

# **NATMEC**

**NATIONAL TRAVEL MONITORING  
EXPOSITION AND CONFERENCE**

## **NaTMEC 2021:**

# **Connecting Travel Monitoring to Transportation System Safety and Mobility**

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June 21-25, 2021

Virtual Event

Presented by



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## Tips, details, and general information

- All times in the NaTMEC 2021 program, agenda, website, etc. are **Eastern Time (ET)**.
- The **NaTMEC Travel Trivia Bowl** on Monday, June 21, 5 – 6 p.m. ET is your chance to show off your collective transportation knowledge in lightning rounds of traffic monitoring trivia questions. Please pre-register for the Trivia Bowl ([www.natmec.org/link-lobby-2021](http://www.natmec.org/link-lobby-2021)). Compete for a chance to win free registration to the 2022 NaTMEC Conference in Idaho (some restrictions apply)!
- The latest products, services, and technologies will be featured in the **Sponsor Showcase** (Tuesday, June 22, 12:30 – 1:30 p.m. ET) and in the **Innovation Exchange** (Thursday, June 24, 5 – 6 p.m. ET), NaTMEC 2021's interactive virtual exhibit hall. Those who attend these sessions will be eligible for a drawing to receive a rebate on their NaTMEC 2021 registration fee (some restrictions will apply).
- Visit the **NaTMEC Sponsor page** ([www.natmec.org/sponsors-2021](http://www.natmec.org/sponsors-2021)) to view this year's sponsors; a more detailed **Sponsor Directory** that includes websites and contact information is also available.
- Visit the online **NaTMEC Poster Gallery** ([www.natmec.org/posters-2021](http://www.natmec.org/posters-2021)) to review the authors' impressive research. Then, plan to attend the live poster sessions next week to interact directly with the poster authors.
- Earn one (1) **Professional Development Hour (PDH)** or **Certification Maintenance (CM)** credit for each NaTMEC technical session you attend. More information will be provided to registered participants in the closing session of the meeting.
- **Make some NaTMEC noise!** Please share about your NaTMEC experiences on social media. The event hashtag is **#NaTMEC2021**.
- A **post-event survey** will be distributed after the conference ends – please plan to share your feedback! The information will be used to help improve future NaTMEC events.
- **Avoid Zoom fatigue:** Take breaks when you can. Get up and walk around, step outside for fresh air and sunshine.
- **Need help?** Please email [info@roadsafety.unc.edu](mailto:info@roadsafety.unc.edu) if you need help during the meeting. CSCRS staff will be monitoring this email and we'll do our best to answer your question as soon as possible.

# Welcome to NaTMEC 2021!

Our transportation systems and technologies are becoming ever more complex and interconnected. This is demanding new skill sets, new thinking in how we approach transportation problems, and new data to support decision-making.

The Collaborative Sciences Center for Road Safety (CSCRS) is a consortium of five university partners, dedicated to bringing together new perspectives and ways of thinking about transportation, including the data systems that are used for research and to guide policies and investments. Since the COVID-19 pandemic began, we have seen unprecedented changes in travel behaviors, as well as disconcerting trends in safety outcomes. For example, despite a massive reduction in vehicle miles traveled during the first half of 2020, traffic fatalities continued at record-breaking levels. Many questions remain regarding what changes we're seeing, and more importantly, why we're seeing these trends and what will help us predict and therefore better prepare for what's to come. The value of robust and integrated travel monitoring data to help answer these questions has never been more clearer.

Our goal in hosting this NaTMEC conference is to create an engaging space for those from the travel monitoring community to join with others from injury prevention, public health, data science, and other disciplines to support an inclusive and open dialogue about travel monitoring needs and approaches from new and different perspectives. In particular, we aim to showcase the ways that travel monitoring data can be applied to enhance safety decision-making, and where innovations in data integration are taking place and helping us to identify and evaluate approaches to improve safety, access, and mobility for all road users.

While we are presenting this year's conference at an unprecedented time with an unprecedented virtual event, we aim to offer many opportunities to engage your fellow NaTMEC participants and to find shared interests and collaboration opportunities. The program offers a fun opportunity to network and meet new people through our Travel Trivia Bowl social on Monday. Find inspiration at the NaTMEC Poster Gallery and then talk more with the authors at their sessions on Tuesday and Wednesday. Discover vendor services and learn about the latest technology and products available by attending the Sponsor Showcase and Innovation Exchange, where exhibitors and practitioners will mingle.

The CSCRS consortium and transportation research community at large depends on quality travel data and we thank you for bringing your experience, perspective, and lessons to share with NaTMEC attendees. We hope that you enjoy your time here and make lasting connections as we work collectively to advance our data systems to support vibrant, safe, and resilient transportation systems.

Thank you,

Collaborative Sciences Center for Road Safety, NaTMEC 2021 Host



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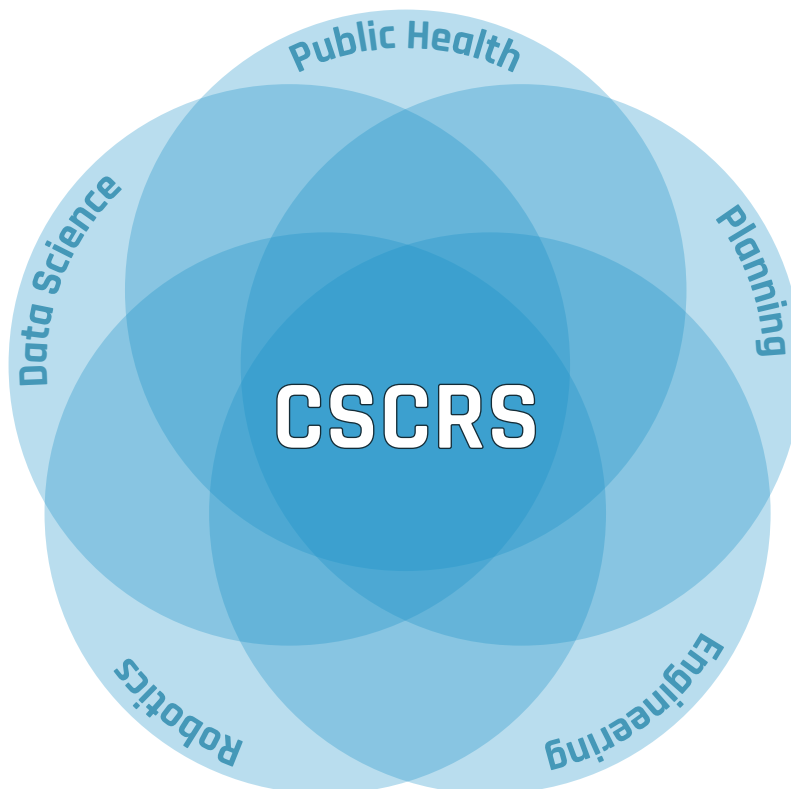


The Collaborative Sciences Center for Road Safety (CSCRS) is a National University Transportation Center (UTC) supporting the FAST Act research priority of promoting safety. It is one of the U.S. Department of Transportation's (USDOT) five National UTCs announced December 2016.

Led by the UNC Highway Safety Research Center in collaboration with the UNC Department of City and Regional Planning and the UNC Injury Prevention Research Center, CSCRS unites leading transportation research, planning, public health, data science and engineering programs at:



Learn more: [www.roadsafety.unc.edu](http://www.roadsafety.unc.edu)



# AGENDA AT-A-GLANCE

Unique links to each session are included on the NaTMEC Session Lobby page, accessible to registered meeting attendees only.

NaTMEC 2021 technical content is organized into sessions that align with four different tracks:

**Track I** – Program Development, Performance Measures, Communicating Reports, and Ensuring Data Requirements and Quality Standards Meet Program Needs

**Track II** – Safety, TM, and Relating the Two through Data Applications and Utilization

**Track III** – Traffic Data Collection, Processing, and Tools

**Track IV** – Emerging Equipment, Technologies and Capabilities to Address TM Basics and Beyond

*NOTE: All times provided are in Eastern Time.*

Monday, June 21		
12:30 – 1:30 p.m.	Opening Plenary	
	Room A	Room B
<b>Session 1</b> 2:00 – 3:00 p.m.	New Ways to Monitor Traffic <b>Track IV</b>	Quality AADTs for Ramps, Local Roads, and Towns <b>Track III</b>
<b>Session 2</b> 3:30 – 4:30 p.m.	Program Development: FHWA's 2021 Traffic Monitoring Guide Project and State Traffic Monitoring <b>Track I</b>	Anticipating Crashes, Managing Traffic Inci- dents, and the Role of Speed in Road Safety <b>Track II</b>
5:00 – 6:00 p.m.	NaTMEC Travel Trivia Bowl	

Tuesday, June 22			
	Room A	Room B	Room C
12:30 – 1:30 p.m.	Sponsor Showcase A	Sponsor Showcase B	
<b>Session 3</b> 2:00 – 3:00 p.m.	Options for Bicycle and Pedestrian Monitoring <b>Track IV</b>	Identifying and Using Conges- tion, Travel Time, Speed and Reliability Measures <b>Track I</b>	Utilizing Data in New Ways to Improve Operations and Safety <b>Track II</b>
<b>Session 4</b> 3:30 – 4:30 p.m.	Poster Session A	Innovative Collection and Forecasting <b>Track III</b>	A New Perspective on Old Statistics <b>Track IV</b>
<b>Session 5</b> 5:00 – 6:00 p.m.	Using Spatial Data and Analyses to Inform Commu- nications to the Public <b>Track II</b>	Challenging Traffic Data Uses <b>Track IV</b>	In-Depth Methods and Eval- uation of Travel Time, Speed, and Reliability Metrics <b>Track I</b>

## Wednesday, June 23

	Room A	Room B	Room C
<b>Session 6</b> 12:30 – 1:30 p.m.	Measuring Congestion Causes and Speed Data <b>Track III</b>	Using Data to Tell a Story <b>Track IV</b>	Measuring Intersection Safety and Operational Performance <b>Track II</b>
<b>Session 7</b> 2:00 – 3:00 p.m.	Poster Session B	Effectively Communicating Critical Traffic Data Information <b>Track I</b>	Estimating Volume from Big Data <b>Track IV</b>
<b>Session 8</b> 3:30 – 4:30 p.m.	GIS Applications Specifically Utilizing Traffic Data <b>Track I</b>	Role of Traffic Data in Improving Identification and Prediction of Safety Issues <b>Track II</b>	Third Party Data for Modeling <b>Track IV</b>
<b>Session 9</b> 5:00 – 6:00 p.m.	Reliable Travel Time, Crash Risk, and Safety <b>Track II</b>	Innovations in Portable WIM <b>Track IV</b>	Innovative Approaches to Using Data Analytics and Big Data Sources <b>Track I</b>

## Thursday, June 24

	Room A	Room B
<b>Session 10</b> 12:30 – 1:30 p.m.	Leveraging Safety Solutions through Data <b>Track II</b>	GIS Traffic Modeling and Tools <b>Track III</b>
<b>Session 11</b> 2:00 – 3:00 p.m.	Making Data Collection Safer <b>Track III</b>	Getting Good Statistics from WIM <b>Track IV</b>
<b>Session 12</b> 3:30 – 4:30 p.m.	Data Modeling for Planning <b>Track III</b>	Forecasting, Freight, and Project Prioritization <b>Track I</b>
5:00 – 6:00 p.m.	Innovation Exchange	

## Friday, June 25

	Room A	Room B	Room C
<b>Session 13</b> 12:30 – 1:30 p.m.	What about CAVs? <b>Track IV</b>	Using Automation for Scheduled and Permanent Count Collection <b>Track III</b>	Developing Better Experiences When Using Data Repositories <b>Track I</b>
<b>Session 14</b> 2:00 – 3:00 p.m.	State DOT Traffic Data Quality Programs and FHWA VMT Collaboration <b>Track I</b>	Effectively Utilizing Speed and Probe Based Data to Improve Congestion <b>Track III</b>	Model Inventory of Roadway Elements (MIRE) <b>Track II</b>
3:30 – 4:30 p.m.	Closing Plenary		

# Opening Plenary

Monday, June 21 – 12:30 – 1:30 p.m. ET

## Room A

### Speakers

Sarah O'Brien, Senior Research Associate, Collaborative Sciences Center for Road Safety

Laura Sandt, Director, Collaborative Sciences for Road Safety

Beau Memory, COO, North Carolina DOT

Robert Hampshire, Deputy Assistant Secretary for Research and Technology, US DOT

David Winter, Office of Highway Policy Information, FHWA

### Keynote

Jamila Porter, Director of Resilient Communities, Big Cities Health Coalition

## Plenary Speaker Spotlight:

### Dr. Jamila Porter

Interested in learning more about the connection between our transportation data systems, safety, public health, and community resiliency? Dr. Porter will challenge and inspire NaTMEC attendees to think about existing traffic monitoring resources – what we know, what we don't, what we're missing – and to reimagine ways to collect and apply travel data to support more integrated approaches to problem solving.

Dr. Jamila Porter, DrPH, MPH, is the Director of Resilient Communities with the Big Cities Health Coalition (BCHC). She leads BCHC's efforts to build healthy, resilient, and vibrant communities across our nation's largest cities by utilizing expertise in systemic equity, racial justice, violence prevention, and policy. See full Dr. Porter's full bio on page 30.



# Session 1

Monday, June 21 – 2:00 – 3:00 p.m. ET

## New Ways to Monitor Traffic

Room A – **Track IV**

Moderator: Kerry Morrow, Traffic Survey Group Supervisor, NC Department of Transportation

**Cost Efficient Alternatives for Count & Classify Sites with Optional WIM Data Acquisition**

Jeffrey Rice, Kistler Instrument Corp.

**Truck Trailer Classification Using Side-fire LiDAR Data**

Olcay Sahin, Argonne National Laboratory

**Deep-Learning: Drone and Vehicle Detections**

Majed Al-Ghandour, North Carolina Department of Transportation

## Quality AADTs for Ramps, Local Roads, and Towns

Room B – **Track III**

Moderator: Ioannis (Yianni) Tsapakis, Associate Research Scientist, Texas A&M Transportation Institute

**Developing a Data-Driven Performance Evaluation Tool for Ramp Metering**

Adrian Cottam, The University of Arizona

**Estimating AADT on All Local Functionally Classified Roads in North Carolina**

Sonu Mathew, The University of North Carolina at Charlotte

**Criteria and methodology for estimating AADT from short-duration counts in towns**

Karalee Klassen-Townsend, University of Manitoba

# Session 2

Monday, June 21 – 3:30 – 4:30 p.m. ET

## Program Development: FHWA's 2021 Traffic Monitoring Guide Project and State Traffic Monitoring

Room A – **Track I**

*Sponsored by Drakewell*

*See Sponsor Directory on page 41 for detailed information about sponsors.*



**DRAKEWELL**  
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Moderator: William Morgan, Planning and Systems Section Chief, Illinois Department of Transportation

**Idaho Transportation Department Traffic Monitoring: Re-envisioning, Re-inventing, and Re-learning Our Purpose**  
Margaret Pridmore, Idaho Transportation Department

**IDOT Annual Traffic Counting Cycle to meet Program Needs**  
Michael A. Miller, Illinois Department of Transportation

## Anticipating Crashes, Managing Traffic Incidents, and the Role of Speed in Safety

Room B – **Track III**

Moderator: Krista Nordback, Senior Research Associate, UNC Highway Safety Research Center

**Data-Driven Method for Assessing Network-Wide Speeding Issues**  
Abolfazl Karimpour, Ph.D., EIT, The University of Arizona

**Effect of Average Speed on Crash Prediction Model for Rural Two-Lane Roads**  
Fahmida Rahman, University of Kentucky

# NaTMEC Travel Trivia Bowl

Monday, June 21 – 5:00 – 6:00 p.m. ET

Do you miss interacting with colleagues around the country? Show off your knowledge in lightning rounds of traffic monitoring questions while working as a team for a chance at free registration to the 2022 NaTMEC conference in Idaho!

# Sponsor Showcase

Tuesday, June 22 – 12:30 – 1:30 p.m. ET

The Sponsor Showcase sessions will feature NaTMEC sponsors presenting their latest products, services, and technologies. Those who attend the Sponsor Showcase will be eligible for a drawing to receive a rebate on their NaTMEC 2021 registration fee (some restrictions will apply). Don't miss this chance to learn about technologies that will help you do your job better.

## Sponsor Showcase A

Room A

Moderator: Sarah O'Brien, Collaborative Sciences Center for Road Safety

12:30 p.m. ET



1:00 p.m. ET



INTERNATIONAL ROAD DYNAMICS INC.

## Sponsor Showcase B

Room B

Moderator: Laura Sandt, Collaborative Sciences Center for Road Safety

12:30 p.m. ET



1:00 p.m. ET



# Session 3

Tuesday, June 22 – 2:00 – 3:00 p.m. ET

## Options for Bicycle and Pedestrian Monitoring

Room A – **Track IV**

Moderator: Darren Buck, Pedestrian and Bicycle Program Coordinator, Federal Highway Administration

**Understanding bicycle ridership using bias-corrected crowdsourced data**

Avipsa Roy, University of California, Irvine

**MassDOT Statewide Bicycle and Pedestrian Counting Program Pilot Study**

Sudhir Murthy, TraflInfo Communications

**Processing Bike and Pedestrian Count Data with R towards a generalizable library**

Josh Roll, Oregon Dept of Transportation

## Identifying and Using Congestion, Travel Time, Speed and Reliability Measures

Room B – **Track I**

Moderator: Robert Bryson, Senior Engineer, ASCE - Transportation and Development Institute

**Identification of Congestion Bottlenecks using Probe Data in North Carolina**

Jason Schronce, North Carolina Department of Transportation

**Congestion Bottleneck Identification, Ranking and Before/After Analysis on Arterials**

Mo Zhao, Virginia Transportation Research Council

**Congestion, Reliability and Incidents: NYSDOT's NPMRDS Analysis Tools**

Catherine T. Lawson, University at Albany

## Utilizing Data in New Ways to Improve Operations and Safety

Room C – **Track II**

*Sponsored by Cestel*

*See Sponsor Directory on page 41 for detailed information about sponsors.*



Moderator: Lokesh Hebbani, Transportation Specialist, Federal Highway Administration

**How Big Data Analytics Can Help in Hurricane Emergency Preparedness and Response?**

Masoud Hamedi, Iteris, Inc

**Real-Time 3rd Party Data for Better Maintenance of Traffic during Construction**

Tiffany Symes, Iteris, Inc.

## Session 4

Tuesday, June 22 – 3:30 – 4:30 p.m. ET

### Poster Session A: Safety, Traffic Monitoring, and Relating the Two

Room A – **Track II**

See page 3 for more information about how the poster session format will work.

Moderator: Sarah O'Brien, Senior Research Associate, UNC Highway Safety Research Center

#### Beyond MAP21 Requirements – Assessing Travel Time Reliability and Congestion on Virginia Roads

Simona Babiceanu, Virginia DOT

#### Systemic, Risk-based Pedestrian Safety Process

Wes Kumfer, Ph.D, RSP1, UNC Highway Safety Research Center

#### Analyzing Capacity in Real-Time at Large Scale Events using Multi-Modal 3D Imaging Counters

Olivia White, Eco-Counter

#### Automating Traffic Incident Management Data Collection with Real-Time Bluetooth-Based Traffic Data

Jeff Kaufman, AICP, Texas A&M Transp Institute

#### An Aerial Perspective on Data Collection Programs

Rudy Jones, Quality Counts

#### Evaluation of Spot Mobility Projects Using Traffic Data

Timothy S. Nye, MSCE, NC DOT

### Innovative Collection and Forecasting

Room B – **Track III**

Moderator: Abolfazl Karimpur, Adjunct Professor and Post-doc Researcher, University of Arizona

#### Single Beam Lidar Detection for Truck-Body Type Classification

Magdalena Asborn, University of Arkansas

#### Using Temporary Traffic Control and Data Collection for Forecasting

Bryant Ficek, Minnesota DOT

#### Estimating School Queue Length Using the Municipal and School Transportation Assistance Calculator: Lessons Learned Collecting Traffic Data at Public and Charter Schools in North Carolina

Chris Vaughan, Institute for Transportation Research & Education at North Carolina State University

### A New Perspective on Old Statistics

Room C – **Track IV**

Moderator: Robert Bryson, Senior Engineer, ASCE-Transportation and Development Institute

#### Novel way to create more consistent seasonal factors

Jerry Einolf, Maryland State Highway Administration

#### Linear, exponential, or something else? A retrospective analysis of traffic growth rates on rural highways

Jonathan D. Regehr Ph.D., P.Eng., U of Manitoba

# Session 5

Tuesday, June 22 – 5:00 – 6:00 p.m. ET

## Using Spatial Data and Analyses to Inform Communications to the Public

Room A – **Track II**

Moderator: Yao-Jan Wu, Associate Professor, University of Arizona

**Efficient Horizontal Curve Data Collection and Assessment**

Erin Martineau, Quality Counts

**A spatial analysis of traffic incidents and congestion in Mexico City**

Sergio Lugo Serrato, Avanti Engineering Group

## Challenging Traffic Data Uses

Room B – **Track IV**

Moderator: Liz Stolz, Director of Traffic Data Programs, Marlin Engineering

**School Generated Traffic Data Collection**

Speaker: Kimberly Hinton, North Carolina Department of Transportation

**Walking with biosensing wristbands: An exploration of pedestrian stress in natural and urban environments**

Seth LaJeunesse, UNC Highway Safety Research Center

**Investigation of Technology to allow the tracking of wait times and traffic points of origin for users of the Ferry System**

Steven A Bert, Institute for Transportation Research and Education at North Carolina State University

## In-Depth Methods and Evaluation of Travel Time, Speed, and Reliability Metrics

Room C – **Track I**

*Sponsored by CATT Laboratory*

*See Sponsor Directory on page 41 for detailed information about sponsors.*



Moderator: Mei Chen, Professor, University of Kentucky

**A Methodology to Compute Sources of Congestion in Rhode Island**

Deanna Peabody, TraflInfo Communications, Inc.

**Sensitivity of Travel Time Reliability Measures to Major System Changes**

Kartikeya Jha, Texas A&M Transportation Institute

## Session 6

Wednesday, June 23 – 12:30 – 1:30 p.m. ET

### Measuring Congestion Causes and Speed Data

Room A – **Track I**

Moderator: Clayton Clark, Transportation Specialist, Federal Highway Administration

#### Statewide Recurring and Nonrecurring Interstate Congestion

Chien-Lun Lan, Virginia Transportation Research Council

#### Speed Prediction using Machine Learning Algorithms with Probe Vehicle and Weather Data

Pouyan Hosseini, Iteris Inc

#### Varied Usage of Probe Speed Data at NCDOT

Kelly E. Wells, PE, North Carolina Department of Transportation

### Using Data to Tell a Story

Room B – **Track IV**

Moderator: Tianjia Tang, Team Chief, Federal Highway Administration

#### Mapping Truck Tonnage in Florida Using Weight-in-Motion Data

Evangelos Kaiser, Florida Atlantic University

#### Visualization of Traffic Monitoring Analysis System Information

Hyeonsup Lim, ORNL

#### Synthesizing the Effect of Trucks on Travel Time to Identify Related Chokepoints

Sarvani Duvvuri, The University of North Carolina at Charlotte

### Measuring Intersection Safety and Operational Performance: Do Different Data Inputs Yield Different Outcomes for What's "Safe"?

Room C – **Track II**

Moderator: Anita Vandervalk, Vice President, Iteris, Inc.

#### Beginning to Use High-Quality Crash Data During Projects: The Safest Feasible Intersection Design Charts

Joseph E. Hummer, Ph.D., PE, North Carolina Department of Transportation

#### Explore Energy Equivalence of Safety for Crashes at Intersections

Lei Zhu, UNC-Charlotte

# Session 7

Wednesday, June 23 – 2:00 – 3:00 p.m. ET

## Poster Session B: Travel Monitoring Fundamentals and Innovative Collection, Processing, and Managing Tools

Room A – **Track III**

*See page 3 for more information about how the poster session format will work.*

Moderator: Steven Jessberger, Traffic Monitoring Program Manager, Federal Highway Administration

**Space versus mode – a cordon count spatial study of Montreal’s Plateau-Mont-Royal borough**  
Olivia White, Eco-Counter

**Validation of AADT using Turning Movement Counts**  
Abhay Nigam, Synergy Systems & Services, Inc.

**Crowdsourcing tools to train and evaluate machine learning classifiers: freight data management application**  
Magdalena Asborn, U.S. Army Corp of Engineers

**Traffic Information Management System**  
Seth Berman, New York City Department of Transportation

**Using Location-based Services Data to Complement Multimodal Origin and Destination Survey – A Case Study at the University of Minnesota Twin Cities Campus**  
Yilun Xu, PE, MBA, University of Minnesota

## Effectively Communicating Critical Traffic Data Information

Room B – **Track I**

Moderator: Clayton Clark, Transportation Specialist, Federal Highway Administration

**Generation and Use of Peak ADT Factors in NCDOT Prioritization**  
Jason Schronce, North Carolina Department of Transportation

**Highway is Closed: Where Will 90k AWDT Go Next? A case study of tracking the daily impacts from having SR 99 closed for three weeks in Seattle, WA.**  
Jeffrey Conor, Seattle Department of Transportation

## Estimating Volume from Big Data

Room C – **Track IV**

Moderator: Vicky Calderón, Research Analyst / Principal, Idaho Department of Transportation

**Accuracy of Probe-Based AADT Estimates in U.S.-Mexico Border Regions**  
Ioannis (Yianni) Tsapakis, Texas A&M Transportation Institute (TTI)

**Ubiquitous Volume Estimation for Off-freeway Road using Machine Learning - A Case study in State of North Carolina**  
Yi Hou, National Renewable Energy Laboratory



## Session 8

Wednesday, June 23 – 3:30 – 4:30 p.m. ET

### GIS Applications Specifically Utilizing Traffic Data

Room A – **Track I**

Moderator: Bill Marley, Planning & Environmental Specialist,  
Federal Highway Administration - NC Division

#### Visualizing the Count: Using GIS for Data Collection

Jennifer Fortner, TERRA Engineering

#### NCDOT Interactive Traffic Statistics Map

Stacy Culpepper, North Carolina Department of Transportation

#### Applications of GIS for Transportation (AEGIST)

Joseph Hausman, US DOT/FHWA

### Role of Traffic Data in Improving Identification and Prediction of Safety Issues

Room B – **Track I**

*Sponsored by Iteris*

*See Sponsor Directory on page 41 for detailed information about sponsors.*



Moderator: Krista Nordback, Senior Research Associate, UNC Highway Safety Research Center

#### Using Traffic Data to Understand Transportation Safety Issues

Carrie Simpson, North Carolina Department of Transportation

#### Improving Safety Predictions by Using Traffic Monitoring Data

Mike Fontaine, Virginia Transportation Research Council

### Third Party Data for Modeling

Room C – **Track III**

Moderator: Shawn Turner, Senior Research Engineer, Texas A&M Transportation Institute

#### Optimal Traffic Monitoring in a New Data Age

Stanley Young, National Renewable Energy Laboratory

#### A Look at a Data Fusion Visualization Tool

Robert Benz, Texas A&M Transportation Institute

# Session 9

Wednesday, June 23 – 5:00 – 6:00 p.m. ET

## Reliable Travel Time, Crash Risk, and Safety

Room A – **Track II**

Moderator: Sam Granato, Transportation Engineer, Ohio Department of Transportation

**Extending the “Potential for Safety Improvement (PSI)” Concept to Travel Time Reliability**

Chien-Lun Lan,  
Virginia Transportation Research Council

**The Historical Crash Data and Associated Regional Emission Implications: An El Paso, Texas Case Study**

Farinoush Sharifi,  
Texas A&M Transportation Institute

## Innovations in Portable WIM

Room B – **Track IV**

Moderator: Debbie Walker, Research Engineer, Federal Highway Administration

**Portable Virtual WIM Accuracy**

Dr. Andrzej Nowak, Auburn University

**Feasibility of a Portable WIM System for Truck Weight Monitoring on Secondary Highways**

Michael Olfert, University of Manitoba

## Innovative Approaches to Using Data Analytics and Big Data Sources

Room C – **Track I**

*Sponsored by CATT Laboratory*

*See Sponsor Directory on page 41 for detailed information about sponsors.*



Moderator: AJ Nedzesky, Traffic Engineer, Federal Highway Administration

**Integrating Data Sources to Measure Highway System Performance**

Alex Oberg, Volpe Center--U.S. Department of Transportation

**Use of Performance Measures to Improve Data Quality**

Nancy Lefler, UNC Highway Safety Research Center

# Session 10

Thursday, June 24 – 12:30 – 1:30 p.m. ET

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## Leveraging Safety Solutions through Data

Room A – **Track II**

Moderator: Joseph Hausman, Community Planner, Federal Highway Administration

### **Innovative Ways to Leverage Intersection Data for Safety**

Anita P Vandervalk, Iteris, Inc.

### **Finding Solutions for Deficiency of Rest Stops for Commercial Motorists**

Majed Al-Ghandour, North Carolina Department of Transportation

## GIS Traffic Modeling and Tools

Room B – **Track III**

Moderator: Patrick Zhang, Transportation Specialist, Federal Highway Administration

### **Coverage Count Program Management and Data Processing with ESRI ArcGIS Tools + Custom Software**

Charles Fawcett, PE, PTOE, DLZ

### **An Intersection-based Network Conflation Method**

Xu Zhang, Kentucky Transportation Center

# Session 11

Thursday, June 24 – 2:00 – 3:00 p.m. ET

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## Making Data Collection Safer

Room A – **Track III**

Moderator: Kent Taylor, Traffic Data Resources Engineer, NC Department of Transportation

**Maximizing the Safety of Traffic Monitoring Field Staff at CTDOT**

Brad Overturf,  
Connecticut Department of Transportation

**Cameras are the New Road Tubes**

Speaker: Michael Spack, PE, PTOE, Spack Solutions

**AI Alternatives to Tube Counts**

Terry Lee, Leetron Vision, LL

## Getting Good Statistics from WIM

Room B – **Track IV**

Moderator: Steven Jessberger, Traffic Monitoring Program Manager, Federal Highway Administration

**Estimating Truck Load Factors Using Truck Volume and Weight Data**

Hyeonsup Lim, ORNL

**Effect of Weigh-in-Motion (WIM) Sensor Calibration on Axle Load Spectra**

Syed W. Haider, Michigan State University

# Session 12

Thursday, June 24 – 3:30 – 4:30 p.m. ET

## Data Modeling for Planning

Room A – **Track III**

Moderator: Margaret Pridmore, Roadway Data Manager, Idaho Department of Transportation

### Leveraging Big Data for Transportation Data Analytics

Yaw Adu-Gyamfi,  
University of Missouri - Columbia

### Using ANPR Data to Improve Trip Distribution in Transport Models

Alan Robinson, South African National Roads Agency Limited

### Traffic Information Management System

Hector L Hernandez, New York City Department of Transportation

## Forecasting, Freight, and Project Prioritization

Room B – **Track I**

*Sponsored by CATT Laboratory*

*See Sponsor Directory on page 41 for detailed information about sponsors.*



Moderator: Chade Saghir, Senior Transportation Planner, Southeast Michigan Council of Governments

### Forecasting Use of the U.S. Highway System

Don Pickrell, Volpe Center, U.S. Dept. of Transportation

### Project Prioritization through Data Driven Performance Measures

Keith Smith, VHB

# Innovation Exchange

Thursday, June 24 – 5:00 – 6:00 p.m. ET

## Room A

Join in the Innovation Exchange, NaTMEC’s version of an interactive virtual exhibit hall. Meet with vendors in their virtual breakout rooms to learn more about their products and services. Attendees can choose which booths to visit and move around to visit different vendors. Those who attend the Innovation Exchange session will be eligible for a drawing to receive a rebate on their NaTMEC 2021 registration fee (some restrictions will apply).

Moderator: Sarah O’Brien, Senior Research Associate, UNC Highway Safety Research Center

### Breakout 1



### Breakout 4



### Breakout 2



### Breakout 5



### Breakout 3



INTERNATIONAL ROAD DYNAMICS INC.

### Breakout 6



### Breakout 7



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# Session 13

Friday, June 25 – 12:30 – 1:30 p.m. ET

## What about CAVs?

Room A – **Track IV**

Moderator: Jeremy Raw, Community Planner, Federal Highway Administration

**Impact of Autonomous Vehicles on Transportation Network Demand in Triangle Regional Area of North Carolina**

Md. Mehedi Hasnat, North Carolina State University

**Regional Impacts of Autonomous Freight Vehicles on Transportation Network Demand: A Case Study of the Triangle Region, NC**

Soumya Sharma, North Carolina State University

**Developing An Innovative and Transformational Strategy for the Connected Truck Ecosystem...a Real Game Changer in Preparing for the Future of Freight Transportation**

Brian Taylor, P.Eng., Director of Sales, ITS, Intelligent Imaging Systems

## Using Automation for Scheduled and Permanent Count Collection

Room B – **Track III**

Moderator: Penelope Weinberger, Transportation Data Programs Manager, American Association of State Highway Transportation Officials

**AI based permanent traffic count for counting and classification, a new practical approach to permanent count**

Terry Lee, Leetron Vision, LLC, & Andrew Haynes, New York State DOT

**Automation of traffic count data collection: A paperless solution**

Jamie Viera, North Carolina Dept of Transportation

## Developing Better Experiences When Using Data Repositories

Room C – **Track I**

Moderator: Eric Katz, Statewide Non-Motorized Traffic Monitoring Program Coordinator, Florida Department of Transportation

**Rating Datasets for the National Pedestrian and Bicycle Safety Data Clearinghouse**

Krista Nordback,  
UNC Highway Safety Research Center

**Developing and Implementing CTDOT's Traffic Data Repository**

Brad Overturf, Connecticut Dept of Transportation

**Communication is More Than a Two-Way Street: How Increasing User Engagement in PORTAL, a Regional Transportation Data Archive, Has Led to a Better User Experience**

Tammy Lee, Transportation Research and Education Center, Portland State University

# Session 14

Friday, June 25 – 2:00 – 3:00 p.m. ET

## State DOT Traffic Data Quality Programs and FHWA VMT Collaboration

Room A – **Track I**

Moderator: Nancy Pullen-Seufert, Senior Research Associate, UNC Highway Safety Research Center

**Collaboration with FHWA to implement weighted VMT for vehicle class distribution**

Abhay Nigam, Synergy Systems & Services, Inc.

**An Update to the North Carolina Non-Motorized Volume Data Program's Quality Assurance and Quality Control Processes**

Blythe Carter Geiger, Institute for Transportation Research and Education at North Carolina State University

**Data Governance to Ensure Traffic Data Quality - Ohio's Data Governance Program**

Sandra Mapel, PE, PMP, Ohio Department of Transportation

## Effectively Utilizing Speed and Probe Based Data to Improve Congestion

Room B – **Track III**

Moderator: Meg Bryson, Research Assistant, UNC Highway Safety Research Center

**Impact of Vehicle Position Sensing Range on Effectiveness of Real-Time Adaptive Control**

Andalib Shams, Iowa State University

**Data-the Real Tip of the Spear for all Traffic, Congestion, and Transportation Studies**

Wes Guckert, PTP, The Traffic Group, Inc..

**Data Integration, Analytics, and Quality Control of Probe Speed Data**

Rafael Almario, Cambridge Systematics, Inc.

## Model Inventory of Roadway Elements (MIRE)

Room C – **Track II**

Moderator: Nancy Lefler, Senior Research Associate, UNC Highway Safety Research Center

**North Carolina's Experience with MIRE**

Brian Murphy, North Carolina Department of Transportation

**Technical strategies for the optimal execution of a MIRE project**

Emmanuel Munoz Garcia, Servicios Mexicanos de Ingenieria Civil (SEMIC)



# Closing Plenary

Friday, June 25 – 3:30 – 4:30 p.m. ET

## Room A

### Speakers

William Morgan, Illinois Department of Transportation

Steven Jessberger, Federal Highway Administration

Margaret Pridmore, Idaho Transportation Department

Sarah O'Brien, Collaborative Sciences Center for Road Safety



## See you in Idaho, 2022!

The Idaho Transportation Department and the Pacific Northwest Transportation Consortium (PacTrans) are pleased to invite you to attend NaTMEC 2022, to be held June 13-16, 2022, in Boise, Idaho. We are excited to host NaTMEC's return to an in-person event and to continue the NaTMEC tradition of providing the premier venue for travel monitoring professionals, vendors, and researchers to exchange and share information related to the collection, management, and use of monitored travel data in all applications, and for all modes. Whether you are a local, state, or regional travel data collector, data analyst or user, manager of data programs, researcher, or vendor, we encourage you to attend NaTMEC 2022.

## NaTMEC Speakers

### **Abhay Nigam**

*President, Synergy Systems & Services, Inc.*

Mr. Nigam has been working in the transportation field since 2001 and has lent his expertise to several projects for the Maryland Department of Transportation, State Highway Administration's Data Services Division (DSD). He worked on specific projects related to database management, data migration, inter- and intra-agency data sharing, traffic data analysis, Federal reporting, GIS-based mapping and research, and investigations of new technologies. Mr. Nigam the main person responsible for entire lifecycle of gathering, verifying, loading, validating, and publishing the traffic count data collected by Automated Traffic Recorders and short-term portable counters performed by traffic-counting consultants. Mr. Nigam is the key person responsible for HPMS submission to Federal Highway Administration on behalf of MDSHA. Finally Mr. Nigam is responsible for most traffic data exchanges between MNCPPC, BMC, WASCOG, BPRMDS, and Surrounding states.

### **Abolfazl Karimpour, Ph.D., EIT**

*Graduate Research Assistant, The University of Arizona*

Abolfazl Karimpour received his Ph.D. in Transportation Engineering from the University of Arizona (UA) in 2020. Currently, he is an adjunct professor and post-doctorate researcher at UA. His research interests are Traffic Operation and Safety, Traffic Signal Optimization, Data Analytics, and Freight Transportation. He is the CO-PI and primary researcher on several national, regional, and local transportation projects. Abolfazl is also a member of the Institute of Transportation Engineers (ITE) and has served as the secretary and president of the University of Arizona ITE Student Chapter (UAITE).

### **Adrian Cottam**

*Graduate Research Assistant, The University of Arizona*

I am a first year Ph.D. student working under Dr. Yao-Jan Wu at the Smart Transportation Lab at the University of Arizona. I love merging transportation engineering, data science, and computer science to overcome challenges in the transportation field.

### **Alan Robinson**

*Senior Traffic/Transportation Engineer, South African National Roads Agency Limited*

Alan graduated with BSc Civil Eng in 1984, was a consultant for 28 years before becoming a Technical Director in 2011, and is a registered Professional Engineer. He developed large transportation models mainly for road projects including the Gauteng Freeway Improvement Project (GFIP) in South Africa. Other toll roads included state roads and PPP concessions in South Africa, Ghana, Nigeria, Mauritius, Kenya, Uganda, Greece, Serbia, and Croatia. In 2015 Alan joined the South African National Roads Agency as a Senior Traffic Engineer where he mentors young engineers. In 2018 he graduated with a Master's Degree from the University of Pretoria.

### **Alex Oberg**

*Geospatial Analyst, Volpe Center, U.S. DOT*

Alex Oberg is a geospatial analyst at the USDOT's Volpe National Transportation Systems Center. His work at Volpe focuses on developing, maintaining, and analyzing multimodal transportation networks. His projects have supported a variety of federal agencies, including FHWA, FAA, FRA, USDOT Office of Policy, and DOE. He holds a BA in Geography and Environmental Studies from Middlebury College and a Graduate Certificate in GIS from Penn State.

### **Andalib Shams**

*Graduate Research Assistant, Iowa State University*

Andalib Shams is currently a Ph.D. student in Civil Engineering at Iowa State University. Previously, he received his M.S. in Civil Engineering from University of Wyoming in 2018 and B.S. in Urban and Regional Planning from Bangladesh University of Engineering and Technology (BUET) in 2015. His research interests include traffic signal control, traffic operations, traffic modeling and simulation.

### **Andrew L. Haynes**

*Assistant Engineer, NY State DOT*

Andrew Haynes has worked with the NYSDOT Highway Data Services Bureau for nearly fifteen years. An Assistant Engineer, Haynes has worked with just about every aspect of the Traffic Monitoring program including con-

tinuous count sites, Weigh in Motion, and the short count program. He has a focus on quality control of data and has been involved in testing and approval of numerous new counting devices.

### **Andrzej Nowak, Ph.D.**

*Professor and Elton & Lois G. Huff Eminent Scholar, Chair, Department of Civil Engineering, Auburn University*

Andrzej Nowak's area of expertise is structural reliability and bridge engineering. Major research accomplishments include the development of a reliability-based calibration procedure for calculation of load and resistance factors in AASHTO design code for bridges, ACI 318 Code for Concrete Buildings, Canadian Highway Bridge Design Code, and British Standard BS-5400. Andrzej has made important contributions in the area of bridge diagnostics and evaluation, including analytical load models used for prediction of extreme load events for bridges and buildings and the development of efficient experimental procedures for weigh-in-motion (WIM) measurement of truck loads, dynamic loads on bridges, and fatigue load spectra.

### **Anita P Vandervalk, PE, PMP**

*Vice President, Iteris, Inc*

Anita Vandervalk-Ostrander, PE, PMP, serves as Vice President of Business Development for Iteris' Transportation Systems division. She has extensive experience managing transportation programs and projects in the disciplines of planning, engineering, TSM&O, Intelligent Transportation Systems (ITS) and data management. She is nationally recognized for her research and application of transportation data governance across the country. She is Past Chair of the Transportation Research Board (TRB) Statewide Data and Information Systems Committee. She has a BS in Civil Engineering from Queen's University in Ontario Canada.

### **Avipsa Roy**

*Assistant Professor, University of California, Irvine*

Avipsa Roy has a Ph.D. in Computational Spatial Science from Arizona State University. She will join the University of California, Irvine's School of Social Ecology this July as an Assistant Professor in the Department of Urban Planning and Public Policy. Her research focuses on developing statistical and machine learning methods for movement pattern analysis from big spatio-temporal data

and geographic context. She has developed quantitative techniques to understand how the built environment can support physical activity through active transportation, how vulnerable populations can be inequitably affected by extreme events and how changes in mobility patterns can help planners identify areas for improving transportation safety and public health outcomes.

### **Beau Memory**

*COO, NC Department of Transportation*

As the chief operating officer, Beau Memory oversees the NC Department of Transportation's Division of Highways, Ferry Division, Aviation Division, Rail Division, the Integrated Mobility Division (Bicycle and Pedestrian Division, Public Transportation Division), Division of Planning & Programming, and Office of Communications, Community Outreach and Public Engagement.

Memory has spent his career working in transportation and has served in leadership roles in the public and private sectors. In his previous role, Memory served as National Transportation director at SAS Institute, supporting transportation agencies as they leverage available data for evidence-based decision making, operational efficiencies and cost savings. Before joining SAS, Memory served as the executive director of the N.C. Turnpike Authority from 2015 to 2019.

### **Blythe Carter Geiger**

*Research Associate, Institute for Transportation Research and Education at North Carolina State University*

Blythe Carter Geiger is a Bicycle and Pedestrian Research Associate at the Institute for Transportation Research and Education. She oversees the data services arm of the North Carolina Non-Motorized Volume Data Program. Other projects she has been involved with include evaluating the economic impacts of shared-use paths, establishing the North Carolina statewide seatbelt use rate, and creating school queue management tools for NC public schools. She is also pursuing a Master's Degree in Transportation Systems Engineering at NC State University.

### **Brad Overturf**

*Transportation Supervising Planner, Connecticut DOT*

Brad Overturf has been with the Connecticut DOT for 32 years. He has supervised the Traffic Monitoring program there for the past 7 years.

## **Brian Murphy**

*Safety Planning Engineer, North Carolina DOT*

Brian has worked for the North Carolina Department of Transportation for the last 19 years. The majority of that time has been within the Traffic Safety Unit. Brian currently leads the Safety Planning Group. Brian is a registered professional engineer in North Carolina.

## **Bryant Ficek**

*Project Manager, Minnesota Department of Transportation*

Bryant is a registered engineer, a certified Professional Traffic Operations Engineer, a Project Manager with the Minnesota Department of Transportation, and former President of Spack Solutions. He is a frequent contributor to the MikeOnTraffic blog and Traffic Corner Tuesday webinar series.

## **Carrie Simpson**

*Safety Evaluation Engineer, North Carolina Department of Transportation*

Carrie graduated with a B.S. from Valparaiso University and a Master of Civil Engineering from North Carolina State University. She is a registered Professional Engineer in NC and has worked within the NCDOT Traffic Safety Unit for over 16 years. She is the NCDOT Safety Evaluation Engineer. While working for the Department, Carrie has authored studies published in the Transportation Research Record and the Journal of Transportation Safety and Security on safety topics such as flashing yellow arrow, dynamic all-red extension at traffic signals, vehicle entering when flashing signs, all-way stops, school zone flashers, and "Your Speed" changeable message signs in school zones.

## **Brian Taylor, P.Eng.**

*Director of Sales, ITS, Intelligent Imaging Systems*

Brian Taylor is a Professional Civil Engineer and is Director of Government Business with Intelligent Imaging Systems/Drivewyze. He has worked over 30 years in Intelligent Transportation Systems (ITS) including vehicle detection, measurement, and commercial vehicle screening. He has extensive experience in Canada and the U.S. in developing programs involving the use of ITS for screening commercial vehicles and improving truck safety. Brian is also considered a subject matter specialist on Weigh In Motion (WIM) systems.

## **Catherine T. Lawson**

*Associate Professor, University at Albany*

Catherine T. Lawson is an Associate Professor in the Department of Geography and Planning, Affiliated Faculty in the Information Science Ph.D. Program in the College of Emergency Preparedness, Homeland Security and Cybersecurity at the University at Albany, State University of New York, and Director of the Lewis Mumford Center/Albany Visualization and Informatics Labs (AVAIL). Her research interests include: applied data science; advanced uses of archived intelligent transportation systems (ITS) data and spatial analysis/geographic information systems (GIS) applications for transportation planning and analysis for freight, transit (including ferries), and passenger travel.

## **Charles Fawcett, PE, PTOE**

*Traffic Engineering Project Manager, DLZ*

Charles Fawcett has 20 years of experience in Civil and Transportation Engineering since his graduation from The University of Akron with a Bachelor's in Civil Engineering. His focus has been in Traffic Engineering and Analysis, including Traffic Impact Studies, traffic data collection, and traffic modeling and simulation. He is a Professional Traffic Operations Engineer and registered Professional Engineer in Illinois, Indiana, Ohio, and Michigan.

## **Chien-Lun Lan**

*Research Scientist,  
Virginia Transportation Research Council*

Chien-Lun Lan is a research scientist at the Virginia Transportation Research Council. His research interests include traffic safety and operations, modeling and simulations, and data analysis. He is a member and the committee communication coordinator of the TRB Human Factors of Vehicles committee and also a member of ASCE.

## **Chris Vaughan**

*Research Associate, Institute for Transportation  
Research & Education, NC State University*

Chris Vaughan has been with the Institute for Transportation Research and Education (ITRE) since 2008 and his areas of expertise include specialized field data collection for motorized and non-motorized vehicles and pedestrians, pedestrian accessibility, and transportation education. Mr. Vaughan has led data collection efforts on re-

search projects with sponsors like FHWA, NCHRP, NCDOT, National Academy of Science, North Carolina Governor's Highway Safety Program, and the North Carolina State Highway Patrol. He also teaches several transportation courses taught year-round at ITRE.

### **David Winter**

*Director, Office of Highway Policy Information, Federal Highway Administration*

Mr. Winter currently serves as the Director for the FHWA, Office of Highway Policy Information. He was appointed to the director's position in 2008. In this capacity, he leads the office responsible for the collection, analysis, and reporting for much of the Federal-aid highway program inventory, use, condition, and performance data. Prior to starting his Federal tenure in 2001, Mr. Winter served as the Classification, Needs & Pavement Management Engineer with the Nebraska Department of Roads. He started his professional career with the Nebraska Department of Roads in 1987. Mr. Winter is a graduate of the University of Nebraska Lincoln with a B.S. degree in Industrial Engineering and is a licensed professional civil engineer in Nebraska.

### **Don Pickrell**

*Chief Economist, Volpe Center, US DOT*

Don Pickrell specializes in analyzing determinants of travel behavior, policies to reduce energy and environmental impacts of transportation activity, economic evaluation of investments in transportation infrastructure, and forecasting future growth and changes in transportation activity.

### **Deanna Peabody**

*Transportation Engineer, TraflInfo Communications, Inc.*

Deanna Peabody brings 10 years of experience in traffic engineering, transportation planning, and Intelligent Transportation Systems. Her project experience covers traffic signal design, multi-modal performance measures for highways and transit, Systems Engineering Process (SEP) documents for ITS design, traffic impact and access studies, and micro-simulation/3D animation. She was involved in the Congestion Management Process in Rhode Island. She led the development of performance measures and identification of bottlenecks and congested corridors on the transportation network. Ms. Peabody is a

graduate of University of Massachusetts, Amherst with a Master's degree in Transportation Engineering. She is an active member of the Institute of Transportation Engineers (ITE) and is a Past President of the Rhode Island Chapter of Women in Transportation Seminar (WTS).

### **Emmanuel Munoz Garcia**

*Traffic Analyst and Project Manager, Servicios Mexicanos de Ingenieria Civil (SEMIC)*

Civil engineer and Master in Traffic Engineering and Highways, with five years of professional experience and international expertise in several projects related to: Road Data Collection, Asset Management, Safety Audits and Traffic Engineering. First Author of an article accepted to present at the World Road Congress 2019 (PIARC) in Abu Dhabi, with the title "Road Safety Evolution and Challenges in Mexico"; and awarded for the best Mexican paper in the category of "Innovation".

### **Erin Martineau**

*Director of Internal Ops, Quality Counts*

Erin Martineau has worked in the transportation data collection industry for seven years and is currently Director of Internal Operations at Quality Counts (QC). In this role, Erin oversees the Internal Operations department which is responsible for data processing, quality control, and deliverables for a variety of projects including horizontal curve assessments, traffic counting, travel time studies, and parking studies. Erin has a MS in mathematics from the University of Southern Mississippi.

### **Evangelos Kaisar**

*Professor, Florida Atlantic University*

Dr. Evangelos I. Kaisar is a Professor and Director of the Geomatics and Transportation Engineering program at the Department of Civil, Environmental and Geomatics Engineering at Florida Atlantic University. In addition, Dr. Kaisar is the Director of the Freight Mobility Research Institute (FMRI) a USDOT TIER 1 Transportation Center. He holds a BS degree in civil engineering from Greece and a BS, MS and a Ph.D. degree in civil engineering from the University of Maryland at College Park. Dr. Kaisar is an expert in transportation systems analysis, large scale mathematical modeling, traffic management, logistics, and preparedness catastrophic management.



## **Farinoush Sharifi**

*Doctoral Student/Graduate Assistant Researcher, Texas A&M Transportation Institute*

Farinoush Sharifi is a doctoral student in Transportation Engineering at Texas A&M University (TAMU), and an assistant researcher with The Center for Advancing Research in Transportation Emissions, Energy, and Health (CARTEEH) at Texas A&M Transportation Institute (TTI). Her primary research interest lies in utilizing data analytic techniques in developing data architectures and practical solutions for a more sustainable transportation system.

## **Fahmida Rahman**

*Graduate Research Assistant, University of Kentucky*

I am working at the Department of Civil Engineering, University of Kentucky as a research assistant. Currently, I am a Ph.D. student here. My major is focused in Transportation Engineering. So far, my research is involved with traffic safety and traffic operation. Being an RA, I have been working on several projects such as looking at the travel time reliability, measuring road performance based on congestion measures, etc. I started my research career by applying image processing tools in traffic operations. Later, I have started utilizing machine learning process to handle big data for traffic operation and safety.

## **Hector L. Hernandez**

*Senior Data Analyst, New York City Department of Transportation*

Hector Hernandez has worked in the transportation field for over 7 years managing an agency-wide Traffic Information Management System (TIMS) and working on other data collection/management projects. In addition, he coordinates with various units within the agency in collecting transportation data for a regional air quality analysis and has extensive experience in working with count contractors. Hector has a Bachelor's in Mechanical Engineering and plans to further his education in the data science field.

## **Hyeonsup Lim**

*R&D Associate, ORNL*

Hyeonsup Lim is a R&D Associate Staff Member in Transportation Planning & Decision Science Group in ORNL. One of major project that he is currently involved in is to build freight data product for public, so called FAF

(Freight Analysis Framework). This dataset provides a comprehensive picture of nationwide freight movement among major metropolitan areas by all modes of transportation. Hyeonsup also worked in developing license plate matching algorithm, evaluation of real-time traffic data, estimating error distribution of multiple data sources in connected vehicle environment.

## **Ioannis (Yianni) Tsapakis**

*Associate Research Scientist, Texas A&M Transportation Institute (TTI)*

Dr. Tsapakis is an Associate Research Scientist at the Texas A&M Transportation Institute. Prior to joining TTI, he worked for 2 years at University College London (UCL) in the UK. He received his Bachelor and Masters degree in Civil Engineering from the National Technical University of Athens and his Ph.D. in transportation engineering from the University of Akron. Yianni's research interests include traffic prediction and data imputation, safety analysis and evaluation, applications of artificial intelligence and GIS in transportation engineering, and traffic and safety analysis related to low-volume roads.

## **Jamie Viera**

*Traffic Analysis Supervisor, NCDOT - Traffic Survey Group, North Carolina Department of Transportation*

Jamie Viera is the Traffic Analysis Supervisor for the NCDOT Traffic Survey Group. She leads a group of eight traffic analysts. She has been with the NCDOT for 14 years, 10 of which were in the Traffic Forecasting Group. In her current position, she has played an integral role in transitioning traffic analysis from the old paper process to an automated process.

## **Jamila Porter, DrPH, MPH**

*Director of Resilient Communities, Big Cities Health Coalition (BCHC)*

Dr. Jamila Porter, DrPH, MPH, leads BCHC's efforts to build healthy, resilient, and vibrant communities across our nation's largest cities by utilizing expertise in systemic equity, racial justice, violence prevention, and policy. Prior to joining BCHC, Dr. Porter was Director of Programs and Evaluation at the Safe States Alliance, a national professional association dedicated to strengthening the practice of injury and violence prevention. At the Safe States Alliance, she led the association's program, policy,

and evaluation initiatives, including providing technical assistance and training to multi-sector organizations and practitioners at local, state, and national levels. Prior to the Safe States Alliance, Dr. Porter worked in health care consulting and international development.

Dr. Porter's research interests include public health capacity, policy evaluation, transportation equity, the social determinants of health, systems change, and healthy community design. She has published articles in a variety of peer-reviewed journals, including the American Journal of Public Health, the Journal of MultiDisciplinary Evaluation, the Journal of Public Health Management and Practice, and the Journal of Transport and Land Use.

Dr. Porter earned her bachelor's degree in Communication and Health Policy and Administration from Wake Forest University. She earned her Master of Public Health degree from Mercer University School of Medicine and her Doctor of Public Health degree from the University of Georgia College of Public Health.

### **Jason Schronce**

*Manager - NCDOT Strategic Prioritization Office, North Carolina Department of Transportation*

Jason Schronce is the Manager of North Carolina DOT's Strategic Prioritization Office (SPOT) that guides and oversees the process of applying the Strategic Transportation Investments Law. The STI Law is the framework for prioritization and programming of future transportation projects in North Carolina which leads to the development of the 10-year State Transportation Improvement Program. Jason graduated from NC State University with a degree in Civil Engineering. He is a licensed professional engineer and has a diverse resume in railroad design, traffic safety, and forensic investigations.

### **Jeff Kaufman, AICP**

*Associate Research Scientist, Texas A&M Transportation Institute*

Jeff Kaufman has been an Associate Research Scientist at the Texas A&M Transportation Institute (TTI) since February 2017. Jeff's activities include traffic incident management, operations, safety and mobility research. Prior to working for TTI, Jeff worked for the Houston MPO for 13 years, working on a variety of topics including the development of a Houston-region traffic safety program,

the revamping of the hurricane evacuation plan for the Houston area post-Hurricane Rita, the restoration of a free towing program for disabled vehicles, and participation on the Leadership Committee of Houston TranStar, the traffic operations center for the Houston area.

### **Jeffrey Conor**

*Senior ITS Engineer, Specialist, Seattle DOT*

Jeffrey Conor works for the Seattle Department of Transportation as a Senior Engineer, Specialist. He is leading the Traffic Data and Records Group into a brave new world of real-time data sharing for both internal and external audiences. Jeffrey has a BA in Economics from Oberlin College, a MS in Math Education from Brooklyn College, and a MSCE in Transportation from the University of Washington.

### **Jeffrey Rice**

*Sales Manager N. America, Traffic Solutions, Kistler Instrument Corp.*

Jeffrey Rice has held the position of Sales Manager in the business unit Traffic Solutions at Kistler since 2014. With more than 20 years of sales experience of weighing systems, he has both domestic and international experience with Weigh-in-Motion sensors and systems, covering various applications from traffic data collection, weight enforcement, bridge monitoring and industrial weighing. In addition, his role includes developing business relationships and providing consultancy with end users, Integrators, research institutes and Kistler Partners. Jeffrey holds bachelor's degrees in public relations and business marketing.

### **Jennifer Fortner**

*GIS Analyst, TERRA Engineering*

Jennifer is a GIS Analyst at TERRA Engineering, a civil engineering firm based in Chicago, Illinois. Jennifer has over six years of experience in data analysis and GIS. Her practical experience ranges in a variety of industries including energy, infrastructure, and government as they relate to data management and analytics. At TERRA, Jennifer spends most of her time helping clients with their GIS related needs and works closely with the TERRA field crew by maintaining their traffic data collections.

## **Jerry Einolf**

*Division Chief, Data Services Division, Maryland State Highway Administration*

Jerry Einolf has been working with traffic & HPMS data for more than 40 years. He has worked through all aspects of the data, from the collection, processing, and publication.

## **Jonathan Regehr**

*Associate Professor Department of Civil Engineering (Transportation), University of Manitoba*

Dr. Jonathan Regehr is an Associate Professor of Civil Engineering at the University of Manitoba. He has conducted research for a variety of federal, provincial, and municipal clients in the areas of traffic engineering, traffic information systems, trucking and freight transport systems, and transport policy and regulation. Dr. Regehr is a former Chair of the Transportation Research Board Highway Traffic Monitoring Committee and Executive Board Member of the International Society for Weigh-in-Motion.

## **Joseph Hausman**

*Senior Community Planner, US DOT/FHWA*

Joe Hausman has a BA degree in geography (GIS) and master's degree in City and Regional Planning both from The Ohio State University. Joe has worked over 30 years in the public sector, first he spent 5 years as a Transportation Planner at the Franklin County Engineers Office (Columbus Ohio). Following the local government stint, Joe was the Roadway Information Manager for The Ohio Department of Transportation (Columbus, Ohio) for seventeen years. For the past 11 years Joe has worked at FHWA headquarters in Washington, DC, the first 7 years on the HPMS team in the Office of Policy, and for the last 4 years as a Senior Community Planner in the Office of Planning.

## **Joseph E. Hummer, Ph.D., PE**

*State Traffic Management Engineer, NCDOT - Mobility and Safety Division*

Joseph E. Hummer, Ph.D., PE, is the State Traffic Management Engineer with the North Carolina DOT Mobility and Safety Division. He specializes in alternative intersection and interchange designs. He began researching the designs in 1990, has published numerous articles about them, and has invented several new designs. Joe has Bachelors and Masters degrees from Michigan State

and a Ph.D. from Purdue. He spent most of his career as a Professor at North Carolina State before serving as Chair of Civil Engineering at Wayne State. He returned to North Carolina and joined the NCDOT in 2016 to work on the implementation of new ideas.

## **Josh Roll**

*Active and Sustainable Research Coordinator, Oregon Department of Transportation*

Josh Roll is the Active and Sustainable Transportation Research Coordinator for the Oregon Department of Transportation where he coordinates and conducts research. Josh has experience in most elements of the analyses process, starting with data collection and wrangling, data processing and cleaning, visualization and data exploration and finally model and model system development and application. Josh believes that better quantifying the costs and benefits of each of our travel options will help decision makers better prioritize investments that will mitigate the effects of inequality, reduce our carbon emissions, and improve public health.

## **Karalee Klassen-Townsend**

*M.Sc. Student and Research Associate, University of Manitoba*

Karalee is a graduate student at the University of Manitoba completing a M.Sc. in Civil Engineering. Her thesis work focuses on increasing the usability of traffic volume data obtained from short-duration counts within towns. Her passion for transportation engineering lies in the design of safe and sustainable transportation systems. Karalee has been an active member of the UofM's ITE Student Chapter since 2016. She served as vice-president from 2017-2019 where she helped see the Chapter to their win of the ITE International Student Chapter Activity Award in 2018. In 2019 she was the recipient of the CITE Student Presentation Competition Award. She is also a member of CARSP.

## **Kartikeya Jha**

*Research Associate, Texas A&M Transportation Institute*

Kartikeya Jha has been involved in urban mobility measurement, special event traffic management projects, and research in areas involving exploration of travel time databases, performing system performance measurement



for FHWA pooled fund study as well as utilizing NPMRDS for MAP-21 performance monitoring. His areas of interest lie in transportation statistics and transportation system performance monitoring.

Prior to joining TTI, Mr. Jha worked as a highway design engineer with a design consultancy in India. During this time, he also gained some experience in projects in the areas of transportation planning, survey optimization and city transit planning.

### **Keith Smith**

*Applied Technology Manager, VHB*

As part of the VHB Applied Technology team, Keith works to create innovative and effective solutions and leads the Southeast Applied Technology team in Application Development and Big Data/ Data Management. His understanding of Data and Analysis allows Keith to successfully comprehend complex processes and produce navigable procedures ensuring a high quality and user oriented product. The use of application development expands into a wide variety of client customized solutions including desktop, web and mobile application development for both spatial and non-spatial solutions. Keith has more than 15 years of experience and is a graduate of Florida State University with a Bachelor of Science in Geography.

### **Kelly E. Wells, PE**

*Traveler Information Engineer,  
North Carolina Department of Transportation*

Kelly Wells has been with NCDOT for over 20 years where she has worked in traffic operations and strategic planning. She manages the state's 511 traveler info website and phone system and also the Department's probe speed data. She is a registered professional engineer and graduated from the George Washington University.

### **Kimberly Hinton**

*Senior Transportation Engineer,  
North Carolina Department of Transportation*

Senior Transportation Engineer currently working as a Project Engineer with the North Carolina Department of Transportation (NCDOT) Municipal and School Transportation Assistance group in the Transportation Mobility and Safety Branch. Entire career with NCDOT working in various units within the department. Graduate of North

Carolina State University with a Bachelor of Science in Civil Engineering.

### **Krista Nordback, Ph.D.**

*Senior Research Associate,  
UNC Highway Safety Research Center*

Krista Nordback is a senior research associate, with a decade of experience in bicycle and pedestrian safety. Her doctoral dissertation developed a new method for estimating bicycle traffic and provided one of the first safety performance functions for bicyclists at signalized intersections in the U.S. She researched non-motorized traffic counting technologies and programs for Colorado, Washington, Michigan, and Oregon State DOTs and led a team that created a national online bicycle and pedestrian count data archive. She serves on TRB's Highway Traffic Monitoring and Bicycle Transportation Committees and as research co-chair for the Bicycle and Pedestrian Data Joint Subcommittee.

### **Laura Sandt**

*Director, Collaborative Sciences Center for Road Safety*

Laura Sandt serves as director for the Collaborative Sciences Center for Road Safety, a National University Transportation Center funded in 2016 by the U.S. Department of Transportation. In this role, she has oversight responsibilities for the Center, whose mission is to advance transportation safety through a multidisciplinary, systems-based approach. Laura also serves as director for the Pedestrian and Bicycle Information Center, a federal clearinghouse of pedestrian- and bicycle-related training materials and resources. She has been involved in the development of several seminal Federal Highway Administration (FHWA) and National Highway Traffic Safety Administration (NHTSA) resources, including the Pedestrian Road Safety Audit Guidelines and Prompt Lists, the guide How to Develop a Pedestrian Safety Action Plan, Countermeasures that Work: 7th Edition, and a toolkit for community members, A Resident's Guide for Creating Safer Communities for Walking and Biking.

She has a Ph.D. in epidemiology from the UNC-Chapel Hill Gillings School of Global Public Health, with a concentration in injury prevention. She also holds an M.R.P. from UNC-Chapel Hill with a concentration in transportation and land use, and earned her undergraduate degree from Texas A&M University.

## **Lei Zhu**

*Assistant Professor,  
University of North Carolina at Charlotte*

Dr. Lei Zhu is an Assistant Professor of System Engineering and Engineering Management at the University of North Carolina at Charlotte. Before joining UNC Charlotte, he served as an Advanced Transportation Researcher at National Renewable Energy Laboratory (NREL) and a postdoctoral fellow at the University of Nevada, Reno (UNR). Dr. Zhu is an expert on next-generation transportation systems in smart cities. His research interests include smart and sustainable mobility systems, spatial sensing technologies, advanced mobility system modeling and simulation, big data and machine learning in transportation. He is a member of the TRB GIS committee (AED40), IEEE, and ASCE

## **Magdalena Asborn, Ph.D.**

*Senior Consultant, U.S. Army Corps of Engineers –  
Engineer Research and Development Center*

Magdalena Asborn joined the U.S. Army Corps of Engineers (USACE), Engineer Research and Development Center in 2020 (under contract), after obtaining a Ph.D. in Civil Engineering from the University of Arkansas. Her work focuses on developing and applying methods to support an efficient investment on transportation infrastructure. The main topics of her research are the utilization of GIS tools, machine learning, and optimization models for multimodal data fusion, analysis, and commodity-based freight planning. Dr. Asborn is a member of the Transportation Research Board Standing Committee on Freight Data, holds a masters' degree in Petroleum, and her career encompasses more than 17 years' professional experience in both public and private sectors.

## **Majed Al-Ghandour**

*Assistant Director, Project Management & Powell Bill,  
North Carolina Department of Transportation*

Dr. Majed Al-Ghandour received a Ph.D. in Engineering from the North Carolina State University. Dr. Al-Ghandour is a registered Professional Engineer at North Carolina State and in Commonwealth of Virginia. Dr. Al-Ghandour is working as an Assistant Director at a NCDOT oversees the project management scheduling and funding programs and also taught for over 26 years as an Adjunct Faculty

teaching Statistics, Data Analytics, Predictive Models such as: advanced algorithms, support vector machines (SVM), regression, logistic regression, clustering, visualization, models, software development, computer programming, and web developments.

## **Margaret Pridmore**

*Roadway Data Manager,  
Idaho Transportation Department*

Margaret Pridmore has been the Roadway Data Manager for two and a half years, having spent the prior eleven years as HPMS Coordinator for ITD. She graduated from Washington State University in 1994 with a B.S. of mathematics, and a B.A. in English.

## **Masoud Hamed**

*Senior Manager, Transportation Analytics, Iteris, Inc*

Dr. Masoud Hamed is a senior manager with Iteris, responsible for business development and client management in the transportation analytics space. He works closely with the development team, clients and marketing to make sure that Iteris's data analytics products continue to grow and stay competitive in the industry. Before joining Iteris, he was with the Center for Advanced Transportation Technology (CATT) at the University of Maryland where he managed data validation program for both the National Performance Management Research Data Set (NPMRDS) and the I-95 Corridor Collation Vehicle Probe Project (VPP).

## **Md. Mehedi Hasnat**

*Graduate Research Assistant,  
North Carolina State University*

Mehedi Hasnat is pursuing his Ph.D. in Transportation Engineering at North Carolina State University. He received his Bachelor of Science in Civil Engineering (2014) and Master of Science in Civil and Transportation Engineering (2016) from Bangladesh University of Engineering and Technology. He completed his second Master of Science in Transportation Engineering (2018) from University of Central Florida. His current research focus include transportation impacts of autonomous vehicles, econometric modeling, travel behavior modeling, discrete choice modeling, social media and big data in transportation, data fusion, etc.

**Michael A. Miller**

*Traffic Data Manager,  
Illinois Department of Transportation*

Michael Miller is the Statewide Traffic Data Manager for the Illinois Department of Transportation, working in the Office of Planning and Programming located at the IDOT Central Office in Springfield, Illinois. Mike obtained his degree in Civil Engineering Technology from Lake Land College in Mattoon, Illinois in 1984 and has been managing the traffic counting program which consists of 20,000 short-term counts annually for IDOT since 2011.

**Michael Olfert**

*Research Associate, University of Manitoba*

Michael Olfert completed his M.Sc. in civil engineering with a focus in transportation in 2021 at the University of Manitoba. During his degree, he presented his research at NaTMEC in 2018 and at the International Conference for Weigh-in-Motion in 2019, and managed the Manitoba Highway Traffic Information System. Michael is currently working as a junior transportation engineering associate at MORR Transportation Consulting.

**Michael Spack, PE, PTOE**

*President, Spack Solutions*

Mike is a registered engineer, a certified Professional Traffic Operations Engineer, and the founder/CEO of Spack Solutions. Since starting his company in 2001, Mike continues to be dedicated to Improving Transportation Globally. Spack Solutions has a family of transportation engineering services and products to help you create healthy transportation networks, streamline traffic, and save lives without wasting time or money. Mike continues to think about how best to advance our industry, creating practical solutions to solving complex transportation questions.

**Mike Fontaine**

*Associate Director,  
Virginia Transportation Research Council*

Mike Fontaine is the Associate Director for the Safety, Operations, and Traffic Engineering team at the Virginia Transportation Research Council. He is a member of the TRB Highway Traffic Monitoring Committee and the Urban Transportation Data and Information Systems Committee. He also serves as adjunct faculty at the University of Virginia.

**Mo Zhao**

*Research Scientist,  
Virginia Transportation Research Council*

Mo Zhao is a Research Scientist at the Virginia Transportation Research Council. Her research focuses on traffic operations, intelligent transportation systems, highway safety, and big data analytics in transportation. Mo has more than nine years of experience in transportation research. Previously, she was an associate scientist and a postdoctoral associate at the Institute for Transportation at Iowa State University.

**Nancy Lefler**

*Senior Research Associate,  
UNC Highway Safety Research Center*

Nancy Lefler is a Senior Research Associate at the UNC Highway Safety Research Center. She has over fourteen years of experience in the transportation field specializing in transportation data collection and management, state data systems, data analysis, program evaluations, and information dissemination. Nancy serves as Secretary for the TRB ABJ20 Statewide Transportation Data and Information Systems Committee and Chair for the ABJ20(1) Roadway Safety Data Subcommittee.

**Olcay Sahin**

*Researcher, Argonne National Laboratory*

Dr. Olcay Sahin is a Postdoc Researcher in the Systems Modeling and Control Group in the Center for Transportation Research at Argonne National Laboratory. His primary research areas are in transportation system modeling and simulation; freight transportation; big transportation data; probe vehicle technologies; artificial intelligence; and exploring emerging technologies to collect rich truck data. He serves as a reviewer for several transportation-related academic journals. In 2020, He earned his Ph.D. in Civil and Environmental Engineering at Old Dominion University in Norfolk, VA.

**Olivia White**

*Client Consultant, Eco-Counter*

Olivia works with Eco-Counter's Montreal office to help cities and towns across North America integrate count data into their active transportation projects. Previously, she worked on the Transit Advisory Team at Stantec, focusing

## SPEAKER BIOS

on accessibility recommendations for the TTC in Toronto. She graduated with a Masters in Urban Planning from McGill University in 2018. At McGill, Olivia worked with Alta Planning researching design challenges for active transportation networks in rural Canadian communities.

### **Pouyan Hosseini, Ph.D.**

*Data Scientist, Iteris, Inc*

Mr. Hosseini serves as an Associate Data Scientist for Iteris, where he has been working on innovative traffic analytics solutions. He has over 6 years of experience working in the fields of intelligent transportation systems and traffic operations. Mr. Hosseini earned his Ph.D. from the University of Southern California. As part of his Ph.D. research, he has developed distributed algorithms for adaptive signal control inspired by scheduling algorithms from communication networks. He has been serving as a technical reviewer for multiple journals/conferences such as Transportation Research Record Journal and IFAC Symposium on Control in Transportation Systems.

### **Rafael Almario**

*Associate, Cambridge Systematics, Inc.*

Rafael Almario is an analyst with a diverse experience in transportation data analytics and performance management. He has hands-on knowledge with various data sources for performance measures, such as vendor probe speed data, Weigh in Motion (WIM) data, crash data, and Florida DOT's Roadway Characteristics Inventory (RCI). Likewise, he has explored and documented data sharing partnerships, data standards, and governance structures to help agencies improve their data management and governance activities.

### **Robert Benz**

*Research Engineer, Texas A&M Transportation Institute*

Mr. Benz is a Research Engineer at the Texas A&M Transportation Institute and has been with the institute since 1991. He received a B.S. and a M.S. degree in Civil Engineering from Texas A&M University. He has served as an Adjunct Professor at Texas Southern University (1999) and at Prairie View A&M University (1999-2004). His professional interests are HOV/HOT evaluations, transportation data management, analysis, safety, planning, bicycle/pedestrian activities, and all aspects of transportation data. Additionally, he has worked in areas of pavement

markings, materials, and technology transfer. This broad experience enables him to look at projects through a variety of lenses.

### **Robert Hampshire**

*Deputy Assistant Secretary for Research and Technology, US Department of Transportation*

Robert Hampshire serves as the Deputy Assistant Secretary for Research and Technology. Hampshire was previously an associate professor at the Gerald R. Ford School of Public Policy at the University of Michigan. He was also a research associate professor in both the U-M Transportation Research Institute (UMTRI) and Michigan Institute for Data Science (MIDAS), and an affiliated faculty member in the Department of Industrial and Operations Engineering (IOE).

### **Rudy Jones**

*Operations Manager, Quality Counts*

Rudy Jones is a University of Central Florida graduate who began his career in the transportation industry four years ago at Quality Counts, a dedicated traffic data collection service provider. As QC's Operations Manager for Florida, Rudy's role includes project management for all local jobs, customer relations, and overseeing field work and data processing for projects. His interest in drones led to Rudy's involvement in QC's Drone data collection program, where he devotes his time to expanding the traffic data collection and analysis applications of emerging aerial technologies.

### **Sandra Mapel, PE, PMP**

*Section Manager, Ohio Department of Transportation*

Sandie is the section manager for traffic monitoring at Ohio DOT. Her varied background includes working at an ODOT district in multiple roles, an MPO Director and a traffic engineer for a local consulting company. In her personal time she loves to go snow skiing and travel anywhere.

### **Sarah O'Brien**

*Senior Research Associate, UNC Highway Safety Research Center*

Sarah has over fifteen years of experience in non-motorized planning, education, policy, design, and research. Her primary focus is conducting research and providing technical assistance to practitioners to improve walking



and bicycling within communities. She has experience collecting field data such as volume, speed, and user profiles and behaviors and assisted NCDOT in launching their Nonmotorized Volume Data Program. Sarah chairs TRB's Bicycle and Pedestrian Data Subcommittee.

### **Sergio Lugo Serrato**

*Director, Avanti Engineering Group*

Civil Engineer graduated from ITESM in Mexico, MSCE from Purdue University and Ph.D. Candidate from the University of Texas at Arlington. I have worked for more than 20 years in more than 200 transportation projects in Latin America and the US. Since 2008, I am the CEO of Avanti Engineering Group, a transportation engineering firm based in Mexico City.

### **Seth Berman**

*Senior Planner, New York City  
Department of Transportation*

Seth Berman has worked at the Planning Division at the New York City Department of Transportation for over 33 years. Seth has broad experience in transportation planning, studies, grants and budget. Seth has been administering the Department's traffic count contracts for over 15 years and is involved in all aspects of the traffic count program. Seth has been involved in many diverse data collection initiatives including monitoring traffic during the 2003 transit strike. Seth has a BS in Economics from the University of Pennsylvania and an M.s in Transportation Management from NYU Tandon School of Engineering (formerly Polytechnic University).

### **Seth LaJeunesse**

*Senior Research Associate,  
UNC Highway Safety Research Center*

Seth LaJeunesse is a Senior Research Associate with the UNC Highway Safety Research Center. He designs studies that draw from psychology, sociology, and systems science to explore ways of accelerating the diffusion of travel mode shift and safety innovations. Seth is a member of the American Planning Association and the Transportation Research Board's Pedestrians Committee, which is part of the National Academies of Science. Formerly a school psychologist, he holds a master's degree in city and regional planning from the University of North Carolina at Chapel Hill.

### **Simona Babiceanu**

*Data Scientist, Virginia Department of Transportation*

Simona is data scientist with the Virginia Department of Transportation. Her work is focused developing performance measures by integrating various data sources with the goal of reducing congestion and improving reliability. Previously, she was a Transportation Systems Engineer at the Center for Transportation Studies at the University of Virginia. She has a Master's Degree in Computer Science from University at Albany, State University of New York.

### **Sonu Mathew**

*Postdoctoral Researcher, The University of  
North Carolina at Charlotte*

Sonu Mathew completed his Ph.D. in Infrastructure and Environmental Systems at UNCC. He earned his master's degree from Sardar Vallabhbhai National Institute of Technology, Surat, India. His areas of interest are transportation planning, traffic flow modeling and simulation, spatial modeling, and traffic safety.

### **Soumya Sharma**

*Ph.D. Student, NC State University*

Soumya Sharma is a Ph.D. student at NC State, studying the impacts of autonomous trucks traversing future highway networks. She has experience in working with at-grade Rail-highway crash prediction models and worked on FHWA's Highway Safety Information Systems (HSIS) as a safety analyst.

### **Stacy Culpepper**

*Traffic Survey Business Analyst,  
North Carolina Department of Transportation*

Stacy Culpepper is a Traffic Survey Business Analyst at the North Carolina Department of Transportation. Stacy earned a Masters degree in Anthropology in 1997, and has worked predominately in the Geospatial field since 1999. Stacy became a Certified Geographic Information Systems Professional (GISP) in 2015.

### **Stanley Young**

*Advanced Transportation & Urban Scientist,  
National Renewable Energy Laboratory*

Dr. Young is the Mobility Systems team lead for the National Renewable Energy Laboratory's Center for Integrat-

ed Mobility Science. He currently serves as the DOE technologist in city for the Columbus Smart City program, as well as the Urban Science pillar lead for the DOE Systems and Modeling for Accelerated Research in Transportation initiative. He also serves as the Chief Data Officer for the Eastern Transportation Coalition.

### **Steven A. Bert**

*Research Associate, Institute for Transportation Research and Education, NC State University*

Steve Bert is a Research Associate with ITRE's Economic Analysis and Policy Assessment Group. His professional career has included both academic and consultative services in the areas of economic impact analysis, economic development, data analysis and visualization, policy evaluation and implementation, urban and rural planning, communications, marketing, and graphic design. Steve's master's degree in transportation policy, operations, and logistics, his bachelor's degree in economics, and his tenure as editor-in-chief at the Courier student newspaper established his foundation for process improvement through data analysis and communications.

### **Steven Jessberger**

*Traffic Monitoring Program Manager, Federal Highway Administration*

Steven Jessberger has been a Transportation Engineer for over 22 years and graduated from the Ohio State University. At the Ohio DOT he was the WIM program manager for 7 years has worked for FHWA since 2006, in the Office of Highway Policy Information in Washington D.C as a Senior Transportation Specialist. Steven is the Traffic Monitoring Program Manager for field operations, guidance and system development which includes being the system owner for the Travel Monitoring Analysis System (TMAS) software. As a national leader in traffic engineering, he led numerous research efforts including the development in 2016 of a new AADT method. Steven has organized and served as the technical leader for numerous pooled funds and also completed a major research project through the US DOT SBIR program on inductive signatures for re-identification of heavy trucks using a single loop. Steven is also a certified instructor for the National Highway Institute.

### **Sudhir Murthy**

*President, TrafInfo Communications*

Mr. Murthy has over 30 years of experience in all aspects of traffic engineering, transportation planning, and Intelligent Transportation Systems (ITS). Mr. Murthy was the Project Manager on MassDOT's pilot study for the state-wide bicycle and pedestrian count program. He is currently serving as the Project Manager on MassDOT's state-wide telemetry support services contract which involves operating, and maintaining over 500 continuous count stations. He is also involved in assisting RIDOT with Quality Control (QC) reviews of their continuous count data and year-end processing of HPMS statistics. He is a graduate of Purdue University with a Master's degree in Transportation and Urban Engineering. He is a registered Professional Engineer in Massachusetts, Rhode Island, Connecticut and Maine. He is an active member of the Institute of Transportation Engineers (ITE).

### **Syed W. Haider**

*Associate Professor, Michigan State University*

Dr. Haider is an Associate Professor in the Civil and Environmental Engineering (CEE) Department at Michigan State University (MSU). He has over twenty-nine (29) years of diverse professional, research, and teaching experiences developing state-of-the-art methods and practical applications in traffic characterization, statistical quality assurance process, material characterization, pavement analysis, asset management systems, and preservation. Dr. Haider has authored and co-authored more than 150 technical publications. Nationally, he is active in NCHRP, TRB, ASCE, and IJPE. Dr. Haider is also a registered professional engineer in the State of Michigan.

### **Tammy Lee**

*Transportation Data Administrator, Transportation Research and Education Center, Portland State University*

Tammy works on a variety of projects for TREC, including data synthesis, analysis, and visualization, and documentation for ongoing work with PORTAL and Bike-Ped Portal. She holds a Ph.D. in Environmental and Natural Resource Sciences from WSU. Prior to joining TREC she worked as a data scientist for a political digital media consulting firm.

**Terry Lee***Manager, Leetron Vision, LLC*

Terry Lee is the founder and manager of a start up company Leetron Vision. His key interest throughout the 30 years of engineering career in automation with vision. He has developed products in the transportation field such as wheel inspection for rail road, crack inspection for road, retroreflectivity measurement for pavement marking and now traffic counting system for traffic monitoring. He is an early adopter of Artificial Intelligence technology in vision application with successful projects dated back to 20 years ago.

**Tiffany Symes***Director of Product, Iteris, Inc.*

Tiffany Symes serves as Director of Products for the Analytics segment of Iteris Transportation Systems business unit. She has 12 years of experience working in the fields of transportation analytics and visualization, with roles in consulting, data science, and product management. Tiffany is passionate about data-driven applications for solving complex transportation issues for safer and efficient mobility. The use-case she will present was a first in the U.S. with using third-party data and performance analytics for maintenance of traffic during construction. The project is the \$1.9 Billion I-405 Improvement Project in Orange County, California.

**Timothy S. Nye, MSCE***Traffic Safety Project Engineer, North Carolina DOT*

Tim Nye is a member of the Safety Evaluation Group within the NCDOT's Traffic Safety Unit. He received his Masters of Science in Civil Engineering from NC State where he began to concentrate on traffic safety. With the Traffic Safety Unit, he specializes in the analysis of crash data and the evaluation of traffic safety and mobility projects.

**Wes Guckert, PTP***President/CEO, The Traffic Group, Inc.*

Wes Guckert (PTP), is a recognized and well-respected expert in the field of traffic engineering, and transportation planning. Guckert has played a major role in over 8,000 projects throughout the United States and internationally. A Fellow with the Institute of Transportation Engineers (ITE), Guckert is a frequent national speaker on a variety

of topics. He is also a member of the Texas A&M Transportation Technology Advisory Council and Texas A&M Campus Transportation Technology Initiative deployment. He is also a past Chair of the Urban Land Institute's (ULI) Public Development Infrastructure Council (PDIC) and a Harvard University Lecturer. In 2019, he was named an Influential Marylander and a Most Admired CEO.

**Wes Kumfer, Ph.D., RSP1***Senior Research Associate, UNC Highway Safety Research Center*

Wes Kumfer joined HSRC in 2017 as a postdoctoral research associate with a focus on crash analysis and safety education. His primary research interest is traffic safety management through a system-oriented approach. While at HSRC, Dr. Kumfer has worked on pedestrian crash modeling, Safe Systems implementation, and engineering evaluation. He uses this experience as a member of the Road to Zero Safe System working group. Prior to joining HSRC, Dr. Kumfer worked as a postdoctoral research associate and course instructor at Texas Tech University in Lubbock, Texas.

**William Morgan***Planning & Systems Section Chief, Illinois DOT*

William Morgan received his Bachelor of Arts in Mathematics from Cedarville University. He has been with IDOT since 2000. His first 12+ years in the IT department were in roles as a developer, manager, budget liaison, and PMO coordinator earning his PMP in 2005. He has been in the Bureau of Programming for the last 8 years. The Planning & Systems Section is responsible for the annual FHWA HPMS and NBI submittals, statewide roadway and bridge inventory, statewide GIS line work, short term traffic data collection, continuous count locations, pavement performance, NHS and Functional class, and reporting PM2 and PM3.

**Xu Zhang***Research Engineer, Kentucky Transportation Center*

Xu Zhang, Ph.D., is a research engineer at the Kentucky Transportation Center. He received his Ph.D. in civil engineering from University of Kentucky. His research interests include crowd-sourced data, transportation network modeling, GIS in transportation, traffic incident management, big data mining, machine learning, and text analytics.

## **Yaw Adu-Gyamfi**

*Assistant Professor, University of Missouri - Columbia*

Yaw Adu-Gyamfi, Ph.D., is an Assistant Professor in the Civil Engineering at the University of Missouri-Columbia (UMC). He has a successful track record in developing cutting-edge database solutions, and data products geared towards improving transportation systems management and operations. His focus areas include traffic operations, intelligent transportation systems, civil infrastructure systems, big data analytics and artificial intelligence.

## **Yi Hou**

*Data Scientist, National Renewable Energy Laboratory*

Dr. Yi Hou is a data scientist in NREL's transportation and hydrogen system center (THSC). He received M.S. and Ph.D. degrees in Civil Engineering from the University of Missouri in 2011 and 2014. The primary focus of his research revolved around machine learning, artificial intelligence (AI), and big data techniques, as well as their applications to future transportation mobility and smart city solutions. His projects at NREL are mainly funded by US DOE and I-95 corridor coalition.

## **Yilun Xu, PE, MBA**

*MBA Graduate / Traffic Engineer, University of Minnesota*

Yilun Xu is a registered professional engineer specializing in traffic operation, planning and safety. Yilun has 6 years of professional experience working as a Traffic Engineer. Yilun received a MS degree in 2013 from North Carolina State University and a MBA degree in 2018 from the University of Minnesota.



Pioneer Level – \$4,000



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Mike Spack, CEO

[mspark@spacksolutions.com](mailto:mspark@spacksolutions.com)

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The Traffic Group provides traffic data collection services to numerous State DOT Agencies, Counties, Municipalities, MPOs, and the private sector. With more than 50 staff dedicated solely to data services, an inventory of more than 4,000 traffic counting devices, the firm typically conducts 115,000 counts annually and has conducted more than three million counts over the last 36 years.

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## Leader Level – \$2,000



The CATT Lab is a non-profit group of 75 professional software developers and systems integrators. We specialize in fusing, analyzing, visualizing,

and disseminating a diverse array of TSMO-related data for operations, planning, research, and public consumption. We also develop TSMO training and education materials, and help agencies solve important transportation, safety, and security problems. We develop, deploy, and maintain innovative technologies through user-centered software design.

**Location:** College Park, MD, USA

**Website:** [www.cattlab.umd.edu](http://www.cattlab.umd.edu)

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**Website:** [www.eco-counter.com](http://www.eco-counter.com)

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Amanda Konja, Marketing Manager  
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**LinkedIn:** [www.linkedin.com/company/kistler](http://www.linkedin.com/company/kistler)



Founded in 2003, MS2 is a national leader in transportation data management and analysis and has the largest traffic count database in North America. More than 270 agencies in 31 US States, and Canada, including 23 state DOTs, use MS2 software. Our software includes multiple modules for managing transportation data ranging from traffic count, turning movement, non-motorized count, weigh-in-motion, travel time, traffic crash, road sign, work order, asset management, and performance measurement.

**Location:** Ann Arbor, MI, USA

**Website:** [www.ms2soft.com](http://www.ms2soft.com)

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Drakewell specializes in traffic data analysis software, providing the traffic industry with target specific software for over

30 years. Drakewell solutions are highly modular and configurable deployed in secure cloud hosting environments. Whether WIM, Bike/Ped, AI, telemetry, ANPR/Bluetooth, Realtime, or reporting, our clients enjoy the cutting edge of traffic data analysis software with client relations and support second to none. Reach out to us with any of your traffic software needs.

**Location:** Dover, DE, USA

**Website:** [www.drakewell.com](http://www.drakewell.com)

**Marketing contact:**

Duncan Jamieson, Business Development Director  
duncan.jamieson@drakewell.com

**LinkedIn:**

[www.linkedin.com/in/duncan-jamieson-a6496b11](https://www.linkedin.com/in/duncan-jamieson-a6496b11)

**iteris**

Iteris is the global leader in smart mobility infrastructure management—the foundation for a new era of mobility. We

apply cloud computing, artificial intelligence, advanced sensors, advisory services, and managed services to achieve safe, efficient, and sustainable mobility. Our end-to-end solutions monitor, visualize, and optimize mobility infrastructure around the world to help ensure that roads are safe, travel is efficient, and communities thrive.

**Location:** Sana Ana, CA, USA

**Website:** [ww.iteris.com](http://ww.iteris.com)

**Marketing contact:**

Ginny Acosta, Marketing Events Manager  
gmt2@iteris.com

**Facebook:** [www.facebook.com/iterisinc](https://www.facebook.com/iterisinc)

**LinkedIn:** [www.linkedin.com/company/iteris-inc-](https://www.linkedin.com/company/iteris-inc-)

**YouTube:** [www.youtube.com/channel/UCJEB7OtdARo-2TuchDD984AQ](https://www.youtube.com/channel/UCJEB7OtdARo-2TuchDD984AQ)

**Twitter:** [twitter.com/iteris](https://twitter.com/iteris)

## Promoter Level – \$500



The Idaho Transportation Department (ITD) is responsible for operating, preserving, restoring, and improving an integrated network of 12,315 lane miles of highways and roads, 1,830 bridges, 2,523 miles of Idaho Byways, and 31 state backcountry

airstrips. The state highway system also includes 34 rest areas and 12 fixed ports of entry.

**Location:** Boise, ID, USA

**Website:** [itd.idaho.gov](http://itd.idaho.gov)

**Facebook:**

[www.facebook.com/idahotransportationdepartment](http://www.facebook.com/idahotransportationdepartment)

**Instagram:** [www.instagram.com/idaho\\_transportation\\_dept](http://www.instagram.com/idaho_transportation_dept)

**Twitter:** [twitter.com/idahoitd](https://twitter.com/idahoitd)



M.H. Corbin is a leading provider of intelligent transportation solutions designed to gather, analyze, and communicate roadway information in real time.

We partner with transportation professionals around the world to deliver comprehensive software and equipment packages, allowing our customers to increase efficiency, inform motorists, and keep highways safe.

**Location:** Raleigh, NC, USA

**Website:** [www.mhcorbin.com](http://www.mhcorbin.com)

**Marketing contact:**

Bill Corbin, President

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**Twitter:** [twitter.com/MHCorbinLLC](https://twitter.com/MHCorbinLLC)



Quality Counts (QC) is an employee-owned, nationwide transportation data collection firm with ten offices across the United States. Since 2003, QC has

leveraged its specialized commitment to exceptional customer service, quality products, and innovative technology to become one of the most respected, industry-leading transportation data collection firms in the country.

**Location:** Tigard, OR, USA

**Website:** [www.qualitycounts.net](http://www.qualitycounts.net)

**Marketing contact:**

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**LinkedIn:** [www.linkedin.com/company/quality-counts-llc/](http://www.linkedin.com/company/quality-counts-llc/)



Roadsys, Inc. has been a recognized leader in traffic data solutions since the company's inception in 1989. Starting with its origins in the parking systems, Roadsys' solutions includes bike/ped data

and control systems, highway traffic monitoring, video detection, ALPR, weigh-in-motion, virtual wim, specialized pavement materials focused on environmental impact—all revolving around improving global quality of life.

**Location:** Palm Harbor, FL, USA

**Website:** [www.roadsysllc.com](http://www.roadsysllc.com)

**Marketing contact:**

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**YouTube:** [www.youtube.com/channel/UCef82Vrgp-pFq2LeVQAq3Rwg](http://www.youtube.com/channel/UCef82Vrgp-pFq2LeVQAq3Rwg)

**Twitter:** [twitter.com/roadsysllc](https://twitter.com/roadsysllc)

# Thank You!

Thank you to everyone who helped make NaTMEC 2021 not only possible but a success. We could not have done it without each and every presenter, moderator, speaker, sponsor. Thank you so much! Especially:

## NaTMEC Planning Committee

Thank you to the 2020-2021 members:

Angela Castro, Southern Nevada RTC

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Darren Buck , Federal Highway Administration

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Liz Stolz, Marlin Engineering, LLC

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Penelope Weinberger, American Association of State Highway Transportation Officials (AASHTO)

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William Morgan, PMP, Illinois Department of Transportation (IDOT)

Yao-Jan Wu, Ph.D., P.E., Associate Professor, The University of Arizona

## CSCRS/HSRC Zoom Techs

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