  
CL50 224

**PDH: 1**

### 162. Efficiently Incorporating SUE Services into Your Project

Transportation projects must incorporate appropriate levels of utility investigations to meet FHWA requirements. There remains a lot of misunderstanding about SUE and how to use these services affordably and effectively. This session will explain the ASCE 38 standards and the SUE quality levels, and will provide project managers, designers, and coordinators an understanding of when and how to best incorporate SUE services. This session will be an interactive “gamified” approach for an informative, engaging, and fun learning experience.

#### SPEAKERS

Kenneth Slaninka, T2 Utility Engineers  
Kenny Franklin, Parsons

#### MODERATOR

Jeremy Kashman, City of Carmel

**TIME**  
2:00–2:50 PM

**ROOM**  
CL50 224

**PDH: 1**

### 163. When Utility Coordination Meets SUE

ASCE recently released two new SUE standards—ASCE 38-22 is the updated SUE standard commonly used during the utility coordination process during design, and ASCE 75-22 is the new utility as-built standard that is essential for the accurate location of newly relocated facilities in construction. This presentation will illustrate the interaction and relationship between SUE and utility coordination to enhance project deliverables and reduce risk during construction.

#### SPEAKERS

Natalie Parks, InfraMap  
Kenneth Kerr, Inframap

#### MODERATOR

Jeremy Kashman, City of Carmel

# WEDNESDAY

## PROJECT MANAGEMENT/PLANNING

**TIME**  
3:00–3:50 PM

**ROOM**  
CL50 224

**PDH: 1**

### 164. Corridor Rehabilitation Planning for Roads and Buried Infrastructure

This presentation discusses a mixed-assets renewal planning framework using mathematical optimization techniques to analyze roads, bridges, and buried infrastructure assets like water mains and storm lines. The proposed approach not only considers the characteristics and objectives of each asset class under a holistic analytical framework, but it also analyzes the timing of interventions to arrive at a more coordinated renewal plan. Participants will learn about the benefits of true mixed-assets optimization techniques and their impact on the quality of asset investment plans.

#### SPEAKERS

Kurt Bialobreski, Hanson Professional Services, Inc.  
Roozbeh Rashedi, Infrastructure Solutions, Inc.

#### MODERATOR

Jeremy Kashman, City of Carmel

**TIME**  
4:00–4:50 PM

**ROOM**  
CL50 224

**PDH: 1**

### 165. What Does Effective Environmental Justice Engagement Look Like?

Historically, transportation projects often have disproportionately impacted environmental justice (EJ) and other disadvantaged populations. FHWA and INDOT will share strategies for engaging with EJ communities to ensure equity in the transportation planning and NEPA decision-making processes and to provide new tools that have been developed to identify populations of concern. Michael Baker will share a case study involving efforts to identify and engage with EJ communities and to reduce/mitigate disproportionately high and adverse effects on EJ communities.

#### SPEAKERS

Drew Passmore, INDOT  
Kari Carmany-George, FHWA  
Laura Jack, Michael Baker International

#### MODERATOR

Jeremy Kashman, City of Carmel



MARCH 15, 2023

# WEDNESDAY

## PROJECT MANAGEMENT/PLANNING

**TIME**  
8:00–8:50 AM

**ROOM**  
STEW 214 CD

**PDH: 1**

**166. The Indiana Enterprise Center:  
Big Vision, Big Success**

This session will outline the process and outcomes that resulted from the Indiana Enterprise Center—a nearly 3,000-acre industrial park in St. Joseph County. The Indiana Enterprise Center is seeing tremendous success thanks to a 2-year master planning process that took a team of experts, county and local leadership, and a vision. With ready water, sewer, transportation, and power, this mega-site, located in western St. Joseph County, is a major opportunity that is finally realizing the county’s vision. Participants will learn how the planning process advanced and sometimes pivoted to respond to the local community and market demands. Participants will also learn to think about hidden infrastructure assets and what industrial markets are looking for in a potential location.

**SPEAKERS**  
William Schalliol, St. Joseph County  
Christian Brown, Antero Group  
Eric Neagu, Antero Group

**MODERATOR**  
Jay DuMontelle, FHWA

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MARCH 15, 2023

# WEDNESDAY

## PROJECT MANAGEMENT/PLANNING

**TIME**  
9:00–9:50 AM

**ROOM**  
STEW 214 CD

**PDH: 1**

### 167. Integrated Stormwater: Sustainable and Successful Campus Stormwater Management

Through strategic planning efforts and built projects, Purdue’s West Lafayette campus successfully integrated sustainable stormwater management. Engineers and planners will share how stormwater management practices have evolved over time to a layered approach, including surface treatments, engineering best management practices, and volume management. This presentation will include highlights from the university’s Stormwater Master Plan, a review of relevant case studies, and an overview of lessons learned as the campus continues to develop and densify.

#### SPEAKERS

Adam Keyster, Purdue University  
Marcus Smith, Purdue University  
Camille Shoaf, Purdue University

#### MODERATOR

Jay DuMontelle, FHWA

WEDNESDAY

PROJECT MANAGEMENT/PLANNING

TIME  
10:00–10:50 AM

ROOM  
STEW 214 CD

PDH: 1

168. Decades in the Making:  
Reimagine Pleasant Street

The Reimagine Pleasant Street project is a multi-year initiative that will result in improved east-west connectivity, accessibility, and safety for the City of Noblesville, while still honoring its urban character and historic features. Participants will learn how the project team addressed the challenges and complexities of completing this \$125 million local project in the heart of the city. Construction for phase 1 began in the fall of 2022, and phases 2 and 3 will start in the fall of 2023.

SPEAKERS

Mike Maurovich, American Structurepoint  
Tanner McKinney, American Structurepoint  
Alison Krupski, City of Noblesville

MODERATOR

Jay DuMontelle, FHWA

TIME  
11:00–11:50 AM

ROOM  
STEW 214 CD

PDH: 1

169. Navigating Common Project  
Risks to Positive Outcomes

This session will discuss common risk factors that most project teams face in delivering transportation projects. Improving “reliability in delivery” is a key goal for INDOT. Project teams must learn to identify risk points and remain solution focused. The speakers will elaborate on various project disciplines such as funding, contracting, ROW, utilities, and environmental risks. The speakers will offer successful practices for navigating these challenges using an interactive and gamified approach.

SPEAKERS

Kenny Franklin, Parsons  
Jessica Miller, INDOT

MODERATOR

Jay DuMontelle, FHWA

# WEDNESDAY

## PROJECT MANAGEMENT/PLANNING

**TIME**  
1:00–1:50 PM

**ROOM**  
STEW 214 CD

**PDH: 1**

### 170. Alternative Delivery Methods

Owners are facing increased pressure to deliver major infrastructure projects in a timely and cost-efficient manner. Pain from inflation and labor/material shortages are felt nationwide. To maximize limited budgets, owners are exploring alternative delivery methods. Attendees will learn about the benefits and pitfalls of progressive design-build (PDB) and construction manager/general contractor (CM/GC). Presenters will share best practices for determining if PDB and CM/GC are appropriate for your project and provide case study examples.

#### SPEAKERS

William Stringer, American Structurepoint  
Steve Davidson, American Structurepoint

#### MODERATOR

Haydn Malackowski, Purdue University

**TIME**  
2:00–2:50 PM

**ROOM**  
STEW 214 CD

**PDH: 1**

### 171. SEPA Case Study: SR 32 Westfield Reconstruction

The State Environmental Policy Act (SEPA) requires evaluating how a project could impact the surrounding environment, including the natural environment (waterways, wetlands, and endangered species) and the social environment (historic resources and social and economic factors). The SR 32 Westfield Reconstruction project will be presented as a case study of project alternatives, wetland delineation, historic investigations, and ground resources. Attendees will gain a comprehensive understanding of the SEPA requirements needed for state funding.

#### SPEAKERS

Ken Olson, American Structurepoint  
Sarah Everhart, American Structurepoint  
Jennifer Beck, INDOT  
John Nail, City of Westfield  
Briana Hope, American Structurepoint

#### MODERATOR

Haydn Malackowski, Purdue University

MARCH 15, 2023

# WEDNESDAY

## PROJECT MANAGEMENT/PLANNING

**TIME**  
3:00–3:50 PM

**ROOM**  
STEW 214 CD

**PDH: 1**

### 172. LPA Guide to Environmental Hurdles

Compliance with the National Environmental Policy Act (NEPA) is a federal requirement when using federal funding for transportation projects. Attendees will learn about environmental hurdles and common schedule challenges that can be encountered in a project and how to best manage them. Topics specifically addressed will include Section 106 (cultural resources), T&E species, 4(f), public involvement, and environmental justice.

#### SPEAKERS

Briana Hope, American Structurepoint  
Sarah Everhart, American Structurepoint

#### MODERATOR

Haydn Malackowski, Purdue University

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**TIME**  
4:00–4:50 PM

**ROOM**  
STEW 214 CD

**PDH: 1**

### 173. Basics of Plan Reading

Road and bridge plans don't have to be intimidating. In this session, we will cover the basics of how to read plans. Join us and discover how to use scale, stationing, standard symbols, abbreviations, and views to read and interpret roadway plans.

#### SPEAKER

Todd Morrison, University of Kentucky

#### MODERATOR

Haydn Malackowski, Purdue University

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# WEDNESDAY

## SAFETY

**TIME**  
8:00–8:50 AM

**ROOM**  
MATH 175

**PDH: 1**

### 174. Traffic Signal Preemption Near Active Railroad Crossings Revisited

This session is an updated version of “Traffic Signal Advance Pre-emption Design within 200’ of Active Railroad Crossings,”—a 2012 Purdue Road School presentation. The issue of Traffic Signal Preemption has changed, positively and negatively, for INDOT and the railroads. A review of the updated traffic signal preemption material will benefit designers, operations staff, and local agencies.

**SPEAKER**  
Gregory Richards, INDOT

**MODERATOR**  
Rusty Holt, WSP USA, Inc.

**TIME**  
9:00–9:50 AM

**ROOM**  
MATH 175

**PDH: 1**

### 175. Using Raised Crosswalks to Elevate Pedestrian Safety

Join us for a discussion of how and when Carmel implemented raised crosswalks for successful traffic calming and enhanced pedestrian safety.

**SPEAKERS**  
Bradley Pease, City of Carmel  
Willie Hall, CrossRoad Engineers

**MODERATOR**  
Rusty Holt, WSP USA, Inc.

MARCH 15, 2023

# WEDNESDAY

## SAFETY

### TIME

10:00–10:50 AM

### ROOM

MATH 175

### PDH: 1

## 176. How to Prepare a Meaningful Crash Analysis

Many people outside of traffic engineering are required to conduct a crash history analysis as part of their scoping efforts for non-safety funded projects. Some engineers may not have much experience working with crash data or may not know how best to manipulate it to arrive at meaningful results. Using real-world examples, this presentation will walk through each step in requesting, filtering, diagramming, and interpreting crash data.

### SPEAKER

Taylor Ruble, INDOT

### MODERATOR

Rusty Holt, WSP USA, Inc.

### TIME

11:00–11:50 AM

### ROOM

MATH 175

### PDH: 1

## 177. Temporary Traffic Signals as Smart Work Zone Devices

Recent advancements in technology have helped to make work zones safer and smarter than ever before. “Smart” or “intelligent” work zones use interconnected devices to increase safety, provide real-time travel information to motorists, and efficiently react to changing traffic conditions. To further increase work zone safety in recent years, portable traffic signals (PTS) have also been included in these applications. This presentation will focus on some specific case studies of PTS in Smart Work Zone applications and will discuss the benefits and capabilities of such systems.

### SPEAKER

David Krahulec, Horizon Signal Technologies, Inc.

### MODERATOR

Rusty Holt, WSP USA, Inc.

# WEDNESDAY

## SAFETY

**TIME**  
1:00–1:50 PM

**ROOM**  
MATH 175

**PDH: 1**

### 178. Keeping Up with the Flow of Traffic Calming

South Bend will share how it values traffic calming as an essential tool for creating safer roads and improving the quality of life for residents. Program requirements have gone through several iterations as the number of requests continues to increase. With a budget of just over \$3M, South Bend has developed a comprehensive city-wide traffic calming plan, phased across multiple years, and a project prioritization process to continue to objectively evaluate and incorporate new requests.

#### SPEAKERS

Kara Boyles, City of South Bend  
Leslie Biek, City of South Bend  
Charlotte Brach, City of South Bend

#### MODERATOR

Rahul Sakhare, Purdue University

**TIME**  
2:00–2:50 PM

**ROOM**  
MATH 175

**PDH: 1**

### 179. Local Agency Safe System Approach Implementation

Agencies have heard presentations on the Safe System Approach (SSA), but several are still left wondering how to apply it in practice. The Baltimore Metropolitan Council led a staff workshop last August to understand how to apply the Safe System elements in their organizational practices to reduce severe crashes. Next, they will collaborate with three local agencies to identify how to integrate the SSA. This presentation will highlight the findings gathered for SSA consideration.

#### SPEAKER

Kendra Schenk, Burgess & Niple, Inc.

#### MODERATOR

Rahul Sakhare, Purdue University



# WEDNESDAY

## SAFETY

**TIME**  
3:00–3:50 PM

**ROOM**  
MATH 175

**PDH: 1**

### 180. Toward Safer Work Zones: Challenges and Opportunities for Indiana Workzone Intrusion Alert Technologies

This presentation explores the effectiveness, challenges, best practices, and opportunities of four commercially available intrusion technologies based on the current state of knowledge and practices; functional characteristics in deployment and operation by implementing the technologies in a simulated offroad workzone; and their effectiveness in alarming drivers and workers in case of intrusion through implementation in various types of active work zones.

#### SPEAKERS

Sogand Hasanzadeh, Purdue University  
Behzad Esmaeili, Purdue University  
Kyeongsuk Lee, Purdue University

#### MODERATOR

Rahul Sakhare, Purdue University

**TIME**  
4:00–4:50 PM

**ROOM**  
MATH 175

**PDH: 1**

### 181. Change at the Crossroads of America: Indiana’s Road to Zero

Health by Design was one of six organizations to receive a 2022 Community Traffic Safety Grant from the National Safety Council’s Road to Zero Coalition. This award will aid in addressing the troubling rise in roadway fatalities that Indiana continues to experience by using the three pillars of the Road to Zero strategy. Our “Change at the Crossroads of America” project will include a series of activities that support statewide education, training and technical assistance on the Safe System approach, safety culture (Indiana Road to Zero Academy), and technical assistance and project implementation in five local communities. Join us for a discussion.

#### SPEAKERS

Rebecca Payne, Health by Design  
Marjorie Hennessy, Health by Design

#### MODERATOR

Rahul Sakhare, Purdue University

# WEDNESDAY

## TRAFFIC OPERATIONS

**TIME**  
8:00–8:50 AM

**ROOM**  
STEW 310

**PDH: 1**

**182. Methodology for Monitoring Work Zones Traffic Operations Using CV Data: Implementation on Indiana Interstates with UAS Imagery**

This presentation explores scalable methodologies that can be used to systematically analyze hard-braking data and speed data obtained from connected vehicles. Weekly work zone reports are shared with concerned stakeholders every week to analyze changes in HB events, crashes, and mile-hours of congestion across all of Indiana interstates. Specific areas of concern are a high increase in events identified through these reports that are further analyzed using UAS imagery. Presenters will also review a case study on the I-65 SB Lebanon work zone and US 52 merge.

**SPEAKERS**  
Rahul Sakhare, Purdue University  
Jairaj Desai, Purdue University

**MODERATOR**  
John McGregor, INDOT

**TIME**  
9:00–9:50 AM

**ROOM**  
STEW 310

**PDH: 1**

**183. Leveraging ATSPMs for Cross-Regional Collaboration/Traffic Optimization**

For a variety of reasons, evaluating and maximizing the benefits of ATSPMs can be challenging for cities. City-level studies could be more impactful if they considered the interconnectedness and collaboration between municipal jurisdictions to ensure that shared traffic networks are optimized and efficient for all road users and maintenance teams. This interactive session will discuss the challenges of ATSPMs and how existing technology makes it possible to create scalable, customizable, connected regional networks without requiring infrastructural uniformity.

**SPEAKER**  
Matthew Muresan, Miovision

**MODERATOR**  
John McGregor, INDOT

# WEDNESDAY

## TRAFFIC OPERATIONS

**TIME**  
10:00–10:50 AM

**ROOM**  
STEW 310

**PDH: 1**

### 184. Interstate Access Requests: Procedures, Lessons Learned, and Past Experiences

This session will cover where we were and where we are now related to Interstate Access Request FHWA Policy and Indiana Procedures. The material will include important milestones over the past few years, critical coordination stages with local interests, FHWA Interstate Access Policy discussion related to NEPA, analysis and alternative development lessons learned, discussion of program status updates, and past experiences.

**SPEAKERS**  
Daniel McCoy, INDOT  
Craig Moore, Parsons

**MODERATOR**  
John McGregor, INDOT

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**TIME**  
1:00–1:50 AM

**ROOM**  
STEW 310

**PDH: 1**

### 185. Lessons Learned on Work Zone Lane Bifurcations

This session will discuss the application of connected vehicle data to assess the impact of lane bifurcations or split cross overs on work zone safety and mobility. Connected vehicle speed and hard braking event data were used to analyze performance of MOT transitions such as lane merges and lane splits, and impact of speed limit signs and lane markings. This presentation will also provide recommendations and feedback on addressing observed MOT issues at work zones with lane bifurcations.

**SPEAKERS**  
Jijo Mathew, Purdue University  
Jairaj Desai, Purdue University

**MODERATOR**  
Mischa Kachler, INDOT

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# WEDNESDAY

## TRAFFIC OPERATIONS

**TIME**  
2:00–2:50 PM

**ROOM**  
STEW 310

**PDH: 1**

### 186. Identification of Traffic Signal Retiming Opportunities Using Connected Vehicle Data

Trajectory-based traffic signal performance measures allow agencies to monitor the operation of their signals without the need for sensing or communication infrastructure. This presentation analyzes system-wide traffic signal performance measures to identify locations that have retiming opportunities for reducing split failures.

#### SPEAKERS

Daniel Saldivar-Carranza, Purdue University  
Thomas Platte, INDOT

#### MODERATOR

Mischa Kachler, INDOT

**TIME**  
3:00–3:50 PM

**ROOM**  
STEW 310

**PDH: 1**

### 187. Safe and Productive Work Zones of the Next Decade

Out of the 842 work zone fatalities the US had in 2019, 135 of them were workers. This number has steadily risen over the past decade. What can you do to ensure the safety of your work zone in the coming decade? This session will discuss several strategies and innovations that will make your work zones safer, including positive protection, intelligent drums, intrusion alarms, smart vests, automatic flagger assistance devices, automatic cone devices, temporary traffic signals, and communicable disease protocols.

#### SPEAKER

Todd Morrison, University of Kentucky

#### MODERATOR

Mischa Kachler, INDOT

# WEDNESDAY

## WINTER WEATHER OPERATIONS

**TIME**  
1:00–1:50 PM

**ROOM**  
STEW 306

**PDH: 1**

### 188. CDL Program Implementation

Following the new CDL laws that went into effect in early 2022, it was discovered that many agencies were not prepared for or aware of the changes. INDOT will present its progress in developing a nationally standardized training program, the implementation of that program, and resources to help local agencies start their own CDL training programs.

#### SPEAKERS

Jeremy McGuffey, INDOT  
Brian Miller, INDOT

#### MODERATOR

Jeremy McGuffey, INDOT

**TIME**  
2:00–2:50 PM

**ROOM**  
STEW 306

**PDH: 1**

### 189. Pathfinders, Probabilistic Messaging, and a Windstorm

On February 24, 2019, frequent 50–65 mph wind gusts were reported as a storm system moved through the Great Lakes region. This presentation by the National Weather Service will explore the Pathfinders program, probabilistic messaging, and a case study of non-thunderstorm wind. Regional success stories of the Pathfinders program will be explored, and examples of probabilistic messaging will be deciphered.

#### SPEAKER

Kyle Brown, National Weather Service

#### MODERATOR

Jeremy McGuffey, INDOT

MARCH 15, 2023

# WEDNESDAY

## WINTER WEATHER OPERATIONS

**TIME**  
3:00–3:50 PM

**ROOM**  
STEW 306

**PDH: 1**

### 190. Automating Work Orders Using GPS Tracks

At INDOT, work orders are among the most important records for payroll accounting, equipment utilization, and resource allocation. However, work orders today are filled manually, requiring significant effort from road operation managers. In this presentation, we will introduce work order verification and generation algorithms to automatically extract winter operation information from GPS tracks with improved accuracy. A proof-of-concept web app will also be demonstrated to highlight the benefits with real-life examples involving thousands of vehicles.

#### SPEAKERS

Aaron Ault, Purdue University  
Yaguang Zhang, Purdue University

#### MODERATOR

Jeremy McGuffey, INDOT

# HOURS

## PROFESSIONAL DEVELOPMENT/CONTINUING EDUCATION

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

### HOW TO OBTAIN YOUR PDH/CEU STATEMENT

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1. You may retain a self-reporting, Professional Development Hours Credit Statement for your own records (available at registration).
2. 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.
  3. Visit <https://tinyurl.com/2023RS-RegModification> at the conclusion of Road School (The self-reporting link and website below will not be activated until March 21st, directly following the Road School programming, and will remain available until April 17th.).
  4. Select the hyperlink "Modify Registration for PDH"
  5. Log in by completing the requested fields (email address and confirmation number as they appear on your confirmation email).
  6. After logging in, click on the "Modify Registration" button on the "Confirmation" tab.
  7. You will advance to the "Terms & Conditions" page. Click the "Next" button at the bottom of the page and proceed to the "Registrant Information" page. Click the "Next" button at the bottom of the page and proceed to the "Sessions" page.
  8. 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.
  9. Follow the prompts to continue and complete the PDH/CEU recording process.

Sessions attended must be reported between March 20th and April 17th to be eligible to receive the event CEU/PDH Certificate. An event-specific PDH/CEU statement will be sent to your registration email address on April 18, 2023.

# ARCHIVES

## ROAD SCHOOL PUBLICATIONS ON PURDUE E-PUBS

Since 2011 with author’s 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 have over 968,000 downloads since we placed the Road School presentations on the web. Nearly 60% of those downloads are from outside the United States, representing 225 countries. This is a great testament to the impact Road School is having not only in Indiana and the U.S., but around the world, as shown by the distribution map below.



## SUBMIT PRESENTATIONS HERE



2023 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.



# EXHIBITORS

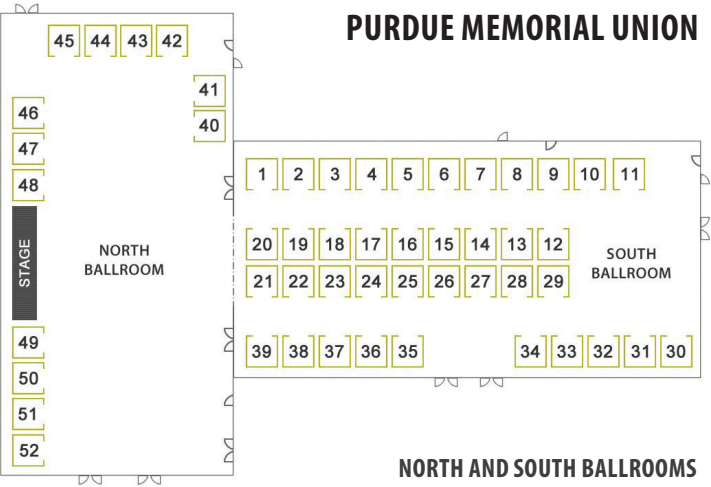
## EXHIBITORS LISTED BY NAME

- 33 Abonmarche
- 32 Acrow
- 47 Advanced Chemical Technologies, Inc.
- 38 American Structurepoint
- 25 ASC Group, Inc.
- 35 Asphalt Materials, Inc.
- 39 Asphalt Pavement Association of Indiana
- 28 Asphalt Zipper, Inc.
- 48 ATMAX Equipment Co.
- 12 Beam Longest & Neff
- 17 Best Equipment Company
- 11 CHA Consulting, Inc.
- 8 Collins Engineers, Inc.
- 14 Compliance Field Services, Inc.
- 42 Cylcomedia Technology, Inc.
- 46 EJ
- 43 ENTEL, Inc.
- 34 Equipment Marketing Company
- 21 Everett J Prescott
- 40 FasTrac Construction Products
- 18 Ferguson Enterprises
- 50 Fleis & VandenBrink
- 23 GAI Consultants, INC.
- 6 GeoTree
- 51 Globe Asphalt Paving
- 3 Hanson Professional Services
- 5 Highway Safety Specialists
- 16 Hirons
- 24 Horizon Signal Technologies, Inc.
- 4 Indiana Kentucky Ohio Concrete Pipe Association
- 36 International Right of Way Association Indiana Chapter 10
- 13 JQOL Inc.
- 27 Kapur & Associates Inc.
- 9 Kessler Soils Engineering Products, Inc.
- 29 KWIK Bond Polymers
- 45 Mason Private Locating, LLC
- 44 Minnick Services
- 19 Motz Enterprises, Inc.
- 49 ms consultants, Inc.
- 1 National Gunitite
- 22 Osburn Associates, Inc.
- 30 Parsons

# EXHIBITORS

## EXHIBITORS LISTED BY NAME

- 2 Reading Rock, Inc.
- 37 Resource International, Inc.
- 31 SealMaster
- 41 SJCA Inc.
- 52 Solmax
- 7 Specialties Company
- 20 The Hoosier Company
- 26 United Consulting
- 15 Valmont Industries, Inc.
- 10 Volkert, Inc.



# EXHIBITORS



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# EXHIBITORS



WATER • WASTEWATER • STORMWATER  
**SOLUTIONS**



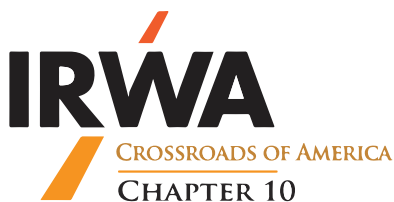
# EXHIBITORS



# EXHIBITORS



INDIANA • KENTUCKY • OHIO  
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ASSOCIATION





# EXHIBITORS



**ms consultants, inc.**  
engineers, architects, planners



# EXHIBITORS



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BUILDING MATERIALS & SERVICES

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**SealMaster®**



Pavement Products & Equipment



**SJCA**

# EXHIBITORS



# MAPS

## CAMPUS MAP

109th ANNUAL  
**PURDUE ROAD SCHOOL**  
MARCH 14-15, 2023



## CAMPUS MAP KEY

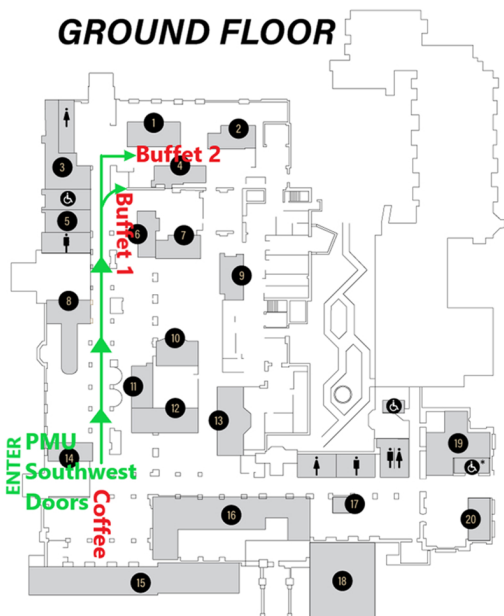
- REGISTRATION, EXHIBIT HALL & LUNCH
- OPENING SESSION
- BREAKOUT SESSIONS

CL50 Room 224, KRAN Room G016, MATH Room 175, WALC Room 1055 (Hiler Theatre), WTHR Room 200

# MAPS

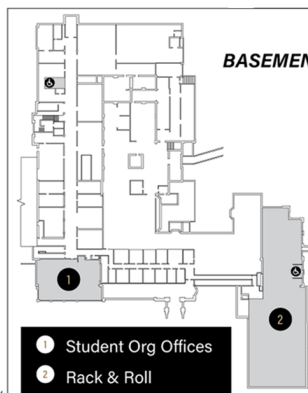
## PURDUE MEMORIAL UNION, GROUND FLOOR

### GROUND FLOOR



Gender Neutral Restroom
 Men's Restroom
 Women's Restroom
 Elevator  
*\*to Rack & Roll only*

### BASEMENT



#### FOOD VENUES

- 1 BBQ District
- 2 Fresh Fare
- 4 Latin Inspired
- 6 Sol Toro
- 7 Pizza & Parm
- 8 Starbucks
- 9 Zen
- 10 Sushi Boss
- 11 Chef Bill Kim's
- 12 Aatish
- 16 Walk-Ons
- 19 Boilermaker Market

#### EVENT VENUES

- 3 G083 Meeting Room
- 5 G077 Meeting Room
- 13 Fireside Lounge
- 14 Hail Purdue Stage
- 15 West Terrace
- 17 Ever True Stage
- 18 East Terrace
- 20 1869 Meeting Room

# MAPS

## PURDUE MEMORIAL UNION, FIRST FLOOR



### EVENT VENUES

- 1** North Ballroom
- 2** South Ballroom
- 8** West Main Lounge
- 9** East Main Lounge
- 10** Great Hall (Info Desk)
- 11** 118 Lounge
- 12** Union Club Hotel Lobby

### RETAIL TENANTS

- 3** UPS Store
- 4** Fidelity Investments
- 5** Purdue Federal Credit Union
- 6** Evans, Piggot and Finney Eye Care
- 7** Amazon @ Purdue

### FOOD VENUES

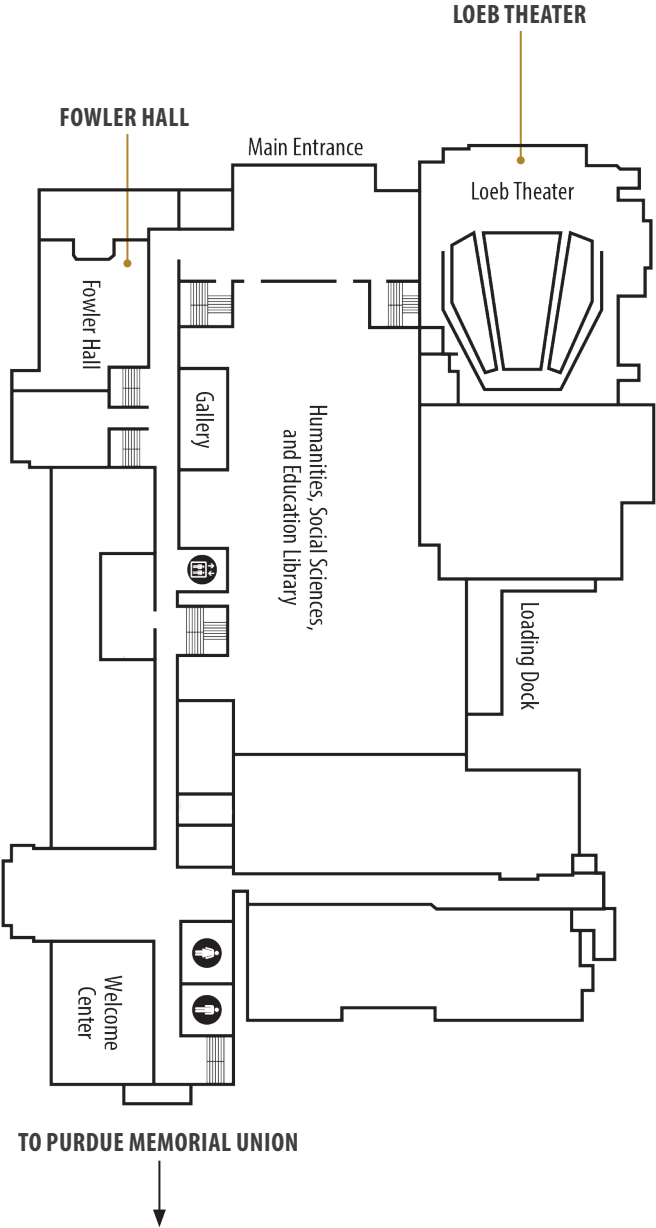
- 13** Leaps Coffee
- 14** Boiler Up Bar
- 15** 8Eleven Modern Bistro

# MAPS

## STEWART CENTER, FIRST FLOOR

Opening session (Loeb Theater)

Technical sessions

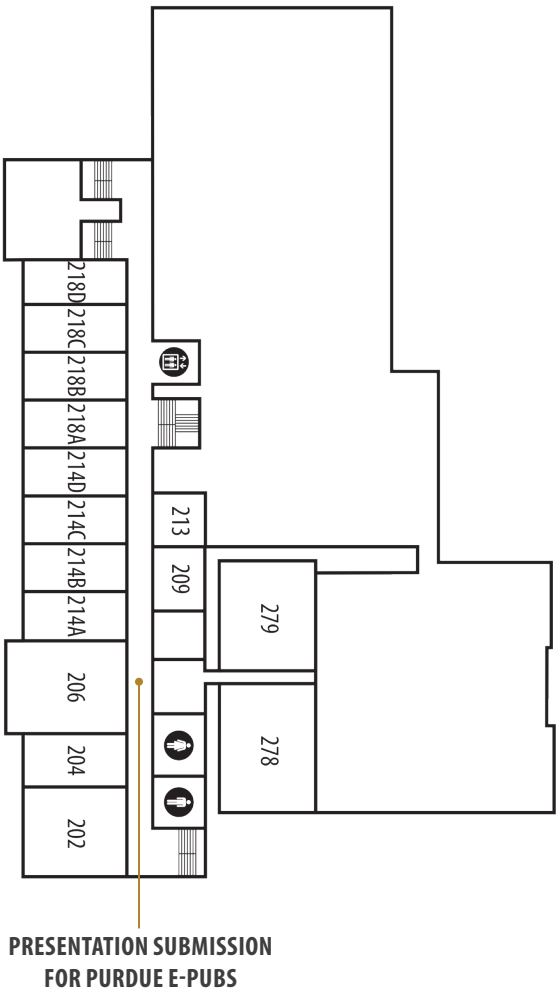


# MAPS

## STEWART CENTER, SECOND FLOOR

Technical sessions

Presentation submission for Purdue e-Pubs





# MAPS

## STEWART CENTER, THIRD FLOOR

### Technical sessions

