

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

## Transportation Conference & Expo



March 15 & 16, 2022

# CONTENTS

Opening Session.....	2
Exhibitor Visit & Lunch.....	3
Other Events.....	4
Student Poster Session .....	4
Indiana LTAP .....	4
ITE Indiana Road School Banquet.....	4
Technical Program Descriptions .....	5
Thursday, March 10 Presentations.....	5
Tuesday, March 15 Presentations.....	6
Wednesday, March 16 Presentations.....	42
Professional Development (PDH) .....	101
Road School Presentation Archives .....	102
Exhibitors.....	103
Maps.....	114

# TUESDAY

## SCHEDULE OF EVENTS

# Opening Session

**Tuesday, 9:30–10:30 AM**

**Loeb Theater, Stewart Center**

### **WELCOME**

**Mung Chiang**

Executive Vice President, Purdue University

### **FIRESIDE CHAT**

**Michael Smith**

Commissioner, Indiana Department of Transportation

**Lloyd Winnecke**

Mayor, City of Evansville

**Fred Cartwright**

President and CEO, Conexus

**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

---

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

Please visit our exhibitors.

### EXHIBITOR LUNCHEON

---

**Tuesday & Wednesday, 11:00 AM–1:00 PM**  
**North & South Ballrooms, Purdue Memorial Union**

The exhibitor luncheon provides an opportunity for attendees to visit with exhibitors and enjoy a boxed lunch.

# OTHER EVENTS

## OTHER ROAD SCHOOL EVENTS

### STUDENT POSTER SESSION

---

**Tuesday, 11:00 AM–1:50 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

---

Visit Indiana LTAP in the Purdue Memorial Union, room 118 near registration, to receive a free print copy of LTAP's 2022 Directory of Indiana State, County, City, and Town Officials. An electronic copy of the directory is also available for download at LTAP's website ([www.purdue.edu/inltap](http://www.purdue.edu/inltap)). Stop by the LTAP room and have the staff walk you through the NEW Indiana LTAP app and Learning Management System!

### ITE INDIANA ROAD SCHOOL DINNER / BANQUET

---

**Wednesday, 5:30–7:00 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 10, 2022

# THURSDAY

## ETHICS

### TIME

9:30–10:30 AM

### ROOM

INDIANA  
CONVENTION  
CENTER

PDH: 1

### 95A. Indiana Statutes and Rules for Professional Engineering Licensure

This session will cover the following topics: the Indiana Code vs. 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

Stephen Gillman, State Board of Registration  
for Professional Engineers

---

### TIME

10:30–11:30 AM

### ROOM

INDIANA  
CONVENTION  
CENTER

PDH: 1

### 96A. Ethics Case Histories: A Comparison of Code Provisions

This presentation will provide case histories/scenarios and then evaluate each of them using multiple different codes (ASCE, NSPE, NCEES Model Law, Indiana Law, etc.). We will engage participants in evaluating the ease of use of the codes and assess whether the codes provide similar or different guidance.

#### SPEAKERS

Vincent Drnevich, Purdue University  
Brock Barry, United States Military Academy  
David Kish, Purdue University

---

MARCH 15, 2022

# TUESDAY

## BRIDGES

### TIME

11:00–11:50 AM

### ROOM

STEW 206

PDH: 1

## 1. INDOT Bridge Scour Policy Update and Hydraulics Request Application

This session presents the history of bridge preservation projects and how we arrived at our current policy. Together we will discuss the development of the Hydraulics Request Application, demonstrate its use for INDOT's hydraulic design, and review application submissions.

### SPEAKERS

Stephanie Wagner, INDOT

Mark Bailey, INDOT

### MODERATOR

John Ayers, Hendricks County

---

### TIME

12:00–12:50 PM

### ROOM

STEW 206

PDH: 1

## 2. Design and Construction of an Innovative Non-Fracture Critical Steel Straddle Bent

Steel straddle bents have traditionally been built using single-cell steel box girders, which are considered to be fracture critical. A fracture critical designation requires substantial and costly inspection techniques over the lifespan of the bridge. This presentation focuses on the development and construction of an innovative non-fracture critical steel straddle bent system. Not only does this design eliminate the fracture critical designation, but it can also be fabricated at a lower cost.

### SPEAKER

Michael Culmo, CHA Consulting, Inc.

### MODERATOR

John Ayers, Hendricks County

---

MARCH 15, 2022

# TUESDAY

## BRIDGES

### TIME

1:00–1:50 PM

### ROOM

STEW 206

PDH: 1

### TIME

2:00–2:50 PM

### ROOM

STEW 206

PDH: 1

### 3. Bridge Deck Repair and Preservation

When it comes to aging infrastructure, it is much more sustainable to rehabilitate these assets rather than let them fail and be replaced. When it comes to bridge decks, hydrodemolition surface preparation with a latex modified concrete overlay is the most time-tested, cost-effective, and long-lasting rehabilitation method. This presentation will highlight the use of these two amazing technologies.

#### SPEAKERS

Blake Liberati, Hydro-Technologies, Inc.  
Edward Liberati, Hydro-Technologies, Inc.

#### MODERATOR

Anne Rearick, INDOT

---

### 4. Built-Up Press-Brake-Formed Tub Girders: Design and Analysis

This session presents a new method for the accelerated fabrication of resilient steel bridges—built-up press-brake-formed tub girder sections comprised of bent webs bolted to flat flange plates. Two demonstration bridges will be built in Indiana in 2022 using this new method. The presentation will focus on (1) the detailed design and analysis of these two bridges, (2) an evaluation of the load path redundancy of the system, and (3) contracting and fabrication details.

#### SPEAKERS

Ashley Thrall, University of Notre Dame  
Sherryen Mutoka, University of Notre Dame  
Thomas Bieneman, HNTB Corporation  
Angela Pearl, HNTB Corporation

#### MODERATOR

Anne Rearick, INDOT

---

MARCH 15, 2022

# TUESDAY

## BRIDGES

**TIME**

3:00–3:50 PM

**ROOM**

STEW 206

**PDH: 1**

### 5. Fundamentals and Strategies for Moving Steel Trusses

As more trusses are being relocated for trail projects, understanding how to move these structures on and off their supports is becoming more important. The costs between different methods can vary dramatically and there are key elements to focus on in each situation. This presentation will cover the fundamentals of moving trusses, differences in moving different styles of trusses, and costs associated with the different construction methods of moving trusses on and off their supports.

**SPEAKERS**

Daniel Kurdziel, VS Engineering, Inc.  
Jim Barker, VS Engineering, Inc.

**MODERATOR**

Anne Rearick, INDOT

**TIME**

4:00–4:50 PM

**ROOM**

STEW 206

**PDH: 1**

### 6. The Eel River Bridge: A Historic Bridge Gets Relocated

The SR 46 Eel River bridge in Clay County was a Parker Truss on the National Register of Historic Places. It carried 450 trucks per day yet sat quietly on the verge of collapse. Two emergency repairs, 2 years of historic review, and 10 years later, this historic truss is finally moved and replaced by a new bridge. Join us for an illustrative journey through this project's development and completion.

**SPEAKERS**

Kyle Muellner, Parsons Corporation  
Mary Kennedy, INDOT  
Tony Jones, INDOT

**MODERATOR**

Anne Rearick, INDOT



MARCH 15, 2022

# TUESDAY

DESIGN/CONSTRUCTION

**TIME**

11:00–11:50 AM

**ROOM**

LOEB THEATER

**PDH: 1**

**7. Technology in Ready Mix Concrete: Admixtures to Hardware**

Technology in ready mix offers a glimpse into several technologies in admixtures, software, and hardware that offer benefits, such as speeding up construction and increasing sustainability. Join us for a discussion.

**SPEAKER**

Chad Clark, Irving Materials, Inc.

**MODERATOR**

Travis Kohl, INDOT

---

**TIME**

1:00–1:50 PM

**ROOM**

LOEB THEATER

**PDH: 1**

**8. Lessons Learned: US-150 Over Kanie Creek Bridge Replacement**

US-150 over Kanie Creek is INDOT's first long span, 60 ft, three-sided precast bridge structure. INDOT's consultant for this project will present the design considerations, including long term maintenance and construction challenges, for this structure's selection and highlight unique end treatment features. We will also discuss the accelerated bridge construction and design of the precast bridge and the challenges with verifying and designing the cast-in-place deep foundation system to accommodate the in-place existing abutments.

**SPEAKERS**

Philip Creamer, Contech Engineered Solution, LLC

Mike Muroski, SJCA, Inc.

Kevin Kirby, Contech Engineered Solution, LLC

**MODERATOR**

James Colonis, INDOT

---

MARCH 15, 2022

# TUESDAY

DESIGN/CONSTRUCTION

**TIME**

2:00–2:50 PM

**ROOM**

LOEB THEATER

**PDH: 1**

## 9. Construction Practices and Bridge Deck Cracking

This presentation will show examples of multiple bridges built with low-shrinkage concrete decks, including some with crack-reducing technologies like synthetic fibers, that exhibited high cracking. The construction of these bridges was monitored, and the construction practices that affected the cracking will be highlighted.

**SPEAKER**

Rouzbeh Khajehdehi, SJCA, Inc.

**MODERATOR**

James Colonis, INDOT

---

**TIME**

3:00–3:50 PM

**ROOM**

LOEB THEATER

**PDH: 1**

## 10. Sewer Interceptor Transformed Into a Transportation Rehabilitation Project

The City of Jeffersonville Wastewater Utility had planned for a \$20 million EPA consent decree combined sewer interceptor project along a downtown street corridor. The design team, city engineer, Wastewater Utility, and other planning divisions transformed this sewer project into a corridor rehabilitation project while satisfying EPA requirements. The new corridor provides drainage relief, bike corridors, traffic calming, and more. Join us for a discussion.

**SPEAKERS**

Joshua Darby, Jacobi, Toombs & Lanz, Inc.

Andy Crouch, City of Jeffersonville

Joshua Hillman, Jacobi, Toombs & Lanz, Inc.

**MODERATOR**

James Colonis, INDOT

---

MARCH 15, 2022

# TUESDAY

DESIGN/CONSTRUCTION

**TIME**

4:00–4:50 PM

**ROOM**

LOEB THEATER

**PDH: 1**

**11. MSE Wall Performance  
Issues and Remedies**

INDOT has been constructing Mechanically Stabilized Earth (MSE) retaining walls since the 1980s. In recent years, INDOT experienced various MSE wall performance issues, is currently assessing the condition of such MSE walls, and is repairing the most defective ones. Based on lessons learned, INDOT is implementing several steps, from the planning phase through construction, to minimize the required maintenance effort throughout the design life of MSE walls.

**SPEAKERS**

Aamir Turk, INDOT  
Abul Mazumder, INDOT

**MODERATOR**

James Colonis, INDOT

---

MARCH 15, 2022

# TUESDAY

DESIGN/CONSTRUCTION

**TIME**

1:00–1:50 PM

**ROOM**

STEW 302

**PDH: 1**

## 12. Innovative Engineering for Roundabouts and Intersections

**Intersection Sight Distance Considerations for Horse-Drawn Vehicles**—This presentation reviews potential modifications to the intersection sight distance triangle based on the stopping position and gap acceptance of horse-drawn vehicles. Some Indiana counties (Elkhart, LaGrange, Dubois, etc.) have large numbers of buggies on the road, and this research investigated how to accommodate their unique vehicle characteristics for intersection design.

### SPEAKERS

Jay Grossman, Valparaiso University  
Charles McKenzie, Elkhart County

**Low Impact Roundabout Conversion**—This presentation describes the planning, design, and construction of a \$527,000 compact roundabout for the City of Westfield at 171st Street and Carey Road. This stop-controlled intersection was converted to a roundabout by constructing a center island, splitter islands, and minor pavement widening within the general footprint of the intersection. The existing pavement was re-used by placing wedge and level to achieve the roundabout's designed grades.

### SPEAKERS

Brian Craig, GAI Consultants, Inc.  
Jay Vorisek, GAI Consultants, Inc.  
Johnathon Nail, City of Westfield

### MODERATOR

Jeffrey Clanton, INDOT

---

**TIME**

2:00–2:50 PM

**ROOM**

STEW 302

**PDH: 1**

### **13. River Bank Stabilization and Interchange Signing**

#### **I-69 White River Bank Stabilization at Stotts Creek—**

The White River Bank Stabilization project site stretches 3,000 feet along the river. It is located west of the future I-69 in Morgan County at the confluence of Stotts Creek with the White River. The project consists of constructing 13 bendway weirs and stone toe bank protection to restore a stable slope revegetated with live stakes and plantings. It protects INDOT's right-of-way and bridge embankment from lateral migration of the river.

#### **SPEAKERS**

Michael Flanagan, WSP USA, Inc.

Nabil Ghalayini, WSP USA, Inc.

Chad Gibson, Lochmueller Group

#### **Alternate Interchange Signing Study for Indiana Highways—**

This presentation focuses on understanding signing issues from the perspective of the driver and developing recommendations for improved design of interchange signing in Indiana. An online survey with specific questions was designed and distributed to better understand driver thinking at decision-making areas on the interstate. Although the number of valid survey responses was not as high as we initially expected, it did cover all major Indiana cities and returned useful and actionable information for INDOT.

#### **SPEAKERS**

Jue Zhou, IUPUI

Stanley Chien, IUPUI

#### **MODERATOR**

Jeffrey Clanton, INDOT

MARCH 15, 2022

# TUESDAY

DESIGN/CONSTRUCTION

**TIME**

3:00–3:50 PM

**ROOM**

STEW 302

**PDH: 1**

## 14. Every Interchange Has a Story

The I-69 Ohio River Crossing Project includes four major interchanges, three new interchanges, and one reconstructed interchange. This session will discuss the design evolution of each interchange from conceptual design through NEPA to the design build process. We will also discuss building the first 6 roundabouts in a region and navigating the value engineering and IAD processes, properties, railroads, and transmission lines.

### SPEAKERS

Steven Nicaise, Parsons Corporation

Tobias Randolph, Parsons Corporation

### MODERATOR

Jeffrey Clanton, INDOT

---

**TIME**

4:00–4:50 PM

**ROOM**

STEW 302

**PDH: 1**

## 15. Implementing Digital Twins for Design Review

iTwin Design Review is an exciting tool that allows designers, reviewers, and stakeholders to collaborate directly from their design models in a 2D and 3D environment. Connecticut DOT (CTDOT), Parsons, and Bentley teamed up to facilitate CTDOT's first iTwin on the CTDOT I-91/I-691/Route 15 Improvement Project. The effort consisted of 3D modeling, training CTDOT staff, and item types. Designers and owners will benefit from learning these new advancements in technical software and in digital enabled solutions.

### SPEAKER

Josh Manns, Parsons Corporation

### MODERATOR

Jeffrey Clanton, INDOT

---

MARCH 15, 2022

# TUESDAY

DESIGN/CONSTRUCTION

**TIME**  
12:00–12:50 PM

**ROOM**  
STEW 306

**PDH: 1**

## **16. Get In, Get Out, and Stay Out! Maintenance of Traffic for Long-Life PCCP Projects**

Maintenance of traffic (MOT) is an important consideration for all infrastructure improvements, whether in urban, suburban, or rural scenarios. Safety for motorists, pedestrians, and workers is of paramount importance. This session will provide examples of how to best handle MOT while ensuring safety, quality, and more durable improvements to your road network.

**SPEAKER**  
John Leckie, ACPA

**MODERATOR**  
Patrick Conner, Purdue University

---

**TIME**  
1:00–1:50 PM

**ROOM**  
STEW 306

**PDH: 1**

## **17. Clear Path 465 Project Update**

Clear Path 465 construction commences! We will provide insight into the key challenges and solutions encountered on this project and the development of the contracting strategy for the I-465/I-69 interchange modification and added travel lanes. We will also preview maintenance of traffic phasing, durations, closures, restrictions and present details about the public involvement plan during construction.

**SPEAKERS**  
Mark Perron, Parsons Corporation  
Cat Seely, INDOT  
Alex Lee, Parsons Corporation

**MODERATOR**  
Elizabeth Mouser, INDOT

---

# TUESDAY

## DESIGN/CONSTRUCTION

**TIME**

2:00–2:50 PM

**ROOM**

STEW 306

**PDH: 1**

### 18. INDOT Subgrade Treatment (Section 207)

This presentation investigates INDOT’s design, construction, and inspection practices for subgrade treatment. The new *2022 INDOT Standard Specifications* allows for the use of lime, cement, geogrid, and geocell and coarse aggregate for subgrade design and construction in Sections 207, 214, 215, and 219. This presentation also reviews quality control and quality assurance testing.

**SPEAKERS**

Nayyar Siddiki, INDOT  
Sung Min Yoon, INDOT

**MODERATOR**

Elizabeth Mouser, INDOT

---

**TIME**

3:00–3:50 PM

**ROOM**

STEW 306

**PDH: 1**

### 19. INDOT QC/QA for Soil Fill Sections (218-R-576)

This presentation investigates INDOT’s design, construction, and inspection practices for QC/QA for soil fill sections. Recurring Special Specification (218-R-576) requires the QC/QA process when constructing soil fill sections using a combination of borrow, embankment, and excavation. The quality control plan (QCP) should include the qualification of testers; calibration of testing equipment; and details of DCP, LWD, moisture testing, and one-point Proctor testing. The QCP should be submitted to INDOT for approval prior to construction.

**SPEAKERS**

Nayyar Siddiki, INDOT  
Sung Min Yoon, INDOT

**MODERATOR**

Elizabeth Mouser, INDOT

---



MARCH 15, 2022

# TUESDAY

DESIGN/CONSTRUCTION

**TIME**

4:00–4:50 PM

**ROOM**

STEW 306

**PDH: 1**

## 20. Contract Special Provisions

This session assists project managers and designers in preparing the necessary information required for Department contracts involving Standard Specifications and Special Provisions. Attendees will be exposed to examples of both correct and incorrect ways to present a unique special provision (USP) and taught helpful tips for navigating the new Sharepoint review process. This presentation also assists subject matter experts with their review of the USPs.

**SPEAKER**

Scott Trammell, INDOT

**MODERATOR**

Elizabeth Mouser, INDOT

---

MARCH 15, 2022

# TUESDAY

## ELECTED OFFICIALS

**TIME**

1:00–1:50 PM

**ROOM**

STEW 311

**PDH: 1**

### **21. The Carrot or the Stick? Employee Engagement**

The roadway system is growing in size and complexity, and agencies that maintain highways, roads, and streets are counted on to provide fast, high quality service. It is vital that workers do good work, and the best and quickest way to encourage this is through effective motivation and engagement by their immediate supervisors. This session looks at what makes agencies successful, how to define worker needs and wants, and how to take advantage of those for increased productivity and employee engagement.

**SPEAKER**

Todd Morrison, University of Kentucky

**MODERATOR**

Thomas Murtaugh, Tippecanoe County

---

**TIME**

2:00–2:50 PM

**ROOM**

STEW 311

**PDH: 1**

### **22. Good Roads Require Good Drainage**

We need to fix the drainage infrastructure to get our local roads to last longer, but, like an iceberg, there is much more to good drainage than we can see on the surface. Replacing and installing pipes and catch basins requires planning and design. We need trained staff and the right equipment to get the job done safely and with little impact on the road user. This session will focus on the basics of roadway drainage for our elected officials and those interested in what lies below the surface.

**SPEAKER**

Steve Moriarty, Kosciusko County

**MODERATOR**

Thomas Murtaugh, Tippecanoe County

---

MARCH 15, 2022

# TUESDAY

## ELECTED OFFICIALS

**TIME**

3:00–3:50 PM

**ROOM**

STEW 311

**PDH: 1**

### **23. Public Bidding and Public Purchasing Basics**

Sometimes we do things a certain way because we have always done it that way, but is that the best for our agency? Purchasing and bidding offer fall into that category. Listen to legal experts discuss the dos and don'ts for public purchasing and annual bids. In this session you will hear examples of purchasing done right and some ways to improve the process.

**SPEAKER**

Dustin Meeks, Barnes and Thornburg LLP

**MODERATOR**

Thomas Murtaugh, Tippecanoe County

---

**TIME**

4:00–4:50 PM

**ROOM**

STEW 311

**PDH: 1**

### **24. Local Transportation Funding: Infrastructure Bill, Federal Funding, and Community Crossings Program Updates**

Hear updates from Indiana LTAP and INDOT on local transportation funding opportunities available with the infrastructure bill, federal aid funding, and Community Crossings Program updates.

**SPEAKERS**

Jennifer Sharkey, Purdue University  
Kathy Eaton-McKalip, INDOT

**MODERATOR**

Thomas Murtaugh, Tippecanoe County

---

MARCH 15, 2022

# TUESDAY

## ELECTRIC & CONNECTED VEHICLES

**TIME**

11:00–11:50 AM

**ROOM**

STEW 279

**PDH: 1**

### **25. AVs for Travelers With Disabilities: A Demonstration of the EASI RIDER Prototype**

More than 25 million Americans live with a disability that makes travel difficult or impossible. Autonomous vehicles (AVs) promise to remove many travel barriers and make future transportation more equitable for people with disabilities. This presentation will include a live demonstration of the life-size Efficient, Accessible and Safe Interaction in a Real Integrated Design Environment for Riders with disabilities (EASI RIDER) AV platform developed by Purdue faculty and several industry partners as part of the 2020 U.S. DOT Inclusive Design Challenge.

**SPEAKERS**

Brandon Pitts, Purdue University  
Brad Duerstock, Purdue University

**MODERATOR**

Paul Boone, INDOT

**TIME**

1:00–1:50 PM

**ROOM**

STEW 279

**PDH: 1**

### **26. Challenges and Opportunities for Electric Vehicles in Indiana**

Assessing the needs and opportunities regarding electric vehicle (EV) operations in Indiana will put the state in a better position to plan for this growing technology. This presentation will provide an overview of research performed to (1) identify opportunities for the strategic deployment of EV charging stations, (2) examine the impact of EV adoption on highway revenue, and (3) understand the perspectives of major stakeholders in strategic partnerships to enhance EV preparedness.

**SPEAKERS**

Konstantina Gkritza, Purdue University  
Kyubyung Kang, IUPUI  
Dan Daehyun Koo, Purdue University  
Theodora Konstantinou, Purdue University  
Konstantinos Flaris, Purdue University

**MODERATOR**

Edward Cox, INDOT

MARCH 15, 2022

# TUESDAY

## ELECTRIC & CONNECTED VEHICLES

**TIME**

2:00–2:50 PM

**ROOM**

STEW 279

**PDH: 1**

### **27. Electric Vehicle Analytics: EV and Charging Station Usage in Indiana, Ohio, and Pennsylvania**

Near real-time access to emerging connected vehicle data presents practitioners and researchers with unique opportunities to analyze EV usage patterns and the capacity of existing infrastructure to serve this usage. An August 2021 analysis of over 77 billion connected vehicle records for Indiana, Ohio, and Pennsylvania observed nearly 1.7 million electric vehicle miles traveled (EVMT) in total across 246,000 trips. In addition to analyzing dwell patterns among EVs around public charging stations, a proximity analysis of existing fast charging stations near interstate roadways is presented to identify charging deserts that need additional charging capacity.

**SPEAKERS**

Jijo Mathew, Purdue University  
Jairaj Desai, Purdue University

**MODERATOR**

Edward Cox, INDOT

**TIME**

3:00–3:50 PM

**ROOM**

STEW 279

**PDH: 1**

### **28. ODOT and INDOT I-70 Truck Automation Corridor Project**

In June 2021, ODOT and INDOT began a project to implement and test truck platooning—Level 2 and Level 4 automation on Class 8 trucks in revenue service on I-70. The project also assessed infrastructure readiness for automated vehicles and developed a tool to automate this analysis to make roadways “automation ready.” This presentation provides the project concept and architecture, insights and status of participating fleets and developers, and the test plan for the roadway audit.

**SPEAKERS**

Scott Manning, INDOT  
Diane Newton, HNTB Corporation  
Anmol Sidhu, TRC

**MODERATOR**

Edward Cox, INDOT

MARCH 15, 2022

# TUESDAY

ELECTRIC & CONNECTED VEHICLES

**TIME**

4:00–4:50 PM

**ROOM**

STEW 279

**PDH: 1**

**29. LiDAR for Evaluating Lane Marking Reflectivity**

In this session we will summarize a recent study analyzing the potential use of LiDAR to evaluate lane marking reflectivity.

**SPEAKERS**

Ayman Habib, Purdue University  
Darcy Bullock, Purdue University  
Yi-Ting Cheng, Purdue University

**MODERATOR**

Edward Cox, INDOT

---

MARCH 15, 2022

# TUESDAY

## LOCAL AGENCY

**TIME**  
11:00–11:50 AM

**ROOM**  
STEW 218 CD

**PDH: 1**

### **30. How to Conduct a Sidewalk Condition Survey**

In absence of a national rating system for concrete sidewalks, a modified PASER rating system was adapted to create sidewalk asset management plans. This modified PASER uses the same rating scale as the previous system but with descriptions of conditions and defects relevant to concrete pedestrian walks. In late 2019, the rating system was used in a survey of Battle Ground, Indiana. Join us for a discussion about the details of the rating system and its application.

#### **SPEAKERS**

Doug Poad, Tippecanoe County  
Brian Pohlar, HWC Engineering  
Cory Whitesell, HWC Engineering

#### **MODERATOR**

Jay Grossman, Valparaiso University

---

**TIME**  
1:00–1:50 PM

**ROOM**  
STEW 218 CD

**PDH: 1**

### **31. 96th and Keystone Interchange Construction: An LPA Project**

This presentation will cover unique aspects of developing a \$30M transportation project without INDOT oversight. Together we will discuss financing, design, right-of-way acquisition, public outreach, and construction.

#### **SPEAKERS**

Chris Ogg, City of Carmel  
Jeremy Kashman, City of Carmel  
Joshua Kirsh, City of Carmel  
Nicole Klass, American Structurepoint, Inc.

#### **MODERATOR**

Jeromy Grenard, City of Lafayette

---

MARCH 15, 2022

# TUESDAY

## LOCAL AGENCY

### TIME

2:00–2:50 PM

### ROOM

STEW 218 CD

PDH: 1

### 32. Utility Coordination for Municipalities

This session reviews utility coordination and subsurface utility engineering specific to locally funded municipal projects. We will discuss the expectations a municipality should have from an individual performing utility coordination or SUE work; the level of experience needed to perform the tasks; and the resulting deliverables. We will discuss the document “SUE for Municipalities,” and audience feedback will help with the development of a companion document, “Utility Coordination for Municipalities.”

#### SPEAKERS

Natalie Parks, USI Consultants, Inc.  
Nick Parr, Boone County

#### MODERATOR

Jeremy Grenard, City of Lafayette

---

### TIME

3:00–3:50 PM

### ROOM

STEW 218 CD

PDH: 1

### 33. Traffic and Accident Data in Context

When using different studies or reports, it is important to consider all contexts when interpreting data related to the safety of roundabouts and reviewing traffic data provided by new collection methods. This session briefly reviews some new data collection methods used in the City of Carmel and how we use them differently from more traditional collection methods. Accident reports in roundabouts and a recent study on roundabout safety vs. traditional intersections will also be discussed.

#### SPEAKERS

Jeremy Kashman, City of Carmel  
Bradley Pease, City of Carmel

#### MODERATOR

Jeremy Grenard, City of Lafayette

---



MARCH 15, 2022

# TUESDAY

## LOCAL AGENCY

**TIME**

4:00–4:50 PM

**ROOM**

STEW 218 CD

**PDH: 1**

### **34. Qualifications-Based Selection for Better Projects and Better Value**

This presentation will provide the audience with three unique perspectives on how a community can obtain the right firm for the right job and work with qualified professional design firms to establish and adhere to a realistic schedule and budget; realize lower project life-cycle costs; achieve better value for tax payers; promote better business relationship between parties; and receive better service, quality, and value.

#### **SPEAKERS**

Lisa Casler, RQAW

Ericka Miller, City of Indianapolis

Mark Heirbrandt, Hamilton County

#### **MODERATOR**

Jeremy Grenard, City of Lafayette

---

MARCH 15, 2022

# TUESDAY

## MAINTENANCE & OPERATIONS

**TIME**

1:00–1:50 PM

**ROOM**

STEW 218 AB

**PDH: 1**

**TIME**

2:00–2:50 PM

**ROOM**

STEW 218 AB

**PDH: 1**

### 35. Aerial Lidar Makes the Grade

Accurate road curve, grade, and width measurements are critical for improving safety along transportation networks. Often transportation agencies lack the data necessary to address safety concerns, budget for maintenance, or accelerate advancements like autonomous vehicles. This presentation examines case studies that demonstrate how aerial lidar can be used to obtain the measurements needed to support safety initiatives and develop efficient road maintenance strategies.

**SPEAKER**

David Blackstone, Woolpert

**MODERATOR**

Stewart Kline, Tippecanoe County

---

### 36. LiDAR Mapping of Terrain and Stockpiles

**Stockpile Monitoring and Reporting Technology (SMART)**—This presentation summarizes the technology developments for stockpile monitoring and reporting that can be used either indoors or outdoors. Join us for a discussion.

**Backpack Mobile Mapping System as a Surveying Tool**—This session discusses the potential use of a Mobile Backpack System equipped with LiDAR unit as a surveying tool for different applications along transportation corridors.

**SPEAKERS**

Ayman Habib, Purdue University  
Darcy Bullock, Purdue University

**MODERATOR**

Stewart Kline, Tippecanoe County

---

# TUESDAY

## MAINTENANCE & OPERATIONS

**TIME**

3:00–3:50 PM

**ROOM**

STEW 218 AB

**PDH: 1**

### 37. Concrete Restoration and Maintenance

Join us for a discussion about a practical, simple, and cost-effective approach to protecting roadways, bridges, and parking structures. Kwik Bond Polymers materials provide honest solutions to effectively restore and maintain concrete assets.

**SPEAKER**

Bobby Scarpitto

**MODERATOR**

Stewart Kline, Tippecanoe County

---

**TIME**

4:00–4:50 PM

**ROOM**

STEW 218 AB

**PDH: 1**

### 38. Floating Car Data as Input Source for Road Maintenance

Measuring friction and road roughness through connected vehicles now makes it possible to provide data-driven analytics to both road users and agencies. Unlike current techniques using infrastructure or external sensors, vehicle sensors measure the experienced friction and road roughness during normal driving. This session provides an international perspective and a preliminary first look at how these techniques have been applied in Indiana so far. Join us as we discuss new ways of operating winter maintenance.

**SPEAKERS**

Bjorn Zachrisson, NIRA Dynamics  
Howell Li, Purdue University

**MODERATOR**

Stewart Kline, Tippecanoe County

---

MARCH 15, 2022

# TUESDAY

## MULTIMODAL TRANSPORTATION

**TIME**

1:00–1:50 PM

**ROOM**

STEW 313

**PDH: 1**

### 39. Overcoming R/W Challenges in the Bus Lane

The Indianapolis Public Transportation Corporation (IndyGo) Purple Line BRT project is the second phase of IndyGo's Bus Rapid Transit Program. The Purple Line consists of 14.8 miles of urban corridor along 38th Street and Post Road in the City of Indianapolis. We will discuss the challenges of right-of-way acquisition that were overcome to deliver a successful project to the client. These challenges included the project scope growing from 60 parcels to 250 parcels; changing our team to accommodate the increase in parcel count on a challenging corridor with challenging parcels; working with an agency that rarely had the need to acquire land and this being their largest project ever; and overcoming hostile owners who opposed the project.

**SPEAKERS**

Patrick McCallister, WSP USA, Inc.  
Jill Russell, IndyGo

**MODERATOR**

Kristin Brier, INDOT

**TIME**

2:00–2:50 PM

**ROOM**

STEW 313

**PDH: 1**

### 40. Kentucky Statewide Corridor Plan: Linking Kentucky

The Kentucky Transportation Cabinet (KYTC) recently completed a statewide corridor plan (SWCP), also known as "Linking Kentucky." The SWCP utilized a tiered, data-driven approach to identify current and future statewide safety, mobility, and accessibility needs for transportation corridors and to prioritize the corridors which have the greatest potential for improvements. Corridor visions were developed for priority segments and visualized by an interactive GIS Online Tool.

**SPEAKERS**

Stephen De Witte, Kentucky Transportation Cabinet  
Johnny Han, The Corradino Group  
Ken Kaltenbach, The Corradino Group

**MODERATOR**

Kristin Brier, INDOT

MARCH 15, 2022

# TUESDAY

## MULTIMODAL TRANSPORTATION

**TIME**

3:00–3:50 PM

**ROOM**

STEW 313

**PDH: 1**

### **41. RAIL: Yesterday, Today, and Tomorrow in Indiana**

The Indiana State Rail Plan is focused on improving the mobility, safety, economic development, and environmental stewardship of the state’s multimodal freight system. As the Crossroads of America, Indiana is home to 50 railroads, which deliver freight and Hoosiers to their destinations daily. This session focuses on the development of Indiana’s State Rail Plan and strategies to balance rail, trucking, and inland waterways as complementary modes that together represent the future of cost-efficient freight transportation.

**SPEAKERS**

Venetta Keefe, INDOT  
Keith Bucklew, HDR

**MODERATOR**

Kristin Brier, INDOT

**TIME**

4:00–4:50 PM

**ROOM**

STEW 313

**PDH: 1**

### **42. Converting a Busy Street Into a Pedestrian Zone**

Eliminating vehicular traffic from a popular thoroughfare reduced the number of pedestrian-vehicular conflicts on the Purdue University Campus. Learn about the road’s transition to a pedestrian corridor and the adjacent development on the West Lafayette campus in recent years. This presentation will highlight 3rd Street’s inclusion in the campus master plan, the initial execution of the pedestrian corridor, the long-term potential vision, and the strategic construction and positioning of student-centric facilities along the corridor.

**SPEAKERS**

Camille Shoaf, Purdue University  
Peter Lemmon, Kimley-Horn and Associates  
Kevin Osburn, Rundell Ernstberger Associates

**MODERATOR**

Kristin Brier, INDOT

MARCH 15, 2022

# TUESDAY

## PAVEMENTS

### TIME

1:00–1:50 PM

### ROOM

STEW 214 AB

PDH: 1

### 43. Rehabilitation of I-70 Composite Pavement Using Peel and Stick Strip Membrane and Geosynthetic Interlayer Paving Fabric

I-70 composite (asphalt over concrete) pavement is being rehabilitated using peel and stick membrane and geosynthetic paving fabric. The innovative rehabilitation technique is the first time peel and stick membrane is being used with geosynthetic paving fabric on the existing concrete pavement of the interstate. This combination retards reflective cracking and acts as a moisture barrier, which extends the service life of the treatment.

#### SPEAKERS

Kumar Dave, INDOT  
Pankaj Patel, INDOT

#### MODERATOR

Kirsten Fowler, Asphalt Pavement Association of Indiana

---

### TIME

2:00–2:50 PM

### ROOM

STEW 214 AB

PDH: 1

### 44. Void Reducing Asphalt Membrane Benefits at Centerline Joints

A void reducing asphalt membrane (VRAM) is being used to extend the life of asphalt longitudinal joints on multiple roadways across Indiana. This presentation will discuss life-cycle cost analysis based on the results of a Transportation Research Board study; the use of VRAM under rumble strips for improved performance; and the sustainability benefits of using a VRAM. Laboratory data and field performance of Indiana projects will also be presented.

#### SPEAKERS

Tim Zahn, Asphalt Materials, Inc.  
Todd Thomas, Asphalt Materials, Inc.

#### MODERATOR

Kirsten Fowler, Asphalt Pavement Association of Indiana

---

# TUESDAY

## PAVEMENTS

**TIME**

3:00–3:50 PM

**ROOM**

STEW 214 AB

**PDH: 1**

### **45. Enhanced Approach for Full-Depth Asphalt Pavement Structural Evaluation**

This session focuses on the development of an advanced approach for evaluating the structural conditions of full-depth asphalt pavements using the falling weight deflectometer (FWD) data. A parametric study was conducted using a finite element method to develop new models for predicting the most common structural indices, including effective structure number and critical strains. The developed models can be incorporated into the pavement management system to provide a more accurate estimation of structural conditions using FWD data.

**SPEAKERS**

Seonghwan Cho, INDOT  
Bongsuk Park, Purdue University

**MODERATOR**

Kirsten Fowler, Asphalt Pavement Association of Indiana

---

**TIME**

4:00–4:50 PM

**ROOM**

STEW 214 AB

**PDH: 1**

### **46. Comprehensive Tools for Automated Creation of Patching Tables**

This presentation describes the development and implementation of an algorithm that incorporates data from FWD and 3D pavement surface imaging to produce patching tables with the required patching depth as an output. Join us for a discussion about the progress on patching table visualization and the input data sources (FWD, 3D image).

**SPEAKERS**

Seonghwan Cho, INDOT  
Sneha Jha, Purdue University  
Yaguang Zhang, Purdue University

**MODERATOR**

Kirsten Fowler, Asphalt Pavement Association of Indiana

---

# TUESDAY

## PROJECT MANAGEMENT/PLANNING

**TIME**

1:00–1:50 PM

**ROOM**

FOWLER HALL

**PDH: 1**

### **47. Rebuilding Our Streets: A 10-Year Improvement Plan**

Like many communities, we have traditionally assembled our annual paving list based on the roads most impacted by the previous winter; however, our new plan is more sustainable, data-driven, and proactive. This presentation discusses the purpose behind creating our new plan, our methodology, our data analysis of road quality, accompanying financial analysis, and our communication strategy to transparently share data with our residents.

**SPEAKERS**

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

**MODERATOR**

Jessica Miller, INDOT

---

**TIME**

2:00–2:50 PM

**ROOM**

FOWLER HALL

**PDH: 1**

### **48. Utility Coordination: Rules and Regulations**

Join us for a discussion on lessons learned by the City of Carmel and tips and tricks from their utility coordination process.

**SPEAKERS**

Bradley Pease, City of Carmel  
Derrick Bye, CrossRoad Engineers  
Willie Hall, CrossRoad Engineers

**MODERATOR**

Jessica Miller, INDOT

---



# TUESDAY

## PROJECT MANAGEMENT/PLANNING

**TIME**

3:00–3:50 PM

**ROOM**

FOWLER HALL

**PDH: 1**

### 49. What Contractors Wish We Knew About Utilities

From design to construction, utility coordination is a hot topic. The coordination in design is a vital part of the coordination efforts, since design affects construction. This presentation will focus on the Contractor’s perspective of utility coordination and how designers can better coordinate with utilities in design to positively impact construction.

**SPEAKERS**

Dan Osborn, Indiana Constructors, Inc.  
Natalie Parks, USI Consultants, Inc.  
Andrew Schouten, Phend & Brown, Inc.  
JR Pitcock, Milestone Contractors LP  
John Agresta, The Hoosier Company, Inc.

**MODERATOR**

Jessica Miller, INDOT

---

**TIME**

4:00–4:50 PM

**ROOM**

FOWLER HALL

**PDH: 1**

### 50. Managing Risk in Projects Large and Small

Risk management—identifying, managing, and mitigating—is built into the project development process for major projects, but it needs to be integrated into every project. This session will discuss how to manage and scale the process using techniques from the I-69 Ohio River Crossing Project.

**SPEAKERS**

Steven Nicaise, Parsons Corporation  
Junell O’Donnell, Parsons Corporation

**MODERATOR**

Jessica Miller, INDOT

---

# TUESDAY

## SAFETY

### TIME

11:00 AM–12:50 PM

### ROOM

STEW 214 CD

PDH: 2

## 51. Making Streets Complete and Inclusive

Indiana DOT and cities in Indiana are joining the nationwide effort to advance Complete Streets. But what are Complete Streets and why do they matter? Learn how to manage speeds, design inclusive streets, and make your roads complete as you hear from national, state, and city experts about their experience creating road networks that serve all users.

### SPEAKERS

Derek Troyer, FHWA

Dan McCoy, INDOT

Jordan Williams, City of Indianapolis

Patrick Martin, City of Bloomington

### MODERATOR

Michael Holowaty, INDOT

### TIME

1:00–1:50 PM

### ROOM

STEW 214 CD

PDH: 1

## 52. Survey of Contrast Pavement Markings and Safety Benefits

This presentation disseminates the results of a national survey on the current use of contrast pavement markings. The results identified the wide use of contrast pavement markings at the national level, and that many states are moving towards a standardization of use on certain roadways. Using a data-driven approach, crash reducing benefits in the form of crash modification factors were developed at the national level and can be used in conjunction with the *Highway Safety Manual*.

### SPEAKER

Michael Williamson, Indiana State University

### MODERATOR

Michael Lane, INDOT

MARCH 15, 2022

# TUESDAY

## SAFETY

### TIME

2:00–2:50 PM

### ROOM

STEW 214 CD

PDH: 1

## 53. Indiana Operation Lifesaver: How You Can Help Stop Railroad Trespassing Fatalities

Indiana Operation Lifesaver is a nonprofit public safety education and awareness organization dedicated to reducing collisions, fatalities, and injuries at highway-rail crossings. Come learn what Operation Lifesaver is doing in Indiana and how you can become involved.

### SPEAKER

Jessica Feder, Indiana Operation Lifesaver

### MODERATOR

Michael Lane, INDOT

---

### TIME

3:00–3:50 PM

### ROOM

STEW 214 CD

PDH: 1

## 54. Improvements in Highway Lighting

This presentation describes INDOT's plans to expand the use of highway lighting to improve safety and how we are modernizing our lighting systems by changing light sources from high pressure sodium to LED. Information on how our specifications, design procedure/policy, and product evaluations have developed to support these initiatives will be shared, and the LED conversion contracts will also be discussed.

### SPEAKERS

David Boruff, INDOT

Lalit Garg, INDOT

Robert Kramer, Purdue University Northwest

Prakash Patel, INDOT

### MODERATOR

Michael Lane, INDOT

---

MARCH 15, 2022

# TUESDAY

## SAFETY

### TIME

4:00–4:50 PM

### ROOM

STEW 214 CD

### PDH: 1

## 55. Pedestrian Safety Management in Indiana

This presentation focuses on a methodology to identify roads in Indiana with heightened frequency and severity of pedestrian-vehicle collisions and identify appropriate, cost-effective countermeasures to mitigate or eliminate safety-critical conditions. The following models were developed to facilitate the analysis: (1) pedestrian crossing activity level to fill the gap in pedestrian traffic exposure data, and (2) crash probability and injury severity models to estimate the risk of pedestrian crashes around urban intersections in Indiana. Join us for a discussion.

### SPEAKERS

Noshin Saiyara Ahmad, Purdue University  
Raul Pineda-Mendez, Purdue University

### MODERATOR

Michael Lane, INDOT

---

MARCH 15, 2022

# TUESDAY

## STORMWATER AND WETLANDS

**TIME**  
12:00–12:50 PM

**ROOM**  
STEW 278

**PDH: 1**

### **56. New IDM Chapter 204: “Post-Construction Stormwater BMPs”**

INDOT has developed Chapter 204, “Post-Construction Stormwater Best Management Practices” (BMPs), in the *Indiana Design Manual* (IDM) to help the agency comply with IDEM stormwater and MS4 permit requirements. The BMPs are designed to prevent or reduce non-point source pollution to help achieve water quality goals. This presentation will provide the industry with a project update and an implementation plan for this new chapter.

#### **SPEAKERS**

Jessica Eichhorst, HNTB Corporation  
Sandra Bowman, INDOT

#### **MODERATOR**

Chris Moore, City of Crawfordsville

---

**TIME**  
1:00–1:50 PM

**ROOM**  
STEW 278

**PDH: 1**

### **57. Post Installation Inspection for All Storm Drain Pipes**

This session teaches common practices to protect the owner’s best interest by ensuring all storm drain and culvert pipes in their system have been properly installed and that the pipeline system is uncompromised. Post installation inspection (PII) provides the owner with the information needed to determine if proper installation occurred prior to project close-out or final acceptance.

#### **SPEAKER**

John Susong, Rinker Materials

#### **MODERATOR**

Susan Bodkin, Hancock County

---

MARCH 15, 2022

# TUESDAY

## STORMWATER AND WETLANDS

**TIME**

2:00–2:50 PM

**ROOM**

STEW 278

**PDH: 1**

### 58. INDOT Construction Stormwater Training

INDOT launched a new online Construction Stormwater Training in March 2021. Per the 2020 and 2022 *INDOT Standard Specifications Manual*, any INDOT construction site holding a Level 1 or Level 2 determination requires individuals to hold this training verification to conduct stormwater inspections or work on site. The training includes 18 self-paced modules covering topics like stormwater management, erosion/sediment control measures, preparation of SWPPPs, and housekeeping items. This presentation will provide background on course development, module layouts, course evaluations, and future training development plans.

**SPEAKERS**

Sandra Bowman, INDOT  
Clara Furst, INDOT

**MODERATOR**

Susan Bodkin, Hancock County

**TIME**

3:00–3:50 PM

**ROOM**

STEW 278

**PDH: 1**

### 59. Is Your Street Department Compliant With MS4?

The municipal separate storm sewer (MS4) regulations are being updated by IDEM to include new requirements. Street and highway departments must implement best management practices at their facilities and during their daily operations. Employees must be trained annually, and self-inspections are to be completed. This presentation will help you to understand the requirements and how to be ready for a regulatory audit.

**SPEAKER**

Mary Atkins, Wessler Engineering, Inc.

**MODERATOR**

Susan Bodkin, Hancock County

MARCH 15, 2022

# TUESDAY

## STORMWATER AND WETLANDS

**TIME**

4:00–4:50 PM

**ROOM**

STEW 278

**PDH: 1**

**60. Drainage Considerations and Stormwater Structure Rehabilitation**

Throughout the United States there are millions of culverts that have exceeded their design life. Some of these antique structures were built by stone masons and craftsmen over 100 years ago, while others were installed using common materials that have rusted or crumbled over time. This presentation will address common drainage considerations, the factors that lead to culvert deterioration, and considerations for utilizing rehabilitation methods for long-term service and preservation.

**SPEAKERS**

Alex Sherrod, Precision Pipe & Products, Inc.  
Eric Kennedy, Precision Pipe & Products, Inc.

**MODERATOR**

Susan Bodkin, Hancock County

---

MARCH 15, 2022

# TUESDAY

## TRAFFIC OPERATIONS

**TIME**

1:00–1:50 PM

**ROOM**

STEW 310

**PDH: 1**

**61. INDOT ITS: Past, Present, and Future**

This presentation will begin with the origins and growth of ITS from a few dynamic message signs to the more than 500 permanent sites deployed today. We will then discuss, in more detail, the current state of ITS deployments in Indiana and how ITS fits into the project development process. This session will conclude with a discussion of future ITS deployments that are currently in the process of being designed or constructed.

**SPEAKERS**

Drew Sorenson, INDOT  
Steve Wuertz, INDOT

**MODERATOR**

Kyle Winling, City of Fort Wayne

---

**TIME**

2:00–2:50 PM

**ROOM**

STEW 310

**PDH: 1**

**62. I-465 and FlexRoad TSMO Projects**

This session describes the I-465 SE Transportation Systems Management and Operations (TSMO) project, INDOT's first permanent TSMO project. I-465 SE TSMO is primarily focused on ramp metering, variable speed limits, and messaging. Also presented are the I-80/94 FlexRoad (Borman) TSMO projects. The FlexRoad Project is in the PEL study analyzing all TSMO strategies along Indiana's most traveled corridors.

**SPEAKERS**

John LaBlonde, Parsons Corporation  
Brian Shattuck, INDOT  
Junell O'Donnell, Parsons Corporation

**MODERATOR**

Kyle Winling, City of Fort Wayne

---



MARCH 15, 2022

# TUESDAY

## TRAFFIC OPERATIONS

**TIME**

3:00–3:50 PM

**ROOM**

STEW 310

**PDH: 1**

### 63. Pavement Marking Updates

Significant changes to pavement markings are underway to improve the safety and service life of roads and to assist vehicles with lane departure warning systems. This presentation will provide an update on changes to the *Indiana Design Manual*, Standard Specifications, and Standard Drawings for the use of 6-in. lines as the normal line width, RPM usage and spacing changes, and increasing the use of durable marking materials. The presentation will also include other pavement marking topics, such as contrast markings and orange pavement markings for work zones.

**SPEAKER**

Joe Bruno, INDOT

**MODERATOR**

Kyle Winling, City of Fort Wayne

---

### 64. INDOT Greenfield District Creates a Traffic Project

Each year INDOT funds safety and mobility driven projects. There is yearlong internal process to identify the needs, define the problems, and plan the projects. This presentation aims at explaining this process from a district perspective and reveal our planning and funding process. We also discuss the shifting in planning philosophy and the ever-growing goal to plan and build multi-modal, self-enforcing, safe, and efficient intersections and streets.

**SPEAKER**

Luis Laracuenta, INDOT

**MODERATOR**

Kyle Winling, City of Fort Wayne

---

**TIME**

4:00–4:50 PM

**ROOM**

STEW 310

**PDH: 1**

MARCH 16, 2022

# WEDNESDAY

## AVIATION

**TIME**

8:00–8:50 AM

**ROOM**

STEW 202

**PDH: 1**

### **65. The Evolution of the Smart Runway**

The total cost of ownership for the planning, programming, replacement, and restoration of airfield pavements remains one of our nation’s most expensive assets. This presentation evaluates past efforts and the results of pavement performance data and examines FAA and DoD research, sensor technology, integration techniques, and analytics. Lastly we’ll discuss where additional research is needed and evaluation criteria that supports a wide variety of aircraft fleet, environmental scenarios, construction methods, and maintenance strategies.

#### **SPEAKERS**

Vivek Khanna, Woolpert  
Sarah Hubbard, Purdue University

#### **MODERATOR**

Michael Buening, INDOT

---

# WEDNESDAY

## AVIATION

**TIME**

9:00–9:50 AM

**ROOM**

STEW 202

**PDH: 1**

### **66. Updates on Huntingburg and Paoli Airport Projects**

**Huntingburg Airport Tunnel: A First for Indiana Aviation**—The Dubois County Airport Authority sought to extend the existing runway at Huntingburg Airport. After considering site conditions and environmental impacts, the best solution was to build a roadway tunnel to carry CR-200W below the future extended runway. The tunnel is the first of its kind for an airport in Indiana. This presentation examines the design and construction of the tunnel and the communication and coordination required among multiple stakeholders to bring this project to fruition.

**SPEAKERS**

Curtis Brown, Woolpert  
Travis McQueen, Huntingburg Regional Airport

**Paoli Municipal Airport Runway 2-20 Extension**—Paoli Municipal Airport was once home to the shortest runway in Indiana. Woolpert was engaged to extend and widen the runway and rehabilitate the existing pavement. This was complicated by the terrain which was more than 95 feet below the elevation of the existing runway. This presentation describes our unique solution of using a vegetated, mechanically stabilized earth wall that minimized the construction footprint, reduced the dirt fill, limited environmental impacts, and minimized project cost.

**SPEAKER**

John Baer, Woolpert

**MODERATOR**

Michael Buening, INDOT

---

MARCH 16, 2022

# WEDNESDAY

## AVIATION

**TIME**  
10:00–10:50 AM

**ROOM**  
STEW 202

**PDH: 1**

### **67. Utilizing UAS to Mitigate Wildlife Strikes to Aviation**

Our team has explored the use of UAS technologies to identify hazardous wildlife and their habitat—an important component of wildlife hazard management by airport operators and a critical activity to mitigate the risk of aircraft accidents resulting from wildlife strikes. This presentation summarizes the lessons learned and best practices developed. Most importantly, audience members will be invited to provide feedback and suggestions to this ongoing research study.

#### **SPEAKERS**

Flavio Antonio Coimbra Mendonca, ERAU  
Robert Sliwinski, Christopher B. Burke Engineering, Ltd.

#### **MODERATOR**

Michael Buening, INDOT

**TIME**  
1:00–1:50 PM

**ROOM**  
STEW 202

**PDH: 1**

### **68. Airport CSPP: Maintaining Airport Operational Safety During Construction**

Airports are complex environments, and procedures and conditions associated with construction activities often affect aircraft operations and can jeopardize operational safety. However, careful planning of construction activities can minimize disruptions and safety issues. The airport operator must understand how construction activities and aircraft operations affect one another in order to develop an effective plan to complete the project. Join us for a discussion.

#### **SPEAKER**

Joseph Wejman, FAA

#### **MODERATOR**

Marty Blake, INDOT

MARCH 16, 2022

# WEDNESDAY

## AVIATION

**TIME**

2:00–2:50 PM

**ROOM**

STEW 202

**PDH: 1**

### 69. Airport Pavements

**KSPI Runway 4-22 Rehabilitation with Precast Concrete Pavement**

—This session presents a case study of a project to rehabilitate the primary Runway 4-22 pavement at Abraham Lincoln Capitol Airport in Springfield, IL. Precast concrete was used to expedite the closure time for the 8,001 ft primary runway.

**SPEAKER**

Eric Hills, Crawford, Murphy & Tilly

**Pavement Sealing (GSB) for Airports**—Airport FAA Spec P 608 is currently one of the few available methods to seal asphalt airport runways and taxiways. This method has been used very little on Indiana airports, but a recent project at Sullivan County Airport was completed with this process. The presentation will review the process and application at Sullivan County Airport.

**SPEAKERS**

Patt McDowell, Gee Asphalt Systems, Inc.  
Melanie Reddick, Crawford, Murphy & Tilly  
John Hunter, Asphalt Systems, Inc.

**MODERATOR**

Marty Blake, INDOT

---

MARCH 16, 2022

# WEDNESDAY

## AVIATION

**TIME**

3:00–3:50 PM

**ROOM**

STEW 202

**PDH: 1**

### 70. Aviation Research

**Estimating Aircraft Noise Impacts Using Automatic Surveillance Dependent Surveillance-Broadcast (ADS-B) Data**—Aircraft noise is an adverse effect of airport use and development and is a common source of conflict between an airport and its community. With the increased adoption of ADS-B in the U.S. and around the world, this presentation presents a cost-effective noise estimation approach for non-towered general aviation (GA) airports. The test and validation results show that the proposed method could accurately estimate airport noise events with an average error of 3dB.

#### SPEAKERS

Chuyang Yang, Purdue University  
Luigi Raphael Dy, Purdue University

**Airport Cooperative Research Program Airside WebResource**—Airport Cooperative Research Program (ACRP) Project 03-56 developed the Design, Construction, Operations, and Maintenance: WebResource (Airside WebResource) This electronic library of airside resources for aviation practitioners includes over 600 resources on a variety of airside-related topics authored by over 30 industry organizations. This presentation will discuss the development of the Airside WebResource, including the industry input, resource selection, breadth of resources, and search options and tips.

#### SPEAKER

Susan Zellers, Hanson Professional Services, Inc.

#### MODERATOR

Marty Blake, INDOT

---

MARCH 16, 2022

# WEDNESDAY

## AVIATION

**TIME**

4:00–4:50 PM

**ROOM**

STEW 202

**PDH: 1**

### **71. Integrating Advanced Air Mobility Into Airports**

This presentation will describe efforts by West Virginia International Yeager Airport (CRW) to electrify multiple airports in West Virginia in order to transform the economy for advanced air mobility and electric vertical takeoff and landing aircraft. We will show lessons learned for airports in planning, integration, and funding and potential use case scenarios for airports and communities.

#### **SPEAKERS**

Nick Keller, West Virginia International Yeager Airport  
Alan Peljovich, Airport Design Consultants, Inc.

#### **MODERATOR**

Marty Blake, INDOT

---

MARCH 16, 2022

# WEDNESDAY

## BRIDGES

**TIME**  
8:00–8:50 AM

**ROOM**  
STEW 206

**PDH: 1**

### **72. Hydrotex Articulating Block: Perfect for Bridge Scour Protection**

This presentation will introduce the audience to fabric formed concrete. We will detail the product's full scale flume testing and results. We will also discuss the factor of safety design methodology for hydraulic shear stress, product components, suitable product applications, unsuitable product applications, installed cost estimating software available, installation method (including installation videos), and project DOT experience across the U.S.

#### **SPEAKERS**

Ben Cross, Everett J. Prescott, Inc.  
Robert Creel, Synthetex

#### **MODERATOR**

Stephanie Wagner, INDOT

---

**TIME**  
9:00–9:50 AM

**ROOM**  
STEW 206

**PDH: 1**

### **73. SME-PS Concrete Infrastructure Preservation Program**

In 2020 the Indiana Soybean Alliance sponsored an infrastructure preservation program to help Indiana counties preserve concrete assets. Using Purdue patented SME-PS technology to preserve concrete pavement joints, this program provided material for 7 Indiana counties to preserve 77 bridge decks (totaling over 330,000 sq. ft.). This presentation provides a brief overview of the technology used, feedback from county engineers, and other examples of SME-PS technology.

#### **SPEAKER**

Paul Imbrock, Indiana Soybean Alliance

#### **MODERATOR**

Stephanie Wagner, INDOT

---



# WEDNESDAY

## BRIDGES

**TIME**  
10:00–10:50 AM

**ROOM**  
STEW 206

**PDH: 1**

### **74. An Introduction to Accelerated Bridge Construction with Precast Concrete**

Accelerated bridge construction (ABC) and prefabricated bridge elements and systems (PBES) are gaining popularity in the U.S. boast the advantages of rapid construction, less traffic disruption, improved quality and durability, improved safety, and fewer environmental impacts. This presentation will introduce ABC and PBES, provide a practical guide to integrating precast concrete elements in ABC applications, and review case studies of how various DOTs have achieved success.

#### **SPEAKER**

Daryl Burns, National Precast Concrete Association

#### **MODERATOR**

Stephanie Wagner, INDOT

---

**TIME**  
11:00–11:50 AM

**ROOM**  
STEW 206

**PDH: 1**

### **75. Brent Spence Bridge Emergency Fire Repair**

On November 11, 2020, two semis collided on the Brent Spence Bridge, a double-decker steel cantilever truss over the Ohio River, resulting in a multihour fire. The remarkable efforts of inspection, design, MOT, public awareness, and procurement resulted in a design-bid-build emergency repair contract let within 5 days after the incident. This incident serves as a model for DOTs on how to respond to an emergency closure of a critical infrastructure asset.

#### **SPEAKERS**

Jason Stith, Michael Baker International  
Stacey Hans, Kentucky Transportation Cabinet

#### **MODERATOR**

Stephanie Wagner, INDOT

---

# WEDNESDAY

## BRIDGES

**TIME**  
1:00–1:50 PM

**ROOM**  
STEW 206

**PDH: 1**

### **76. Complex Bridge Load Rating of I-65 Over SR 46**

This session presents best practices and lessons learned from completing a complex load rating of the I-65 over SR 46 basket handle tied arch bridge. We will discuss how the effects of the multidirectional post tensioning in the floor system were captured; how the stiffness of the arch-to-foundation fixity was evaluated; and updates to the *AASHTO LRFD* 9th edition code equations for rectangular box-section member.

#### **SPEAKERS**

Jenny Raines, Michael Baker International  
Francisco Javier Bonachera Martin,  
Michael Baker International

#### **MODERATOR**

Tim Wells, INDOT

---

**TIME**  
2:00–2:50 PM

**ROOM**  
STEW 206

**PDH: 1**

### **77. Bridge Load Rating for Overloaded Permit Vehicle**

This session presents best practices and lessons learned from evaluating bridges for overloaded permit vehicles. Modeling techniques for heavy haul permit vehicles will be discussed, including vehicle configuration; proper use of load distribution and modification factors; existing deterioration consideration; maximum design speed and dynamic load allowance; vertical and horizontal clearances; and 3D modeling of the rigid frame bridge on the permit route.

#### **SPEAKERS**

Jenny Raines, Michael Baker International  
Charles Boltz, Michael Baker International

#### **MODERATOR**

Tim Wells, INDOT

---

# WEDNESDAY

## BRIDGES

**TIME**  
3:00–3:50 PM

**ROOM**  
STEW 206

**PDH: 1**

### **78. Emergency Repair of the I-40 Hernando de Soto**

On May 11, 2021, a partial fracture in a tie girder of the Hernando de Soto Bridge’s arch span was found during a fracture-critical inspection, which required the immediate closure of the bridge. This presentation will discuss the three-phased approach taken to stabilize the structure, repair the fractured tie, and assess the remaining structure before the bridge was re-opened to vehicular traffic on August 2, 2021, just 83 days after the fracture was discovered.

#### **SPEAKERS**

Aaron Stover, Michael Baker International  
Francisco Javier Bonachera Martin,  
Michael Baker International  
Jason Stith, Michael Baker International

#### **MODERATOR**

Tim Wells, INDOT

**TIME**  
4:00–4:50 PM

**ROOM**  
STEW 206

**PDH: 1**

### **79. Twin Tub Girder Bridge Retrofits for System Redundancy**

Due to the perceived risk of fracture critical members (FCM) in steel bridges, hands-on inspection are mandated. This presentation describes the redundancy evaluation of three twin tub girder bridges with FCM designations. The analysis follows the *AASHTO Guide Specifications for Analysis and Identification of Fracture Critical Members and System Redundant Members*. Based on the outcomes of these analyses, the feasibility of retrofit alternatives will be assessed for the purpose of reclassifying FCMs as system redundant members.

#### **SPEAKER**

Francisco Javier Bonachera Martin,  
Michael Baker International

#### **MODERATOR**

Tim Wells, INDOT

MARCH 16, 2022

# WEDNESDAY

DESIGN/CONSTRUCTION

**TIME**

1:00–1:50 PM

**ROOM**

LOEB THEATER

**PDH: 1**

**80. Integrating Safety Analysis Into Scoping and Design**

The reduction of roadway fatalities and serious injuries is a key goal of INDOT. In order to meet the vision of zero roadway deaths, the analysis of motor vehicle crash risk is an important part of project development. This session will discuss how INDOT is bringing appropriate safety analysis practices to the development of engineering assessment (scoping) preparation and into the design process.

**SPEAKERS**

Michael Holowaty, INDOT

Taylor Ruble, INDOT

**MODERATOR**

Dan Osborn, Indiana Constructors, Inc.

---

**TIME**

2:00–2:50 PM

**ROOM**

LOEB THEATER

**PDH: 1**

**81. Benefits of Online, Collaborative Plan Review**

Technology has advanced in terms of the tools available for thorough and efficient plan review. IndyGo has been reviewing its bus rapid transit project plans in an online collaborative format where multiple disciplines and agencies are able to add and resolve comments in real time. The presenters will expound on the benefits of this method and do a live demonstration.

**SPEAKERS**

Rachel Wilson, HNTB Corporation

Matt Duffy, IndyGo

**MODERATOR**

Dan Osborn, Indiana Constructors, Inc.

---

MARCH 16, 2022

# WEDNESDAY

DESIGN/CONSTRUCTION

**TIME**

3:00–3:50 PM

**ROOM**

LOEB THEATER

**PDH: 1**

## 82. Performance Engineered Mix Designs

The move to utilize performance engineered mix designs (or balanced mix designs) for hot-mix asphalt mixtures is rapidly expanding across the U.S., and agencies and producers have questions about upcoming changes. We will present the concepts of performance engineered mix designs (PEMD) and the results of a recent case study and field testing.

### SPEAKERS

Elizabeth Pastuszka, E & B Paving, Inc.  
Scott Quire, Bluegrass Testing Laboratory

### MODERATOR

Dan Osborn, Indiana Constructors, Inc.

---

**TIME**

4:00–4:50 PM

**ROOM**

LOEB THEATER

**PDH: 1**

## 83. Adverse Effect? Dealing with Forgotten MOA Commitments

Section 106 of the National Historic Preservation Act has the potential to impact a project even after construction. This presentation is designed for LPAs with projects that may have resulted in an adverse effect finding on cultural resources during a Section 106 review, thus requiring a memorandum of agreement (MOA). The panel will explore what it means to have an MOA, provide insight on common conceptual mitigation measures, and define responsibilities for the implementation of MOA stipulations.

### SPEAKERS

Gary Quigg, Lochmueller Group  
Anthony Ross, INDOT  
Leiellen Atz, US Army Corps of Engineers

### MODERATOR

Dan Osborn, Indiana Constructors, Inc.

---

# WEDNESDAY

## DESIGN/CONSTRUCTION

**TIME**  
8:00–8:50 AM

**ROOM**  
STEW 302

**PDH: 1**

### **84. Managing Risks When Letting With Exceptions**

When working on large corridor projects with tight scheduling timelines, letting with exceptions is always a possibility. On I-69 Contracts 3 and 4, the risk profile of the contracts was reviewed on a bi-weekly basis from the Stage 3 Plan submission to project letting. The reviews assessed the status of real estate, utility relocations, tree clearing, and construction intermediate completion dates using GIS mapping and other tools. This made room for necessary adjustments to contract documents to support changes in the risk profile.

#### **SPEAKERS**

Adam Burns, Crawford, Murphy & Tilly  
Sarah Rubin, INDOT

#### **MODERATOR**

Rusty Holt, WSP USA, Inc.

---

**TIME**  
9:00–9:50 AM

**ROOM**  
STEW 302

**PDH: 1**

### **85. Lessons Learned from the New INDOT Aesthetic Permitting Process**

INDOT and FHWA recently revised and adopted new requirements for the permitting of aesthetic elements in limited access, interstate right of ways. With a number of aesthetic features and gateway monuments already in progress along I-69, project designers had to adapt to the new requirements and review procedures. Lessons learned include the interpretation of offset and clear zone requirements as well as INDOT's EPS permit tracking database.

#### **SPEAKERS**

Adam Burns, Crawford, Murphy & Tilly  
Cat Seely, INDOT  
Steve Fleming, Lochmueller Group

#### **MODERATOR**

Rusty Holt, WSP USA, Inc.

---

MARCH 16, 2022

# WEDNESDAY

DESIGN/CONSTRUCTION

**TIME**

10:00–10:50 AM

**ROOM**

STEW 302

**PDH: 1**

## 86. North Split Project Update

INDOT is completely reconstructing the busiest interchange in central Indiana—the I-65/I-70 North Split in downtown Indianapolis. This presentation provides an update on project progress with a focus on three main topics: (1) completing the environmental and design stages with continued public engagement; (2) developing a mobility management plan for traffic during interstate closure; and (3) progress updates on major construction activity.

### SPEAKERS

Seth Schickel, HNTB Corporation  
Brian Shattuck, INDOT

### MODERATOR

Rusty Holt, WSP USA, Inc.

---

**TIME**

11:00–11:50 AM

**ROOM**

STEW 302

**PDH: 1**

## 87. Racing to the I-69 Finish Line

I-69 from Martinsville to Indianapolis is the largest active transportation construction project in Indiana. In addition to the 26 miles of new interstate, it includes added lanes along 9 miles of I-465, 10 new interchanges, and over 44,000 linear feet of noise barrier. Construction timelines, utility relocations, communication techniques, construction photos, and a description of the completed work, including the 7 miles of new I-69 that is on schedule to open in Martinsville by the end of 2021, will be discussed.

### SPEAKERS

Sarah Rubin, INDOT  
Tim Miller, HNTB Corporation

### MODERATOR

Rusty Holt, WSP USA, Inc.

---

MARCH 16, 2022

# WEDNESDAY

DESIGN/CONSTRUCTION

**TIME**  
1:00–1:50 PM

**ROOM**  
STEW 302

**PDH: 1**

## **88. SR 37 Hamilton County: Vision to Construction**

What started as a mobility study has evolved over the years into a corridor project on SR 37 in Hamilton County. Faced with various challenges and changes, the scope of the project evolved to meet the needs of the changing traffic, economy, and public. With four public owners involved, communication and collaboration was a top focus to ensure agreement and consistency throughout. This progress update will review where the project stands today.

### **SPEAKERS**

Eric Farny, American Structurepoint, Inc.  
Jennifer Beck, INDOT  
Hatem Mekky, City of Fishers

### **MODERATOR**

Kevin Krulik, City of Lebanon

**TIME**  
2:00–2:50 PM

**ROOM**  
STEW 302

**PDH: 1**

## **89. Does That Utility Really Need to Move?**

This session details a number of unique situations encountered on INDOT and LPA projects in Indiana and how they were resolved. Specific project examples and the solutions applied will be discussed as well as methods for Protect in Place and how to include and document them in workplans and special provisions.

### **SPEAKERS**

Peter Flynn, HNTB Corporation  
Adam Lamb, Ellis Engineering Group

### **MODERATOR**

Kevin Krulik, City of Lebanon



MARCH 16, 2022

# WEDNESDAY

## DESIGN/CONSTRUCTION

**TIME**

3:00–3:50 PM

**ROOM**

STEW 302

**PDH: 1**

### **90. Record-Breaking Trenchless Tunneling Success Demonstrates Value on SR-37**

Trenchless tunneling methods were key to the INDOT SR 37 project’s success by providing drainage for new depressed interchanges. Gravity outfall sewers were selected over pump stations, which eliminated long-term O&M costs. This presentation explains how trenchless methods were successful in difficult ground and groundwater conditions. Approximately 1.4 miles of 54-inch-diameter storm sewers were successfully installed using trenchless tunneling methods, including a record breaking 2,304-foot-long curved micro tunnel boring machine (MTBM) run.

**SPEAKERS**

Michael Flanagan, WSP USA, Inc.  
Eric Farny, American Structurepoint, Inc.

**MODERATOR**

Kevin Krulik, City of Lebanon

**TIME**

4:00–4:50 PM

**ROOM**

STEW 302

**PDH: 1**

### **91. I-270 North Design-Build: Safety and Mobility Improvements**

The I-270 North DB project is a \$278M project in North St. Louis County. Safety and mobility were increased through a series of innovations, including additional lanes on highly-congested I-270, conversion of existing 2-way outer roads to 1-way, reconfiguring interchanges, TSMO enhancements, ITS upgrades, and pedestrian upgrades. The project also included significant public outreach which required creativity due to the pandemic.

**SPEAKERS**

Justin Wolf, Missouri DOT  
Joanne Martin, CBB

**MODERATOR**

Kevin Krulik, City of Lebanon

MARCH 16, 2022

# WEDNESDAY

DESIGN/CONSTRUCTION

**TIME**  
8:00–8:50 AM

**ROOM**  
STEW 306

**PDH: 1**

## 92. Automated Pile Driving Data Acquisition Devices

This presentation introduces automated pile driving data acquisition devices, which gather accurate and consistent driving data and help to enhance inspection and payment. The process is completely digitized and cloud based. Acquired data can be analyzed to help reduce damage and repair costs over time, minimize human error and improve the level of safety for field staff, and provide additional support for future e-Construction processes. Join us for a discussion.

### SPEAKERS

Mir Zaheer, INDOT  
Tom Brummett, INDOT  
Derek Fuller, INDOT

### MODERATOR

Scott Hesler, City of Crawfordsville

---

**TIME**  
9:00–9:50 AM

**ROOM**  
STEW 306

**PDH: 1**

## 93. Digital Design Data for Asset Collection

This session provides an update on the status of INDOT's implementation of Bentley's OpenRoads Designer (ORD)–Connect Edition for road design. Presenters will share lessons learned and benefits gained by consultants that have used the INDOT ORD Beta Workspace. Lastly we will demonstrate two workflows that utilize the enhanced digital design platform, ORD, to provide data to asset management.

### SPEAKERS

Derek Fuller, INDOT  
Timothy Haney, Parsons Corporation  
Scott Lecher, HNTB Corporation

### MODERATOR

Scott Hesler, City of Crawfordsville

---

MARCH 16, 2022

# WEDNESDAY

DESIGN/CONSTRUCTION

**TIME**

10:00–10:50 AM

**ROOM**

STEW 306

**PDH: 1**

**94. INDOT Protection of Karst Features During Project Development and Construction**

INDOT released a new procedure in July 2021 to protect karst features during project development and construction. Three key components of the new procedure are: (1) an expanded Indiana Karst Region, (2) integration with other INDOT environmental procedures and federal and state environmental laws, and (3) an educational component that includes best management practices and karst geology and biology. This presentation will provide an overview of the procedure, implementation guidance, and key concepts.

**SPEAKERS**

Sandra Bowman, INDOT  
Jessica Eichhorst, HNTB Corporation  
Kia Gillette, HNTB Corporation

**MODERATOR**

Scott Hesler, City of Crawfordsville

---

# WEDNESDAY

## ETHICS

**TIME**  
8:00–8:50 AM

**ROOM**  
LOEB THEATER

**PDH: 1**

### **95B. Indiana Statutes and Rules for Professional Engineering Licensure**

This session will cover the following topics: the Indiana Code vs. 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**

Opal Kuhl, State Board of Registration  
for Professional Engineers

**TIME**  
9:00–9:50 AM

**ROOM**  
LOEB THEATER

**PDH: 1**

### **96B. Ethics Case Histories: A Comparison of Code Provisions**

This presentation will provide case histories/scenarios and then evaluate each of them using multiple different Codes (ASCE, NSPE, NCEES Model Law, Indiana Law, etc.). Participants will engage in evaluating the ease of use of the Codes and assess whether the Codes provide similar or different guidance.

#### **SPEAKERS**

Vincent Drnevich, Purdue University  
Brock Barry, United States Military Academy  
David Kish, Purdue University

---

# WEDNESDAY

## FINANCE/ADMINISTRATION

**TIME**  
8:00–8:50 AM

**ROOM**  
STEW 311

**PDH: 1**

### **97. Federal Project Management: How to Prevent Ineligibility**

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

#### **SPEAKERS**

Michael Hopper, INDOT  
Jeremy Bartell, FHWA  
Paul Reed, INDOT

#### **MODERATOR**

Patrick Conner, Purdue University

---

**TIME**  
9:00–9:50 AM

**ROOM**  
STEW 311

**PDH: 1**

### **98. Evolutions in Innovative Transportation Funding**

In recent years heightened attention has been placed on transforming how roads are currently funded into more usage-based models. These approaches, called road usage charge (RUC) or mileage-based usage fees (MBUF), charge motorists a rate for each mile they drive. This presentation will present recent findings from RUC programs around the country and discuss the next round of MBUF programs that will help dispel some myths about the privacy, rural/urban equity, and complexity of these programs.

#### **SPEAKER**

Michael Warren, WSP USA, Inc.

#### **MODERATOR**

Patrick Conner, Purdue University

---

MARCH 16, 2022

# WEDNESDAY

FINANCE/ADMINISTRATION

**TIME**

10:00–10:50 AM

**ROOM**

STEW 311

**PDH: 1**

**99. Contractor Prequalification: Major Developments (2020–2022)**

Over the last 2 years, the prequalification process for contractors has been completely overhauled. INDOT has developed a new electronic application called contractor prequalification (CPQ) and a new contractor evaluation system called contractor performance evaluation (CPE). Along with the new application platform, the prequalification division has introduced rule and process changes. This session present an overview of these changes, a live walk-through of the new systems, and a discussion of the purposes behind the vast changes to contractor prequalification.

**SPEAKERS**

Christopher Serak, INDOT  
Crystal Weaver, INDOT

**MODERATOR**

Patrick Conner, Purdue University

**TIME**

1:00–2:50 PM

**ROOM**

STEW 311

**PDH: 2**

**100. In-Depth Road Funding (Highway Funding and Asset Management)**

Indiana’s investment in road building at both state and local levels have been at record highs over the past few years, but we must continue looking forward! This workshop will evaluate what is next in road funding, what challenges remain to delivering the highest quality infrastructure, and how asset management plans can be used to drive value in budgeting processes.

**SPEAKERS**

Gregory Guerrettaz, Financial Solutions Group, Inc.  
Brad Stump, Butler, Fairman & Seufert, Inc.  
John Brand, Butler, Fairman & Seufert, Inc.  
Nick Parr, Boone County

**MODERATOR**

Karen Hicks, INDOT

MARCH 16, 2022

# WEDNESDAY

FINANCE/ADMINISTRATION

**TIME**

3:00–3:50 PM

**ROOM**

STEW 311

**PDH: 1**

**101. The Future of Transportation Funding**

Among the many collateral impacts of vehicle electrification is a reduction in funding for government agencies who rely heavily on fuel taxation—over 75B annually—for transportation needs. States and the federal government are actively exploring user-based funding alternatives to pay for the next generation of roads that will be used by the next generation of vehicles.

**SPEAKER**

Steve Morello, CDM Smith

**MODERATOR**

Karen Hicks, INDOT

---

**TIME**

4:00–4:50 PM

**ROOM**

STEW 311

**PDH: 1**

**102. Utilizing IC 5-23 (Build Operate Transfer) for Local Infrastructure Projects**

IC 5-23, the Build Operate Transfer or the public-private partnership statute, is gaining momentum as a delivery method in Indiana communities. This presentation will walk through the basics of this delivery method and explain how cities, towns, and counties throughout Indiana can take advantage of this for their local infrastructure projects.

**SPEAKERS**

Tim Jensen, Veridus Group, Inc.

Pete Olson, Town of Yorktown

**MODERATOR**

Karen Hicks, INDOT

---

MARCH 16, 2022

# WEDNESDAY

HUMAN CAPITAL/LEADERSHIP

**TIME**  
8:00–8:50 AM

**ROOM**  
STEW 218 AB

**PDH: 1**

## **103. Using EBM to Help Women Persist in Engineering**

The under-representation and subsequent exodus of women in engineering is a complex problem. Evidence-based management (EBM) derives principles from research and translates them into practices that solve organizational problems, such as why women are still highly under-represented in engineering. This research performed an evidence-based analysis, which led to the development of a recommended solution and identifying intervention factors that can reliably lead to change in the causal factors.

**SPEAKER**  
Kara Boyles, City of South Bend

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

---

**TIME**  
9:00–9:50 AM

**ROOM**  
STEW 218 AB

**PDH: 1**

## **104. Working Our Way to Job Satisfaction**

Many Road School attendees chose their career to make a difference in the community using engineering. This session will focus on how the feeling of making a difference is a big part of job satisfaction. We will examine how the transportation industry has been collectively making a difference in Indiana over the years by reducing crash rates, reducing congestion, improving mobility, and extending the service life of assets.

**SPEAKERS**  
Jennifer Goins, HNTB Corporation  
Lyndsay Quist, INDOT  
Mark Spence, HNTB Corporation

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

---



MARCH 16, 2022

# WEDNESDAY

HUMAN CAPITAL/LEADERSHIP

**TIME**

10:00–10:50 AM

**ROOM**

STEW 218 AB

**PDH: 1**

## 105. Women of the I-69 Corridor

The I-69 Corridor has been the most high-profile, new alignment corridor project in Indiana over the last 10–20 years. Almost as impressive as the project itself, is the number of women in leadership roles. This presentation will highlight the women involved with the design and construction of the corridor and will conclude with a panel discussion from 4 out of 5 of the women involved with the project.

### SPEAKERS

Sarah Rubin, INDOT  
Sandra Flum, INDOT  
Cat Seely, INDOT  
Kelli McNamara, WSP USA, Inc.  
Natalie Garrett, INDOT  
Jennifer Goins, HNTB Corporation  
Sandra Jones, WSP USA, Inc.  
Rachel Wren, INDOT

### MODERATOR

K.D. Thurman, INDOT

**TIME**

1:00–1:50 PM

**ROOM**

STEW 218 AB

**PDH: 1**

## 106. Generational Differences in the Workplace: Connecting Teams

What do Traditionalists, Baby Boomers, Generation X, Millennials (Generation Y), and Generation Z have in common? Each generation has experiences and characteristics that shape their worldview and influence their perspective on problem solving and decision making. Research has shown that teams with diverse backgrounds in technical experience, generation origin, and ethnicity generate more ideas. Understanding characteristics that drive each generation is a critical step in creating great teams.

### SPEAKERS

John Lazzara, Stanley Consultants, Inc.  
Tyler Grau, Stanley Consultants, Inc.

### MODERATOR

Mindy Peterson, C2 Strategic Communications

MARCH 16, 2022

# WEDNESDAY

HUMAN CAPITAL/LEADERSHIP

**TIME**

2:00–2:50 PM

**ROOM**

STEW 218 AB

**PDH: 1**

**107. Public Speaking for Engineers and Local Officials**

Public speaking is a lost art and 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, Veridus Group, Inc.

**MODERATOR**

Mindy Peterson, C2 Strategic Communications

---

**TIME**

3:00–3:50 PM

**ROOM**

STEW 218 AB

**PDH: 1**

**108. Reducing Workforce Attrition**

This session will present recommended actions to improve talent retention in our industry. This topic is from a Leadership ITE 2020 project which focused on workforce attrition within the transportation industry. The team conducted a study involving a literature search, structured interviews, and a survey to determine tangible ways to “slow or stop the leak in the pipe.” The findings emphasized the importance of mentorship and career development.

**SPEAKER**

John Habermann, Texas A&M Transportation Institute

**MODERATOR**

Mindy Peterson, C2 Strategic Communications

---

MARCH 16, 2022

# WEDNESDAY

## LOCAL AGENCY

**TIME**

8:00–8:50 AM

**ROOM**

STEW 218 CD

**PDH: 1**

**109. Establishment of Road Right-of-Way**

Join us for a discussion on right-of-way establishment and valid and invalid methodologies to determine right-of-way based on research and case law.

**SPEAKER**

Jason McCort, HNTB Corporation

**MODERATOR**

Jay DuMontelle, FHWA

---

**TIME**

9:00–9:50 AM

**ROOM**

STEW 218 CD

**PDH: 1**

**110. Panel Discussion on Right-of-Way Management**

A panel discussion will commence to discuss how right-of-way impacts highway and street operations; challenges communities face when determining right-of-way; the process to acquire right-of-way via federal or local projects; and legal perspectives of right-of-way.

**SPEAKERS**

Jason McCort, HNTB Corporation  
John Brooke, Delaware County  
Patrick McCallister, WSP USA, Inc.  
Bradley Davis, Hamilton County

**MODERATOR**

Jay DuMontelle, FHWA

---

# WEDNESDAY

## LOCAL AGENCY

**TIME**  
10:00–10:50 AM

**ROOM**  
STEW 218 CD

**PDH: 1**

### **111. Emotional Intelligence and Conflict Resolution**

Conflict in the workplace is inevitable. This session will discuss emotional intelligence—what it is, how you can improve your skill, and how a high EQ can better facilitate conflict resolution in the workplace.

#### **SPEAKER**

Jennifer Sharkey, Purdue University

#### **MODERATOR**

Jay DuMontelle, FHWA

---

**TIME**  
11:00–11:50 AM

**ROOM**  
STEW 218 CD

**PDH: 1**

### **112. Recouping Costs from Bridge Damage**

As a bridge owner, what happens if someone hits your bridge? What if it collapses? Is there any recourse or funding possibilities to assist with reconstructing it? This presentation provides case studies of this exact situation. Each case study will discuss the process that was followed to secure funding for the bridge's reconstruction, what can be done if the culprit cannot be identified, and preventative and security measures to consider.

#### **SPEAKERS**

Daniel Kurdziel, VS Engineering, Inc.  
Jim Barker, VS Engineering, Inc.  
Nick Parr, Boone County

#### **MODERATOR**

Jay DuMontelle, FHWA

---

MARCH 16, 2022

# WEDNESDAY

## LOCAL AGENCY

**TIME**

1:00–1:50 PM

**ROOM**

STEW 218 CD

**PDH: 1**

### 113. White County Highway Facility

In this presentation we will discuss the conducted project needs assessment; site search and selection process; ancillary benefits to the county and the surrounding communities; site challenges; design development strategies and lessons learned; the anticipated time line to duplicate this project; and the contractual methods used to deliver the project. We will then wrap up with a photographic campus tour of the final outcomes and improvements.

**SPEAKERS**

Mike Kyburz, White County  
Dan Zuerner, Garmong Construction Services

**MODERATOR**

Stephanie Yager, Indiana Association  
of County Commissioners

---

**TIME**

2:00–2:50 PM

**ROOM**

STEW 218 CD

**PDH: 1**

### 114. How Locals Take Control of Their Federal Aid Projects

This session will highlight opportunities for local agencies to better deliver federal aid projects, including the LPA Certification process for local design standards and the Utility Relocation Inspection Contracts that are now eligible for federal aid reimbursement

**SPEAKERS**

Kathy Eaton-McKalip, INDOT  
Jennifer Sharkey, Purdue University

**MODERATOR**

Stephanie Yager, Indiana Association  
of County Commissioners

---

MARCH 16, 2022

# WEDNESDAY

## LOCAL AGENCY

**TIME**

3:00–3:50 PM

**ROOM**

STEW 218 CD

**PDH: 1**

**115. Temporary Traffic Control for Local Roads: Work Zones 101**

Managing traffic during road construction can be a challenge for our local agencies and the public. Individuals setting up work zones need to have a basic understanding of work zone traffic control. This session will cover the fundamentals of temporary traffic control on our local roads and why it is important. Attendees will become familiar with the requirements of the MUTCD and learn to use it as a reference for managing traffic through work zones.

**SPEAKER**

Todd Morrison, University of Kentucky

**MODERATOR**

Stephanie Yager, Indiana Association of County Commissioners

---

**TIME**

4:00–4:50 PM

**ROOM**

STEW 218 CD

**PDH: 1**

**116. Temporary Traffic Control for Local Roads: Managing the Jobsite**

Managing the job site during road construction can be a challenge for the entire department. Everyone involved in the project needs to understand the work zone plan and how to remain safe on the job. In this session you will hear the best practices for setting up the work zone, working in it, and taking it down.

**SPEAKER**

Todd Morrison, University of Kentucky

**MODERATOR**

Stephanie Yager, Indiana Association of County Commissioners

---

MARCH 16, 2022

# WEDNESDAY

## MULTIMODAL TRANSPORTATION

**TIME**  
8:00–8:50 AM

**ROOM**  
STEW 313

**PDH: 1**

### **117. Monon Greenway Carmel, IN: Before and After**

We will take a comprehensive look at the transformation of the Monon Greenway from a 12-ft-wide trail, to a pedestrian-prioritized, multi-modal street running through the heart of the City of Carmel. Topics covered include: reviewing key project objectives and evaluating if they were met; analyzing bicycle and pre- and post-pedestrian usage and the benefits of designing to prioritize pedestrian connectivity; the realized benefits of the project due to stakeholder involvement and infrastructure investment; and lessons learned.

#### **SPEAKERS**

Jeremy Kashman, City of Carmel  
Willie Hall, CrossRoad Engineers  
Trent Newport, CrossRoad Engineers

#### **MODERATOR**

Aaron Madrid, Purdue University

---

**TIME**  
9:00–9:50 AM

**ROOM**  
STEW 313

**PDH: 1**

### **118. Active Transportation in Indiana**

This session will introduce and reinforce planning products that have been created as a part of INDOT's Active Transportation Plan. Beginning with a brief history of walking/bicycling in Indiana, we will delve into recent developments in U.S. Bicycle Routes; micromobility; and our collaborative work with IDOH, IDNR, and others. This is an opportunity to increase access to resources and have a mutual understanding of the public's needs and desires for active transportation.

#### **SPEAKER**

Brandon Burgoa, INDOT

#### **MODERATOR**

Aaron Madrid, Purdue University

---

MARCH 16, 2022

# WEDNESDAY

## MULTIMODAL TRANSPORTATION

**TIME**

10:00–10:50 AM

**ROOM**

STEW 313

**PDH: 1**

### **119. Conducting a Pedestrian Safety and Walkability Program by Virtual Community Engagement**

Heath by Design (HbD) team members and guest presenters will introduce the Pedestrian Safety Program which includes crash data analysis, grassroots community engagement, and neighborhood-level action planning to improve walkability. The COVID-19 pandemic forced HbD staff to reconsider traditional approaches to community engagement and transition the program to a virtual format. This panel will discuss the program's tactics and goals, challenges presented by the pandemic, and lessons learned from this virtual pivot.

#### **SPEAKERS**

Logan Lane, Health by Design  
Taylor Firestine, Health by Design

#### **MODERATOR**

Aaron Madrid, Purdue University

**TIME**

1:00–1:50 PM

**ROOM**

STEW 313

**PDH: 1**

### **120. Road Buffets: Proving Road Diets Are for Everyone**

Complete Streets applications increase mode choices and provide multiple active transportation options. Using strategies such as road repurposing or incorporating improvements into previously planned projects to save costs; implementing safety enhancements for vulnerable road users; engaging stakeholders and the public; and creating aesthetic, livable corridors are goals for many Complete Streets projects. This session will explore lessons learned on three Complete Streets projects that vary in complexity, cost, level of public engagement, and aesthetic enhancement.

#### **SPEAKER**

Amy Rosepiler, Burgess & Niple, Inc.

#### **MODERATOR**

Venetta Keefe, INDOT



MARCH 16, 2022

# WEDNESDAY

## MULTIMODAL TRANSPORTATION

**TIME**

2:00–2:50 PM

**ROOM**

STEW 313

**PDH: 1**

### **121. Building a Network: Increasing Bicycle Infrastructure, Utilization, and Safety**

Transitioning from a campus that prioritizes vehicles to one that prioritizes bicycles and pedestrians is no small feat. Learn how a major university, the size of a small city, is increasing bicycle infrastructure, utilization, and safety on its campus. This presentation will provide an overview of the plan, completed work, lessons learned from implementation to date, and a look at what is coming next to continue supporting the integration of campus bicycle infrastructure.

**SPEAKERS**

Camille Shoaf, Purdue University  
Daniel Liggett, Rundell Ernstberger Associates

**MODERATOR**

Venetta Keefe, INDOT

**TIME**

3:00–3:50 PM

**ROOM**

STEW 313

**PDH: 1**

### **122. Complete Streets at Varying Scales: Challenges and Opportunities**

Safe access for all users is critical regardless of corridor type or specific location. While urban Complete Streets are widely recognized, these solutions are also applicable in rural or underserved communities. This presentation will discuss varying scales of Complete Streets, illustrate use cases, and present thoughts on future use in Indiana and the Midwest. Attendees will also learn how public agencies are responding to multimodal demands, scalability techniques, and potential applications in statewide plans.

**SPEAKERS**

Scott Sandstrom, CDM Smith  
Martin Guttenplan, CDM Smith

**MODERATOR**

Venetta Keefe, INDOT

MARCH 16, 2022

# WEDNESDAY

## PAVEMENTS

### TIME

8:00–8:50 AM

### ROOM

STEW 214 AB

PDH: 1

### 123. Real-Time Concrete Strength Sensors for Infrastructure Monitoring: Field Implementations and Case Studies

In partnership with INDOT, Purdue University has invented novel piezoelectric sensors that can accurately measure a concrete's strength and Young's modulus. The wireless capabilities of this invention enables automated and real-time monitoring of bridges and pavements and ensures regular data transmission to engineers and inspection officials. This technology has been implemented in several interstate highways and vertical construction projects in Indiana. Join us for a discussion of the benefits and practical applications of using these sensors.

#### SPEAKERS

Luna Lu, Purdue University  
Tommy Nantung, INDOT

#### MODERATOR

Matthew Beeson, INDOT

### TIME

9:00–9:50 AM

### ROOM

STEW 214 AB

PDH: 1

### 124. Increasing Roadway Performance With Geogrids

This session reviews the benefits that geogrids offer to paved and unpaved roads. We will discuss the impact that materials and manufacturing processes have on performance and how they affect lateral restraint and radial stiffness. Punched and drawn geogrids will be discussed in greater detail, and the progression from Biaxial to Triax to 3D Triplanar geogrids will be explained with supporting examples

#### SPEAKER

Doug McCluskey, Everett J. Prescott, Inc.

#### MODERATOR

Matthew Beeson, INDOT

MARCH 16, 2022

# WEDNESDAY

## PAVEMENTS

**TIME**  
10:00–10:50 AM

**ROOM**  
STEW 214 AB

**PDH: 1**

### **125. INDOT PCCP Specification Improvements: Better Performance and Durability**

Recent adjustments have been made to INDOT PCCP Specifications in response to premature distresses largely caused by certain deicing agents. After substantial research and verification, the current concrete mix specified for INDOT pavement is producing more durable, cost-effective concrete pavement. Join us for a discussion.

**SPEAKER**  
Mike Byers, ACPA

**MODERATOR**  
Matthew Beeson, INDOT

---

**TIME**  
1:00–1:50 PM

**ROOM**  
STEW 214 AB

**PDH: 1**

### **126. Improving Your Chip and Sealing Procedures**

This session will cover the following topics: how to improve your chip and sealing application; key components that will improve your final product; step-by-step procedures Marshall County has learned; things to look for, things you shouldn't do (and remedies if you did them); converting roads from the bottom up (layers of emulsion combined with stone); and double and triple sealing.

**SPEAKERS**  
Jason Peters, Marshall County  
Rich Brown

**MODERATOR**  
Mike Byers, ACPA

---

# WEDNESDAY

## PAVEMENTS

**TIME**

2:00–2:50 PM

**ROOM**

STEW 214 AB

**PDH: 1**

**127. Paving to the Finish Line: I-69 Section 6**

Split into four design-bid-build contracts, I-69 Sections 6.1 through 6.4 used a range of pavement designs, including full depth HMA, full depth PCCP, major structural overlay, and alternate bid pavements. These designs addressed low volume S-lines, mainline interstate pavement, and everything in between. Each design accommodated unique conditions within the Section 6 corridor to produce a cost-effective, long-lasting solution for the conversion of SR-37 to I-69 from Martinsville to south of Indianapolis.

**SPEAKERS**

Paul Mykytka, WSP USA, Inc.  
Kumar Dave, INDOT

**MODERATOR**

Mike Byers, ACPA

**TIME**

3:00–3:50 PM

**ROOM**

STEW 214 AB

**PDH: 1**

**128. Virtual Reality for Pavement Preservation Treatment Training**

This session presents a virtual reality (VR)-based training tool for INDOT employees. Traditionally computer-based training modules are used to train employees; however, these tools do not provide the experience of actual field conditions. The VR-based training tool aims to complement existing methods by providing an immersive training experience with a sense of real-world presence. The training system contains a decision-making-based interactive system designed to evaluate a trainee’s knowledge of pavement maintenance operations.

**SPEAKER**

Yu-Ting Huang, Purdue University

**MODERATOR**

Mike Byers, ACPA

MARCH 16, 2022

# WEDNESDAY

## PAVEMENTS

**TIME**

4:00–4:50 PM

**ROOM**

STEW 214 AB

**PDH: 1**

**129. Comparing Decision-Making Methods for Pavement Preservation Programming**

Fund-allocation decisions represent a major challenge for transportation agencies. The decision process needs to be transparent, defensible, and technically robust. Different methods of decision-making can be used, such as priority ranking, multi-criteria analyses (MCA), cost-benefit analysis (CBA), and true mathematical optimization. This presentation discusses the fundamental assumptions and procedures used in each of these methods and compares their performance and solution quality to identify advantages and disadvantages.

**SPEAKERS**

Roozbeh Rashedi, Decision Optimization  
Technology-U.S.  
Carey Stranahan, Decision Optimization  
Technology-U.S.

**MODERATOR**

Mike Byers, ACPA

---

MARCH 16, 2022

# WEDNESDAY

## PROJECT MANAGEMENT/PLANNING

**TIME**

8:00–8:50 AM

**ROOM**

FOWLER HALL

**PDH: 1**

### 130. Electrifying Freight

This panel presentation will discuss current efforts to electrify freight in both the public and private sectors. NACFE will discuss the demonstration and evaluation of real-world zero emission freight movement through their Run on Less – Electric Program. HNTB will discuss the public-sector’s planning and dashboarding efforts to support and measure freight electrification. INDOT will discuss the innovative effort of the ASPIRE Program to develop and test wireless power transfer on interstate highways.

**SPEAKERS**

Scott Manning, INDOT  
David Schaller, North American  
Council for Freight Efficiency  
Scott Lowry, HNTB Corporation

**MODERATOR**

Samantha Anderson, INDOT

**TIME**

9:00–9:50 AM

**ROOM**

FOWLER HALL

**PDH: 1**

### 131. 80/94 FlexRoad: INDOT’s First PEL Study

The Planning and Environment Linkages (PEL) process is gaining traction across the country as DOTs look to better integrate the planning and NEPA processes. INDOT initiated its first PEL study in 2021, the 80/94 FlexRoad study, on the Borman Expressway. With more PEL studies on the horizon, the 80/94 FlexRoad team and INDOT will provide an overview of the process, lessons learned from the first PEL study, and the future of PEL in Indiana.

**SPEAKERS**

Dan Prevost, Parsons Corporation  
Laura Hilden, INDOT  
Roy Nunnally, INDOT

**MODERATOR**

Samantha Anderson, INDOT

# WEDNESDAY

## PROJECT MANAGEMENT/PLANNING

**TIME**  
10:00–10:50 AM

**ROOM**  
FOWLER HALL

**PDH: 1**

### **132. Cadaver Dogs and Unmarked Burials on Transportation Projects**

In addition to the use of ground penetrating radar, we propose an unconventional technique for locating prehistoric and historic human remains at archaeological sites and cemeteries prior to, rather than during, road construction projects. We successfully used the search skills of a cadaver dog at a prehistoric site in Indiana and located multiple burials not found by other modalities. We will discuss and recommend applications of this technique, which can expedite searches and decrease costs.

#### **SPEAKERS**

Jennifer Hall, KYK9 Search Dogs  
Andrea Crider, ASC Group, Inc.

#### **MODERATOR**

Samantha Anderson, INDOT

---

**TIME**  
1:00–1:50 PM

**ROOM**  
FOWLER HALL

**PDH: 1**

### **133. 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 the available project delivery methods and talk through the risks and decisions which must be made to make a selection—whether knowingly or unknowingly.

#### **SPEAKERS**

Tim Jensen, Veridus Group, Inc.  
Tim Gropp, Town of Speedway

#### **MODERATOR**

Sandra Flum, INDOT

---

MARCH 16, 2022

# WEDNESDAY

## PROJECT MANAGEMENT/PLANNING

**TIME**

2:00–2:50 PM

**ROOM**

FOWLER HALL

**PDH: 1**

### **134. Proactively Upgrading Aging Infrastructure for Multi-modal Corridor Renewal**

Indiana is experiencing urban renewal. Urban multi-modal corridor renewal in an aging, socioeconomically challenged area has its challenges on the surface; however, what is underground can be equally challenging. In Florida, Burgess & Niple partnered with FDOT and the City of Tampa to proactively resolve the flooding on 8 miles of one-way pairs. Twelve existing 100-year-old drainage systems discharging to the Hillsborough River were modeled and upgraded, setting the foundation for the surface Complete Streets improvements.

**SPEAKER**

Michael Mills, Burgess & Niple, Inc.

**MODERATOR**

Sandra Flum, INDOT

---

**TIME**

3:00–3:50 PM

**ROOM**

FOWLER HALL

**PDH: 1**

### **135. Streamlining Project Development Through Planning and Environmental Linkages**

As transportation agencies continue to explore ways to be more efficient in the project development process, they are embracing integrated methodologies like planning and environmental linkages. This tool is practical, yet highly effective and inclusive, and teams across the country are experiencing its value. This presentation will highlight a variety of use cases, discuss lessons learned and best practices, and specifically address how planning and environmental linkages can be applied in Indiana and the Midwest.

**SPEAKERS**

Brett Lackey, CDM Smith  
Karen Hadley, CDM Smith

**MODERATOR**

Sandra Flum, INDOT

---



MARCH 16, 2022

# WEDNESDAY

## PROJECT MANAGEMENT/PLANNING

**TIME**

4:00–4:50 PM

**ROOM**

FOWLER HALL

**PDH: 1**

### **136. Improving Document Retention Through Data Management Dashboards**

Transportation projects continue to get more complex, requiring multilayer collaboration, documentation, compliance, and more. We will demonstrate how innovative platforms can build data management dashboards for project management and document retention in Midwest and Indiana mobility projects. This specialized visual tool brings important documents and data together, incorporates customized information, and evolves to meet client needs in modern and easy to understand metrics.

**SPEAKERS**

Brett Lackey, CDM Smith  
Beau Gentry, CDM Smith  
Karen Hadley, CDM Smith

**MODERATOR**

Sandra Flum, INDOT

**TIME**

1:00–1:50 PM

**ROOM**

STEW 306

**PDH: 1**

### **137. It Takes a Village: Contract Administration Letting Preparation**

Once a contract is submitted to Final Tracings, that is the last time a designer hears anything about it (unless problems arise). For many, contract administration is a “black box” that requires an excessive amount of time to prepare contracts. This session provides clarity on the internal preparations of a contract as it is readied for advertisement, including cost estimating, PS&E review, and fiscal applications.

**SPEAKER**

Elizabeth Thomas, INDOT

**MODERATOR**

Lyndsay Quist, INDOT

MARCH 16, 2022

# WEDNESDAY

## PROJECT MANAGEMENT/PLANNING

**TIME**

2:00–2:50 PM

**ROOM**

STEW 306

**PDH: 1**

### 138. Evolving INDOT's 20-Year Plans

INDOT is greatly improving its long-term planning efforts and asset management. One key component is implementing 20-year plans for assets like pavement, bridges, and large culverts. INDOT has transitioned from separate spreadsheets for each district to a suite of web-based tools allowing asset teams to work effectively in either the office or the field. This presentation will focus on how the 20-year plan started, current progress, and future plans for improved tools, workflows, coordination, and analysis.

**SPEAKERS**

Louis Feagans, INDOT  
Adam Tyra, INDOT

**MODERATOR**

Lyndsay Quist, INDOT

**TIME**

3:00–3:50 PM

**ROOM**

STEW 306

**PDH: 1**

### 139. Integrating Design, ROW, and Utility Coordination for Improved Reliability in Project Delivery

Utilities and ROW acquisition are two of the three most common critical path items for project delivery. Successful project teams build an awareness of these two processes early and strategically in their project. This interactive session focuses on improving reliability in project delivery by integrating a utility conflict management approach into design and project management, identifying when and how to use advanced utility investigations, and where ROW and utility coordination efforts strategically intersect.

**SPEAKERS**

Matthew Witt, INDOT  
Kenny Franklin, Parsons Corporation

**MODERATOR**

Lyndsay Quist, INDOT

MARCH 16, 2022

# WEDNESDAY

## PROJECT MANAGEMENT/PLANNING

**TIME**

4:00–4:50 PM

**ROOM**

STEW 306

**PDH: 1**

**140. Ready Mix Concrete 101:  
An Inside Look at the Ready Mix  
Business from Bid to Production**

This session gives an inside look at the ready mix business from bid to production. We will talk about specifications versus guidelines, the bid process, and production and quality control.

**SPEAKER**

Chad Clark, Irving Materials, Inc.

**MODERATOR**

Lyndsay Quist, INDOT

---

MARCH 16, 2022

# WEDNESDAY

## PUBLIC RELATIONS/COMMUNICATIONS

**TIME**  
8:00–8:50 AM

**ROOM**  
STEW 279

**PDH: 1**

### **141. Changing Interchanges: Educating Hoosiers on Alternative Designs**

Alternative intersections improve traffic flow and safety, but the public can be unsure of new solutions. Learn best practices for educating the public on displaced lefts, median U-turns and roundabouts, and building support for these important improvements. You'll hear examples from TheLloyd4U in Evansville and other projects across the state. Strategic, specialized outreach to the public means thinking outside the box.

#### **SPEAKERS**

Will Wingfield, C2 Strategic Communications  
Mindy Peterson, C2 Strategic Communications

#### **MODERATOR**

Debbie Calder, INDOT

---

**TIME**  
9:00–9:50 AM

**ROOM**  
STEW 279

**PDH: 1**

### **142. Big Data Applications: Innovative Tools for Public Involvement**

Using big data to better understand origin-destination and regional travel patterns is critical to project development. Tools such as StreetLight data lead to improved definitions for traffic analysis zones (TAZs), which, in turn, help inform public involvement plans for a more targeted approach and improved equity. This presentation will highlight future planning applications in Indiana and other case examples where we have used big data like StreetLight to aid the plan development of public and stakeholder engagement.

#### **SPEAKERS**

Amy Livingston, CDM Smith  
Houssam Ghandour, CDM Smith

#### **MODERATOR**

Debbie Calder, INDOT

---

MARCH 16, 2022

# WEDNESDAY

## PUBLIC RELATIONS/COMMUNICATIONS

**TIME**  
10:00–10:50 AM

**ROOM**  
STEW 279

**PDH: 1**

### **143. Community Engagement During COVID-19**

COVID-19 has brought many challenges, including how to engage the public while social distancing. American Structurepoint's approached these challenges with a combination of virtual open houses, public meetings, and project pages, which has successfully engaged more individuals than standard in-person opportunities alone. This presentation will include an overview of the various technologies, platforms, and processes we've utilized and lessons learned along the way.

#### **SPEAKERS**

Briana Hope, American Structurepoint, Inc.  
Sarah Everhart, American Structurepoint, Inc.

#### **MODERATOR**

Debbie Calder, INDOT

---

**TIME**  
11:00–11:50 AM

**ROOM**  
STEW 279

**PDH: 1**

### **144. Transparency in Transportation: Mitigating Social and Political Risk**

Communication professionals understand that when it comes to community engagement, the public demands three basic things: transparency, brevity, and opportunity for involvement. Effective public engagement is essential to developing the community's trust and cooperation and can help minimize the adoption curve for transportation improvements. We will share case studies, lessons learned, and best practices for public engagement on transportation infrastructure improvements.

#### **SPEAKERS**

Maggie LaMar, HDR  
Katie Hatfield Edstrom, HDR  
Andrea Henry, Iowa DOT

#### **MODERATOR**

Debbie Calder, INDOT

---

MARCH 16, 2022

# WEDNESDAY

PUBLIC RELATIONS/COMMUNICATIONS

**TIME**

12:00–12:50 PM

**ROOM**

STEW 279

**PDH: 1**

**145. Incident Response After Action Reviews Using Unmanned Aerial Systems (UAS)**

A well-coordinated multi-agency incident response reduces clearance time and improves safety for motorists and first responders. This presentation will cover several after-action reviews and discuss how the UAS imagery can be used for training.

**SPEAKERS**

Robert Hainje, Tippecanoe County Sheriff's Office  
Jijo Mathew, Purdue University

**MODERATOR**

Debbie Calder, INDOT

---

# WEDNESDAY

## PUBLIC SAFETY

**TIME**  
1:00–1:50 PM

**ROOM**  
STEW 279

**PDH: 1**

### **146. 2022 Developments in Emergency Vehicle Traffic Signal Preemption**

This session discusses recent technology developments that allow collision avoidance systems to be integrated into emergency vehicle preemption and transit signal priority. This presentation will include a historic overview of all preemption platforms (acoustic, optical, radio based, and GPS) as well as the benefits (including a 17%–25% response time decrease), drawbacks, and limitations that can be expected from each platform type.

#### **SPEAKER**

Dave Gross, Collision Control Communications, Inc.

#### **MODERATOR**

Robert Hainje, Tippecanoe County Sheriff's Office

---

**TIME**  
2:00–2:50 PM

**ROOM**  
STEW 279

**PDH: 1**

### **147. Importance of Proactive Safety Analysis for Corridor Planning**

A proactive safety analysis approach assists decision makers in addressing high-risk crash elements, particularly on low-volume roadways. Using corridor planning best practices and lessons learned, this presentation will explore creative and proactive approaches for holistic planning solutions. It will also validate 2020 pandemic crash data accuracy and highlight prioritization methodologies and AASHTO and FHWA guided countermeasures applied to at-risk locations.

#### **SPEAKERS**

Martin Guttenplan, CDM Smith  
Houssam Ghandour, CDM Smith

#### **MODERATOR**

Robert Hainje, Tippecanoe County Sheriff's Office

---

# WEDNESDAY

## PUBLIC SAFETY

**TIME**  
3:00–3:50 PM

**ROOM**  
STEW 279

**PDH: 1**

### **148. Trends and Solutions for Bicycle and Pedestrian Safety**

As Hoosiers strive to be more physically active during the ongoing pandemic, bicycle and pedestrian crashes are at historic highs in Indiana. This session will present the findings of a new statewide report that explores the data behind these trends and offers solutions to address the burden of pedestrian and bicycle injuries and fatalities in our state. Attendees will have the opportunity to discuss these trends and strategize about solutions moving forward.

#### **SPEAKERS**

Logan Lane, Health by Design  
Brandon Burgoa, INDOT

#### **MODERATOR**

Robert Hainje, Tippecanoe County Sheriff's Office

---

**TIME**  
4:00–4:50 PM

**ROOM**  
STEW 279

**PDH: 1**

### **149. Fire Station Siting Study**

The City of Hammond Fire Department, in need of a new station location, worked with Shive-Hattery of South Bend to study the optimal location for fire stations in Hammond. This presentation guides the audience through the data collection, processing the data into GIS, and comparing population density to find a site best suited to the needs of Hammond Residents.

#### **SPEAKERS**

Rebecca Ward, Shive-Hattery  
Mark Gordish, City of Hammond  
Dean Button, City of Hammond

#### **MODERATOR**

Robert Hainje, Tippecanoe County Sheriff's Office

---



MARCH 16, 2022

# WEDNESDAY

## SAFETY

### TIME

8:00–8:50 AM

### ROOM

STEW 214 CD

PDH: 1

### 150. Do You Have a Safe System?

Planners, engineers, and designers all have a role to play in the Safe System Approach (SSA). This presentation will highlight how to address safe road users, safe vehicles, safe speeds, safe roads, and post-crash care during planning and programming. Specifically, it will describe: (1) what a safe system is using real world examples, (2) system benefits and challenges, and (3) specific implementation ideas based on lessons learned.

#### SPEAKERS

Kendra Schenk, Burgess & Niple, Inc.  
Nicole Waldheim, Burgess & Niple, Inc.

#### MODERATOR

Dan Avery, Allen County

---

### TIME

9:00–9:50 AM

### ROOM

STEW 214 CD

PDH: 1

### 151. INDOT Work Zone Safety Update

This session will provide guidance on work zone safety topics that is geared toward designers who prepare MOT plans on construction and the professionals who implement these plans in the field. The topics discussed will likely include common problems encountered in the field and recent updates to the *Indiana Design Manual*, Standard Specifications and Drawings.

#### SPEAKERS

Mischa Kachler, INDOT  
Katherine Smutzer, INDOT

#### MODERATOR

Dan Avery, Allen County

---

# WEDNESDAY

## SAFETY

**TIME**  
10:00–10:50 AM

**ROOM**  
STEW 214 CD

**PDH: 1**

### **152. How About RoadHAT 4? Best Practices and Updates From RoadHAT 3**

This session will describe the subtle and not-so-subtle changes between the new RoadHAT version 4 and previous versions and also discuss some recommended choices in using RoadHAT 4 for the various road facility types.

**SPEAKER**  
Thomas Ford, INDOT

**MODERATOR**  
Dan Avery, Allen County

---

**TIME**  
11:00–11:50 AM

**ROOM**  
STEW 214 CD

**PDH: 1**

### **153. Recent Safety Program Changes for Everyone**

There have been numerous changes to the safety program over the years. The past year in particular has brought new challenges and opportunities. The recent infrastructure bill introduced new areas of emphasis and a renewal, and updates to programs, such as the Focused Approach to Safety and Proven Safety Countermeasures, have recently been published. Find out what all this means for traffic safety at the local, state, and federal level in this session.

**SPEAKER**  
Rick Drumm, FHWA

**MODERATOR**  
Dan Avery, Allen County

---

# WEDNESDAY

## SAFETY

**TIME**

1:00–1:50 PM

**ROOM**

STEW 214 CD

**PDH: 1**

**154. TScan: A Tool for Rapid Safety Evaluation**

Traffic Scanner (TScan), with its LiDAR sensors and data processing, allows automatic tracking of pedestrians, two-wheelers, and vehicles. Its accuracy is sufficient for engineering applications ranging from counting vehicles to detecting traffic conflicts, and multiple TScan units can operate at large intersections for several days unsupervised. This presentation introduces TScan, its potential applications from the end-user’s perspective, and a focus on the most challenging task—safety analysis.

**SPEAKERS**

Andrew Tarko, Purdue University  
Vamsi Bandaru, Purdue University

**MODERATOR**

Thomas Ford, INDOT

**TIME**

2:00–2:50 PM

**ROOM**

STEW 214 CD

**PDH: 1**

**155. Analyzing Pedestrian Crash Data Trends and Implementing Countermeasures**

This presentation will highlight a collaborative process developed by Health by Design, the Marion County Public Health Department, and the City of Indianapolis Department of Public Works to retrieve, process, and geolocate pedestrian crash data via police reporting. This data can identify and analyze trends in vehicle and pedestrian movements at specific intersections and support funding applications to implement permanent physical design improvements to high-crash intersections using countermeasures recommended by the city-county’s Pedestrian Safety Action Plan (PSAP).

**SPEAKERS**

Logan Lane, Health by Design  
Jodi Raymond, IU Health  
Jill Palmer, City of Indianapolis  
Taylor Firestine, Health by Design

**MODERATOR**

Thomas Ford, INDOT

MARCH 16, 2022

# WEDNESDAY

## SAFETY

### TIME

3:00–3:50 PM

### ROOM

STEW 214 CD

PDH: 1

### TIME

4:00–4:50 PM

### ROOM

STEW 214 CD

PDH: 1

## 156. Safety for the Most Vulnerable

Traffic safety numbers indicate that fatalities of pedestrians, bicyclists, and other vulnerable users have risen between 50% to 100% nationally over the past decade. This remarkable increase should make all overseers of a road system, local or state, reassess how vulnerable users can be accommodated and implement strategies to make our roads safer for all users. Join us and learn how you can improve safety for all.

### SPEAKERS

Michael Holowaty, INDOT  
Laura Slusher, Purdue University  
Rick Drumm, FHWA

### MODERATOR

Thomas Ford, INDOT

---

## 157. Was That Crash Modification Factor Accurate?

This session will look at real-world projects to see how close anticipated crash reductions are to actual crash results. Safety countermeasures being examined include roundabouts, lighting, and shoulder widths. Changes in the overall crash profile of some project sites/corridors will also be discussed.

### SPEAKERS

Peter Flynn, HNTB Corporation  
Jordan Williams, City of Indianapolis

### MODERATOR

Thomas Ford, INDOT

---

MARCH 16, 2022

# WEDNESDAY

## STORMWATER AND WETLANDS

**TIME**

8:00–8:50 AM

**ROOM**

STEW 278

**PDH: 1**

**158. Learning the Ropes of Stormwater Management**

This presentation will touch on topics and skills learned by a newly employed Stormwater Engineer working for the City of West Lafayette. Topics include erosion control methods and theory, the minimum controls measures (MCMs) for Indiana’s local municipalities, the Tippecanoe County Partnership for Stormwater Quality, Wabash River infrastructures, construction-site and outfall inspections, and much more.

**SPEAKER**

Jeffrey Kuhn, City of West Lafayette

**MODERATOR**

Jacque Clements, IACHES

---

**TIME**

9:00–9:50 AM

**ROOM**

STEW 278

**PDH: 1**

**159. Missed That! Roadway Drainage Lessons**

Intersection improvements and downtown beautification projects are common essential improvements that benefit motorists and residents of urban communities. When scoping, it is easy to disregard drainage in order to minimize cost and reduce staffing needs. However, sometimes big problems can happen when roadway drainage is not assessed. Come take a deep dive into a few examples of drainage oversights and how they were remedied.

**SPEAKER**

Michael Mills, Burgess & Niple, Inc.

**MODERATOR**

Jacque Clements, IACHES

---

# WEDNESDAY

## STORMWATER AND WETLANDS

**TIME**  
10:00–10:50 AM

**ROOM**  
STEW 278

**PDH: 1**

### **160. A Decade Later: Wetland and Stream Mitigation Results**

Significant transportation projects are designed and built, but that’s not the end of the story. Wetland and stream mitigation efforts, including monitoring and maintenance, may continue for a decade. This presentation will showcase INDOT mitigation sites—from their creation a decade ago to the awesome results—for projects like US-31. We’ll share timelines, photos, quality data, and challenges identified and addressed over the years.

**SPEAKER**

Summer Elmore, CHA Consulting, Inc.

**MODERATOR**

Jacque Clements, IACHES

---

**TIME**  
11:00–11:50 AM

**ROOM**  
STEW 278

**PDH: 1**

### **161. Indiana DNR’s Stream and Wetland Mitigation Program**

The DNR’s in-lieu fee program provides credits for stream and wetland mitigation required by permits from the U.S. Army Corps of Engineers and the IN Department of Environmental Management. It also provides floodway credits for DNR Division of Water permits. This presentation will provide an update on the program, how it works, how to purchase credits, and how we are fulfilling our obligations.

**SPEAKER**

Carl Wodrich, IDNR

**MODERATOR**

Jacque Clements, IACHES

---

MARCH 16, 2022

# WEDNESDAY

## TRAFFIC OPERATIONS

**TIME**  
8:00–8:50 AM

**ROOM**  
STEW 310

**PDH: 1**

### **162. Accommodating Rapid Development in Design Level Forecast**

Rapid large-scale development presents challenges for traffic engineers to accurately forecast design-year traffic volumes. Prevailing forecasting methods, such as the *ITE Trip Generation Manual*, tend to exaggerate local traffic impacts on large developments and do not account for regional influences. This presentation outlines the methodologies for developing the design level forecast of two large freeway projects amid large-scale private developments. This approach provides significant improvements over traditional trip generation methods and model-based forecasts.

**SPEAKER**  
Randy Kill, Burgess & Niple, Inc.

**MODERATOR**  
Hardik Shah, American Structurepoint, Inc.

---

**TIME**  
9:00–9:50 AM

**ROOM**  
STEW 310

**PDH: 1**

### **163. Flashing Yellow Arrows**

Why doesn't the flashing arrow work anymore? The green arrow doesn't turn on, is there something wrong? These questions and more will be answered in a discussion about the operation, implementation, and education of flashing yellow arrows (FYAs) at signalized intersections. Case studies of specific intersections in Indiana will be used to show the crash history and risk analysis used to make decisions related to overall signal operation and driver safety.

**SPEAKER**  
Matt Sagstetter, INDOT

**MODERATOR**  
Hardik Shah, American Structurepoint, Inc.

---

# WEDNESDAY

## TRAFFIC OPERATIONS

**TIME**  
10:00–10:50 AM

**ROOM**  
STEW 310

**PDH: 1**

### **164. Lessons Learned: Indianapolis Two-Way Conversion Study**

A feasibility study was conducted to provide a holistic assessment of converting several one-way pairs to two-way streets in the downtown area. The study included detailed analysis of five existing one-way pairs consisting of approximately seventy intersections. Indianapolis MPO sub-region TDM was updated to incorporate future traffic growth, changes in land-use development, and planned transit projects. The output of this model provided insight into the potential change in traffic patterns from converted two-way streets.

#### **SPEAKERS**

Jordan Williams, City of Indianapolis  
Rahul Rajbhara, American Structurepoint, Inc.

#### **MODERATOR**

Hardik Shah, American Structurepoint, Inc.

---

**TIME**  
1:00–1:50 PM

**ROOM**  
STEW 310

**PDH: 1**

### **165. Unforeseen Covid Impacts on Indianapolis Traffic**

COVID has impacted traffic volumes, travel patterns, and even trip generation across our country. This session will explore COVID's impact on Indianapolis traffic and how to address it. We'll demonstrate how impacts differ in urban areas and depend on adjacent land use, adjusted work schedules, socio-economic forces, and transit access. We'll compare Indianapolis to national trends and conclude with open discussions regarding future TIAs and the potential permanency of adjusted travel patterns.

#### **SPEAKERS**

Jill Palmer, City of Indianapolis  
Amanda Johnson, EMCS, Inc.  
Lauren Maenhout, EMCS, Inc.

#### **MODERATOR**

Hillary Lowther, INDOT

---



MARCH 16, 2022

# WEDNESDAY

## TRAFFIC OPERATIONS

**TIME**

2:00–2:50 PM

**ROOM**

STEW 310

**PDH: 1**

**166. Perspectives on Past and Present MUTCDs**

This session will describe the history of the Manual on Uniform Traffic Control Devices. Prime focus will be on the Indiana version, including the procedures that have been and those that are currently used to adopt Indiana’s manual. Pending it’s adoption prior to Road School, a summary of the significant changes in next edition of the MUTCD will also be presented.

**SPEAKERS**

David Boruff, INDOT  
Joe Bruno, INDOT  
Karen Stippich, FHWA

**MODERATOR**

Hillary Lowther, INDOT

---

MARCH 16, 2022

# WEDNESDAY

## WINTER WEATHER OPERATIONS

**TIME**

12:00–12:50 PM

**ROOM**

STEW 278

**PDH: 1**

**167. Future of Mobile Observation Data Technologies**

Mobile observations have become an integral part of snow and ice programs. In this session we will learn about the FHWA IMO (integrating mobile observations) initiative; how mobile sensors have evolved; and what these new units are capable of doing. Discussion will include how this technology can help both the operator and the agency, how the data is visualized and used, and how agencies and airports have implemented these units.

**SPEAKER**

Tony Coventry, FHWA

**MODERATOR**

Jeff Theising, City of Jasper

---

**TIME**

1:00–1:50 PM

**ROOM**

STEW 278

**PDH: 1**

**168. Using Liquids in Winter Maintenance**

There has been a growing trend over the past couple of decades to use liquids in a variety of ways in winter maintenance operations. Liquids are a useful resource for attendees to add to their winter maintenance toolbox or to use in new ways. We will take a look at how liquids work differently from solids, how liquids are being used, and what benefits agencies gain from using liquids.

**SPEAKER**

Wilf Nixon, Professional Snowfighters Association

**MODERATOR**

Jeremy McGuffey, INDOT

---

MARCH 16, 2022

# WEDNESDAY

## WINTER WEATHER OPERATIONS

**TIME**

2:00–2:50 PM

**ROOM**

STEW 278

**PDH: 1**

### 169. Maturing Your Winter Operations

Over the last 20 years, the available tools for winter maintenance have substantially increased. This session will take the participants through a step-by-step process on how to increase their agency's effectiveness and efficiency. The topics covered include creating a snow plan, equipment and material specifications, performance measures, and safety. The attendees will be shown how to apply the maturity map to improving winter operations to their agency.

**SPEAKER**

John Habermann, Texas A&M Transportation Institute

**MODERATOR**

Jeremy McGuffey, INDOT

---

**TIME**

3:00–3:50 PM

**ROOM**

STEW 278

**PDH: 1**

### 170. NWS–Winter Weather Science

Join us for a discussion about the National Weather Service, its winter operations, and some winter knowledge.

**SPEAKER**

Chris Roller, NOAA

**MODERATOR**

Jeremy McGuffey, INDOT

---

MARCH 16, 2022

# WEDNESDAY

## WINTER WEATHER OPERATIONS

**TIME**

4:00–4:50 PM

**ROOM**

STEW 278

**PDH: 1**

**171. Using RWIS Data for Winter Maintenance Decision Support**

Road weather information systems (RWIS) data is the key component to winter maintenance decision support systems (MDSS) and solutions. In this session we will learn about the FHWA's Weather Data Environment (WxDE), a national road weather data sharing program; how the data is integrated into decision support solutions, network monitoring, and research projects. Discussion will also include strategic application of road weather data in winter maintenance decision making.

**SPEAKER**

Tony Coventry, FHWA

**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

---

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.
  1. Visit <https://tinyurl.com/2022RS-RegModification> at the conclusion of Road School (*The self-reporting link and website below will not be activated until March 18th, directly following the Road School programming, and will remain available until April 17th.*).
  2. Select the hyperlink "Modify Registration for PDH"
  3. Log in by completing the requested fields (email address and confirmation number as they appear on your confirmation email).
  4. After logging in, click on the "Modify Registration" button on the "Confirmation" tab.
  5. 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.
  6. 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.
  7. Follow the prompts to continue and complete the PDH/CEU recording process.

Sessions attended must be reported between March 18th 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, 2022.

# 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 803,000 downloads since we placed the Road School presentations on the web. Nearly 60% of those downloads are from outside the United States, representing 223 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



2022 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

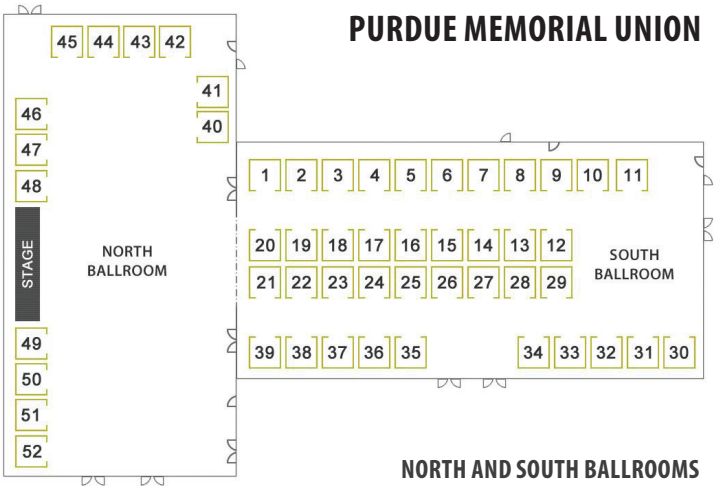
## EXHIBITORS LISTED BY NAME

- 3** Acrow Bridge
- 21** American Structurepoint, Inc.
- 6** Anderson Professional Services, LLC
- 24** ASC Group, Inc.
- 34** Asphalt Materials, Inc.
- 39** Asphalt Pavement Association of Indiana
- 33** Asphalt Zipper, Inc.
- 19** Beam Longest & Neff
- 51** Brandstetter Carroll, Inc.
- 11** CHA Consulting, Inc.
- 18** Co-Alliance LLP
- 26** Contech Engineered Solutions LLC
- 15** CountryMark
- 43** Cyclomedia Technology, Inc.
- 35** D2 Land & Water Resource
- 17** Everett J. Prescott, Inc.
- 32** Equipment Marketing Co.
- 42** Fleis & VandenBrink
- 38** Flexamat
- 23** GAI Consultants, Inc.
- 50** Geopier Foundation Company
- 16** GeoStabilization International
- 7** GeoTree Solutions
- 45** Globe Asphalt Paving Co., Inc.
- 14** Hanson Professional Services
- 41** Highway Safety Specialists
- 46** Hirons
- 8** Horizon Signal Tech, Inc.
- 20** IMI
- 4** Indiana Kentucky Ohio Concrete Pipe Association
- 28** Indiana, Illinois, Iowa Foundation for Fair Contracting
- 47** JET Filter System
- 44** Kapur, Inc.
- 9** Kessler Soils Engineering Products, Inc.
- 12** Kwik Bond Polymers
- 13** ms consultants, inc.
- 1** National Gunite
- 22** Osburn Associates, Inc.
- 30** Parsons Corporation
- 10** PlastiFab EPS Product Solutions-GeoSpec Geofoam
- 31** Primera Engineers, Ltd.
- 29** Reading Rock, Inc.

# EXHIBITORS

## EXHIBITORS LISTED BY NAME

- 37 Resource International, Inc.
- 36 SBS Portals/Information & Records Associates, Inc.
- 49 Sherwin Industries, Inc.
- 40 SJCA Inc.
- 48 Stello Products, Inc.
- 52 TenCate Geosynthetics
- 2 The Hoosier Company, Inc.
- 25 United Consulting
- 5 Valmont Structures
- 27 Volkert, Inc.





# EXHIBITORS

The logo for ACROW, featuring the word "ACROW" in a bold, black, sans-serif font centered within a bright yellow rectangular background.

AMERICAN  
**STRUCTUREPOINT**  
INC.



CULTURAL  
ENVIRONMENTAL  
HAZARDOUS  
**EVALUATION &  
CONSULTING**



# EXHIBITORS

***Asphalt Zipper***

**The Easiest, Most Economical Way  
to Longer Lasting Road Repairs**

**BLN**  
BEAM · LONGEST · NEFF



**CHIA**



**CONTECH®**  
ENGINEERED SOLUTIONS

# EXHIBITORS



**CountryMark.**

**cyclomedia**



# EXHIBITORS

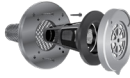


# EXHIBITORS



INDIANA • KENTUCKY • OHIO  
CONCRETE PIPE  
ASSOCIATION

# EXHIBITORS



**JET FILTER** *ADVANCED DRAINAGE TECHNOLOGY*  
*MADE IN USA*  
*Maintainable Weep Hole Filters*



**KSE Testing Equipment**



# EXHIBITORS



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



**Osburn Associates, Inc.**



 **Primera**



# EXHIBITORS





# EXHIBITORS



# MAPS

## PURDUE MEMORIAL UNION, FIRST FLOOR



Gender Neutral Restroom



Men's Restroom



Women's Restroom



Elevator

### 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

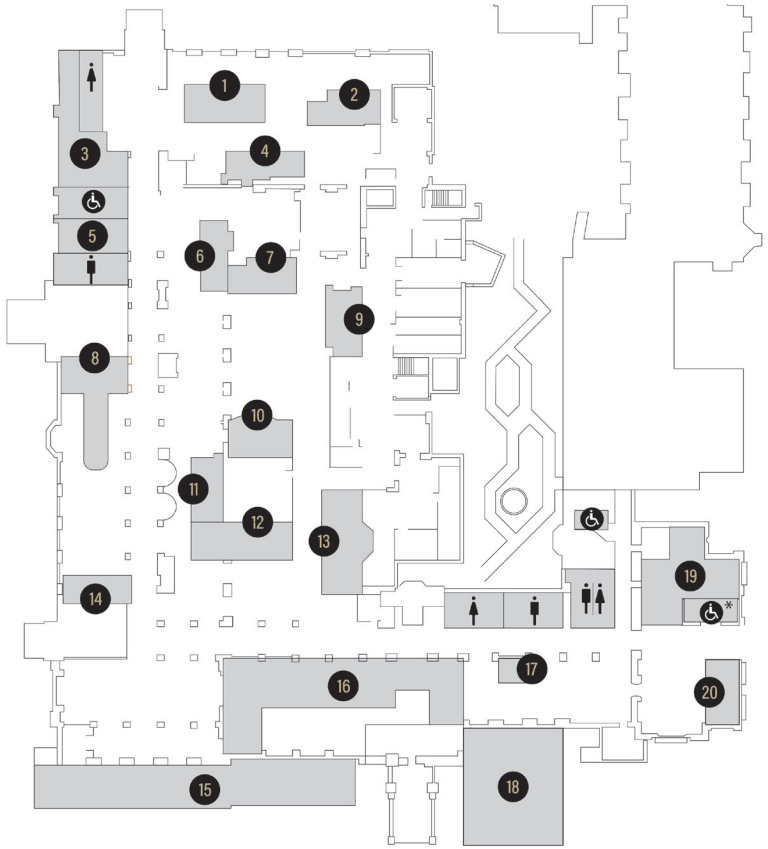
- 3 UPS Store
- 4 Fidelity Investments
- 5 Purdue Federal Credit Union
- 6 Evans, Piggot and Finney Eye Care
- 7 Amazon @ Purdue

### FOOD VENUES

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

# MAPS

## PURDUE MEMORIAL UNION, GROUND FLOOR



Gender Neutral Restroom



Men's Restroom



Women's Restroom



Elevator  
\*to Rack & Roll only

### 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

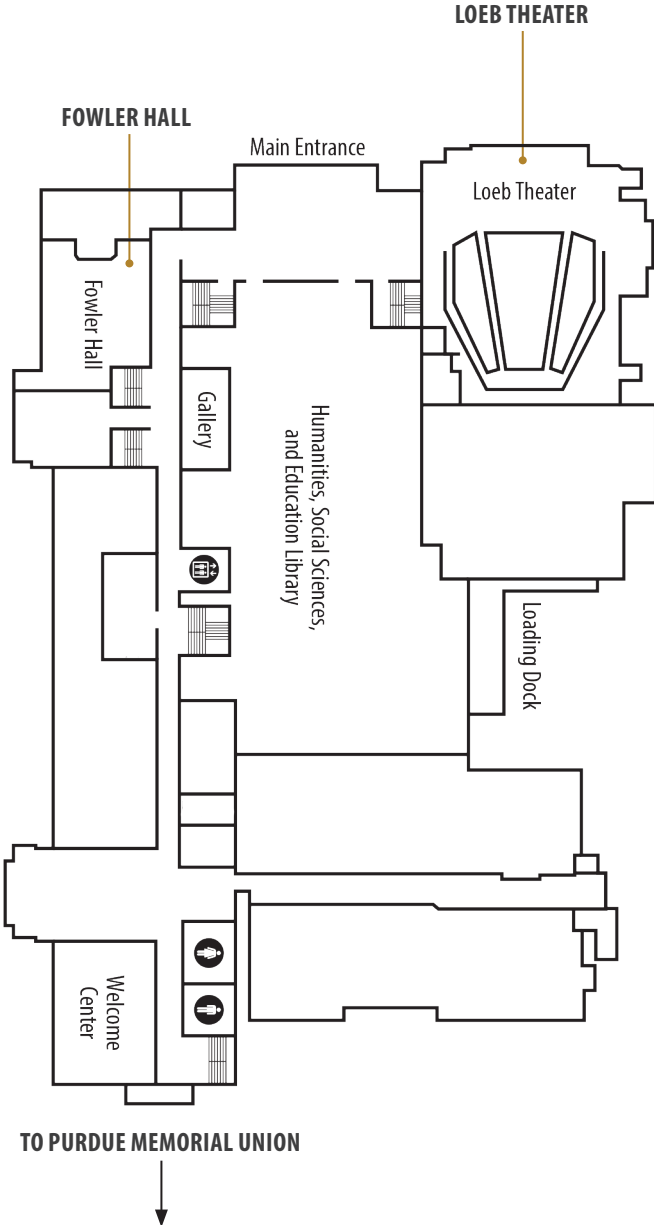
- 3 G083 Meeting Room
- 5 G077 Meeting Room
- 13 Fireside Lounge
- 14 Hail Purdue Stage
- 15 West Terrace
- 17 Ever True Stage
- 18 East Terrace
- 20 1869 Meeting Room

# MAPS

## STEWART CENTER, FIRST FLOOR

Opening session (Loeb Theater)

Technical sessions

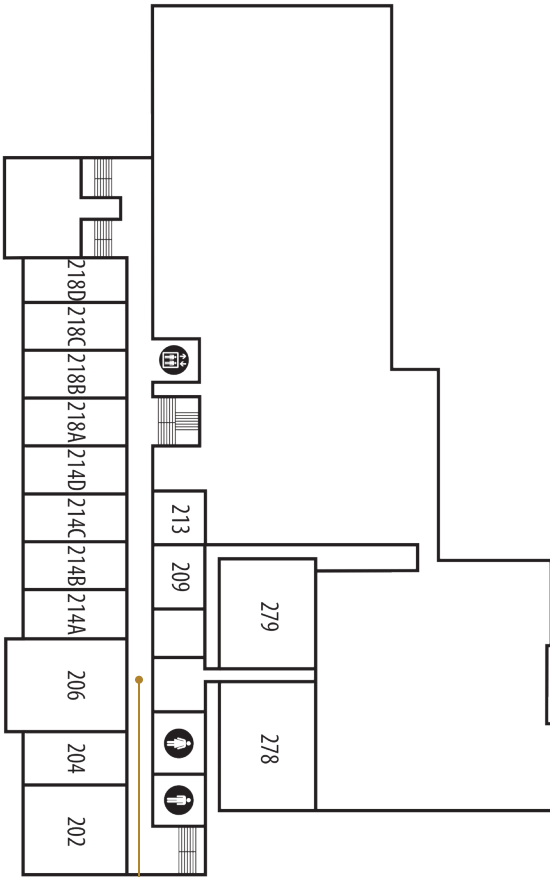


# MAPS

## STEWART CENTER, SECOND FLOOR

### Technical sessions

### Presentation submission for Purdue e-Pubs



**PRESENTATION SUBMISSION  
FOR PURDUE E-PUBS**

# MAPS

## STEWART CENTER, THIRD FLOOR

### Technical sessions

