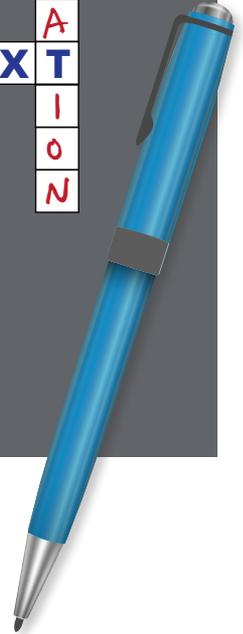
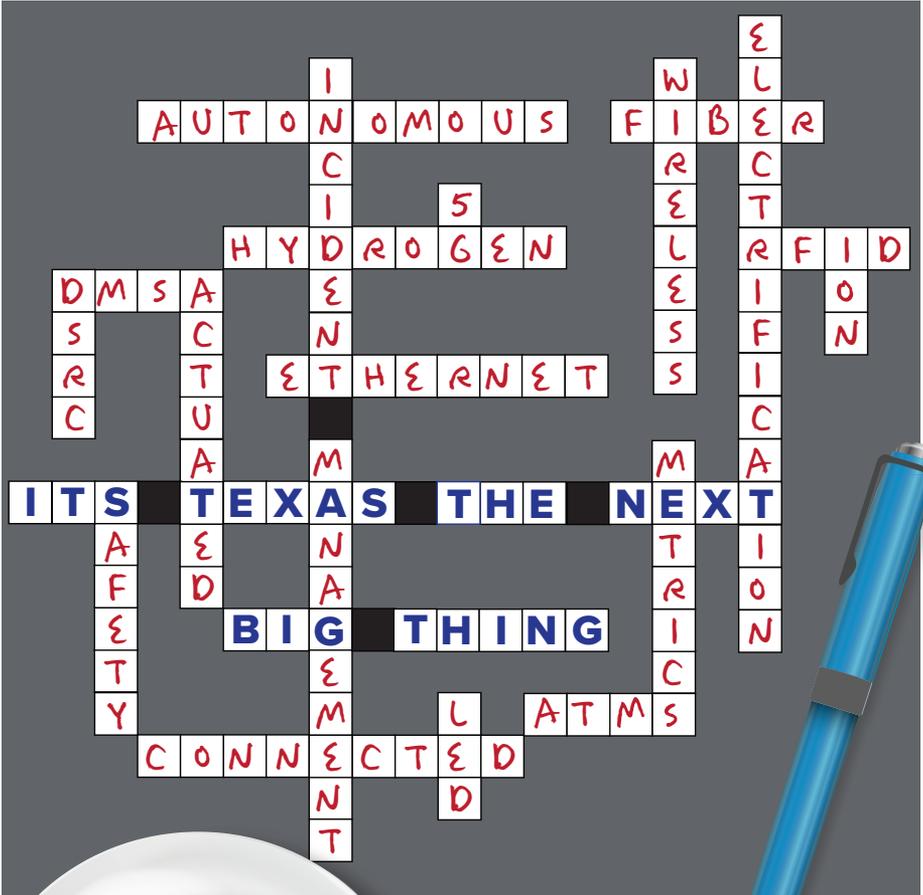




2022 ITS TEXAS  
★ SEPT. 28-30, 2022 ★ SAN MARCOS, TX ★  
ANNUAL MEETING



Embassy Suites by Hilton San Marcos  
1001 E McCarty Ln  
San Marcos, TX 78666

## SCHEDULE AT A GLANCE

### WEDNESDAY, SEPTEMBER 28

8:30 a.m. – 5:00 p.m.	<b>Registration</b>	
9:00 a.m. – 5:00 p.m.	<b>Training Workshop: Diamond Interchange Operation</b>	<i>Veramendi A–B</i>
Noon – 7:00 p.m.	<b>Exhibitor Setup</b>	<i>Spring Lake</i>
6:00 p.m. – 10:00 p.m.	<b>All-attendee Social Event</b>	<i>EVO Entertainment– Springtown 1180 Thorpe Lane San Marcos, TX 78666</i>

### THURSDAY, SEPTEMBER 29

7:30 a.m. – 6:00 p.m.	<b>Registration</b>	
7:30 a.m. – 7:30 p.m.	<b>Exhibit Hall Open</b>	
7:30 a.m. – 8:30 a.m.	<b>Breakfast with Exhibitors (Additional Exhibitor Setup)</b>	<i>Spring Lake</i>
8:30 a.m. – 10:00 a.m.	<b>Opening Session</b>	<i>Veramendi E</i>
10:00 a.m. – 10:30 a.m.	<b>Break with Exhibitors</b>	<i>Spring Lake</i>
10:30 a.m. – Noon	<b>Session 2A</b>	<i>Veramendi A–B</i>
10:30 a.m. – Noon	<b>Session 2B</b>	<i>Veramendi C–D</i>
Noon – 1:30 p.m.	<b>Kickoff Luncheon</b>	<i>Veramendi E</i>
1:30 p.m. – 3:00 p.m.	<b>Session 3A</b>	<i>Veramendi A–B</i>
1:30 p.m. – 3:00 p.m.	<b>Session 3B</b>	<i>Veramendi C–D</i>
3:00 p.m. – 3:30 p.m.	<b>Break with Exhibitors</b>	<i>Spring Lake</i>
3:30 p.m. – 5:00 p.m.	<b>Session 4: Vendor Showcase</b>	<i>Veramendi E</i>
5:00 p.m. – 8:00 p.m.	<b>Exhibitor Reception</b>	<i>Spring Lake</i>

### FRIDAY, SEPTEMBER 30

7:30 a.m. – Noon	<b>Registration</b>	
7:30 a.m. – 10:30 a.m.	<b>Exhibit Hall Open</b>	<i>Spring Lake</i>
7:30 a.m. – 8:30 a.m.	<b>Breakfast with Exhibitors</b>	<i>Spring Lake</i>
8:30 a.m. – 10:00 a.m.	<b>Session 5A</b>	<i>Veramendi A–B</i>
8:30 a.m. – 10:00 a.m.	<b>Session 5B</b>	<i>Veramendi C–D</i>
10:00 a.m. – 10:30 a.m.	<b>Break with Exhibitors</b>	<i>Spring Lake</i>
10:30 a.m. – Noon	<b>Exhibitor Breakdown</b>	<i>Spring Lake</i>
10:30 a.m. – Noon	<b>Session 6A</b>	<i>Veramendi A–B</i>
10:30 a.m. – Noon	<b>Session 6B</b>	<i>Veramendi C–D</i>
Noon – 1:30 p.m.	<b>Business and Awards Luncheon</b>	<i>Veramendi E</i>



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★ SEPT. 28-30, 2022 ★ SAN MARCOS, TX ★													
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**WELCOME AND THANK YOU** for participating in the 2022 ITS Texas Annual Meeting. The Board of Directors has developed a great program filled with peer presentations, practical training, and innovative programs and visions from state and national representatives. Such varied perspectives are what I find so valuable about ITS Texas and why I'm proud and grateful to serve on your Board. And it got us thinking how every now and then an idea, technology or application arises and makes us say, "Eureka – that's THE solution we've been looking for." But of course, there's always more to add, adapt or even revolutionize which inevitably brings about The Next Big Thing!

Many of our session topics have the same names as before, but we're excited to learn how the content has evolved. We'll also learn about several major innovations coming from the state level that have been inspired by and will be developed with partners throughout the public and private sectors. Many of these companies have once again provided invaluable support to ITS Texas through generous sponsorships for this meeting and throughout the year. And while the many exhibitors here this week gain additional exposure by their presence, they also help make this meeting possible. Everyone, please visit the booths and thank them and all the sponsors you meet for helping make this event possible. Of course, we appreciate all of you for being a part of ITS Texas and this year's meeting.

By the way, we intend to return to our traditional calendar and activities in the future such as having the annual meeting later in the year. This was, hopefully, one of the last remnants of the pandemic. We recognize our host venue, Embassy Suites, for suspending our November 2020 contract when we were forced to gather virtually. The 2021 Joint Meeting required the larger venue in Dallas, so we were able to return here this year but just not at our regular time of year. We know this forced out some attendees, exhibitors and sponsors this year and we are sorry for that, but we hope you will join us when we meet again in 2023.

If there's anything you need help with this week, please talk to any board member or stop by the registration desk. And if you have any suggestions to improve ITS Texas future meetings or general operations, please reach out to us. Thank you again and have a wonderful time at the conference!

Your 2022 ITS Texas President,

*Alex Power*

## WEDNESDAY, SEPTEMBER 28

8:00 a.m. – 5:00 p.m. **Registration**

9:00 a.m. – 5:00 p.m.

### Training Workshop

### Diamond Interchange Operation

Veramendi Salons A–B

*This workshop is intended for traffic operations professionals as well as traffic system designers. The discussion of operational and design considerations will look at standard diamond interchanges using traditional 4-phase and 3-phase operation. The discussion will also look at alternative designs such as diverging diamond interchange (DDI) and displaced left turn operation. It will include a general discussion of the controller unit in free and coordinated operation which will include Ring and Barrier configuration, detector location and channel assignments, load switch assignments, use of overlaps, actuated timing parameters and coordination programming.*

**Nader Ayoub, Iteris, Inc.**

Noon – 7:00 p.m.

### Exhibitor Setup

Spring Lake

6:00 p.m. – 10:00 p.m.

### Mix & Mingle

### All-Attendee Social Event at EVO Entertainment–Springtown

EVO Entertainment–  
Springtown

*All meeting registrants are invited to come and enjoy a complimentary evening with bowling, pool, good food. Transportation to and from the social event facility is not provided.*

*EVO Entertainment is located at 1180 Thorpe Lane, San Marcos, TX 78666.*



7:30 a.m. – 6:00 p.m.     **Registration**

7:30 a.m. – 7:30 p.m.     **Exhibit Hall Open**

7:30 a.m. – 8:30 a.m.

Mix & Mingle

**Breakfast with Exhibitors**

Spring Lake

*(Additional Exhibitor Setup)*

8:30 a.m. – 10:00 a.m.     **Opening Session**

SESSION 1

**Innovations for Transformations from Pavement to the Sky!**

Veramendi E

Moderator: **James Kuhr**, *Strategic Planning*

Panel from Texas Department of Transportation:

**Darran Anderson**, *Director of Strategy and Innovation*

**David Freidenfeld**, *Transportation Planning & Programming*

**Raul Rios**, *Aviation Division*

10:00 a.m. – 10:30 a.m.

Mix & Mingle

**Break with Exhibitor**

Spring Lake

# THURSDAY, SEPTEMBER 29

10:30 a.m. – Noon

## SESSION 2A

### Vehicle Electrification and Charging— Challenges & Opportunities

Veramendi A–B

*Brian Jahn*, Moderator

#### Fleet Electrification for Small Vehicle On-Demand Services

*Sam Lott*, Automated Mobility Services, LLC

#### State Funding for Public Charging

*Joseph Barletta*, Smart Charge America

#### The Road to Electrifying Transportation in Texas

*Lori Clark*, NCTCOG

## SESSION 2B

### Performance Measurement

Veramendi C–D

*Marques Allen*, Moderator

#### Data-Infused Workflow for TMCs

*Lance Ballard*, Kimley Horn and Associates

#### ITS Maintenance Interactive Performance Measures Dashboard

*Paul Hsu*, Arcadis

#### High Fidelity Anonymized GPS and LBS Data to Better Understand Trip and Travel Patterns

*Terri Johnson*, Iteris

#### A \$3 Million Dollar Bond for Arterial Traffic Management System (ATMS) Improvements

*James Robertson*, Lee Engineering

Noon – 1:30 p.m.

## Kick-off Luncheon

### Collaborations and Innovations Transform Transportation Implementations and Operations – What a Sensation!

Veramendi E



Keynote Speaker:

*Tracy Larkin Thomason*, ITS America

ITS  AMERICA

1:30 p.m. – 3:00 p.m.

**SESSION 3A**

**Data Analytics**

Veramendi A–B

*Minh Le*, Moderator

**Vision Zero Meets Artificial Intelligence, Examining practical Use Cases of AI Implementation in Traffic Management**

*Alexander Colosivski*, Currux Vision, LLC

**Misleading Statistics - Understanding the Accuracy of Data in the Age of Transportation Data and Technology**

*Michael Harvard*, Miovision

**AI-Empowered Traffic Counting Solution Using City Traffic Cameras**

*Peirong "Slade" Wang*, The University of Texas at Arlington

**FDOT V2X Data Exchange Platform**

*Wesley Skillern*, Southwest Research Institute

**SESSION 3B**

**Incident Management and Special Events**

Veramendi C–D

*Victor De la Garza*, Moderator

**San Antonio HERO Program**

*John Gianotti*, Texas Department of Transportation

**Showcasing the Potential of Machine Learning and Predictive Analytics to Make Incident and Special Events Management Safer and More Efficient**

*Leah Hanvey*, UrbanLogiq

**Detour Routing Analysis for Crashes & Significant Events Using Connected Vehicle Data**

*Michael Pack*, University of Maryland, CATT Lab

**Extreme Weather Preparedness: Toronto's Flood Management System**

*Marie Seguin*, Versilis

## THURSDAY, SEPTEMBER 29

3:00 p.m. – 3:30 p.m.

Mix & Mingle

Break with Exhibitors

Spring Lake

3:30 p.m. – 5:00 p.m.

SESSION 4

Vendor Showcase

Veramendi E

**Lester Miyasaki**, Moderator

*ITS Texas will feature something new this year that has been a big success at other ITS state chapter meetings — an Vendor Showcase scheduled for all meeting registrants to attend as a singular Session 4 (A&B). This supercharges our popular previous session for New Technologies/ITS Technology Toolbox and expands it for participation by all attendees of the 2022 Annual Meeting!*

*The Vendor Showcase will provide a unique forum to present information to all conference attendees in a non-competitive, low-pressure environment.*

5:00 p.m. – 8:00 p.m.

Mix & Mingle

Exhibitor Reception

Spring Lake

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## FRIDAY, SEPTEMBER 30

7:30 a.m. – Noon

Registration

7:30 a.m. – 10:30 a.m.

Exhibit Hall Open

7:30 a.m. – 8:30 a.m.

Mix & Mingle

Breakfast with Exhibitors

Spring Lake

8:30 a.m. – 10:00 a.m.

**SESSION 5A**

**Connected and Automated Vehicles**

Veramendi A–B

*Joe Hunt*, Moderator

**Leveraging Connectivity and Automation for Powertrain Efficiency**

*Sankar Rengarajan*, Southwest Research Institute

**Assessing Roadway Readiness for Automated Vehicle Deployments**

*Paul Avery*, AECOM

**Exploring the Potential in Telematic Data of Connected Vehicles for Transportation Planning and Management: Findings, Challenges, and Possible Solutions**

*Taylor Li*, The University of Texas at Arlington

**Texas Connected Freight Corridors (TCFC)**

*Eric Thorn*, Southwest Research Institute and *Jianming Ma*, Texas Department of Transportation

**SESSION 5B**

**Interagency Coordination**

Veramendi C–D

*John Gianotti*, Moderator

**Regional Coordination for TMC's and Operations Staff**

*Allyson Richey*, City of Austin

**Connected Traveler Alert System**

*Cliff Heise*, Iteris

**Case Study: CTRMA implementation of Rekor AI-based Incident Detection**

*Paul Zamsky*, Rekor Systems and *Fabiola Bowers*, CTRMA

**An Overview of Texas SMARTTrack:**

**A Regional Testbed for Emerging Technologies**

*Heidi Ross*, The University of Texas at Austin Center for Transportation Research

10:00 a.m. – 10:30 a.m.

Mix & Mingle

Break with Exhibitors

Spring Lake

## FRIDAY, SEPTEMBER 30

10:30 a.m. – Noon

### SESSION 6A

### Multimodal Transportation Opportunities

Veramendi A–B

**Alex Power**, Moderator

**Pedestrian Data Collection for Applications in Planning, Design, and Management**

**Kenneth A. Perrine**, *The University of Texas at Austin Center for Transportation Research*

**Applying Traditional Safety Methods to Transportation and Transit Applications**

**George Thiel**, *SICK, Inc.*

**Integrating TSMO into Corridor Planning**

**Renee Hurtado**, *DKS Associates*

**Road to Autonomy for Airport Landside Access (DFW Airport)**

**Stan Young**, *NREL.gov*

### SESSION 6B

### Arterial Traffic Management Systems (ATMS)

Veramendi C–D

**Brandi Bush**, Moderator

**Using Cloud-Based, GPS Trajectory Data to Find and Fix Traffic Signal Issues Quickly**

**Shaun Quayle**, *INRIX*

**You Want Me to Turn Off the Flashing Yellow Arrow? A Study of Left Turn Crashes in Frisco, Texas**

**Curtis Jarecki**, *City of Frisco*

**Instantly Optimizing a City's Traffic Flow for Mobility and Safety: Multimodal, AI-powered Signal Optimization on a Network Level**

**Jatish Patel**, *Flow Labs*

**Houston's Design-Build ITS/ATMS Project (FHWA Grant Funded Project)**

**Michael Wahl**, *City of Houston*

Noon – 1:30 p.m.

### Business and Awards Luncheon

### Transportation Data – Past, Present & Future

Veramendi E

**James Kuhr**, *Texas Department of Transportation*

**Joe Hunt**, *Texas Department of Transportation*

## LIST OF 2022 EXHIBITORS

ITS Texas would like to gratefully acknowledge the commitment and support of the Exhibitors who help make the annual meeting a success.

Exhibitor	BOOTH
Oriux	01
Iteris	02
360 Network Solutions, Inc.	03
ELTEC	04
SICK, Inc	05
Activu Corporation	06
Texas Highway Products	07
Texas Highway Products	08
VIVOTEK USA, Inc.	09
Lantronix	10
Leotek Electronics USA, LLC	11
American Signal Company	12
TrafficVision	13
Boschung America	14
INRIX	15
Wanco, Inc.	16
Paradigm Traffic Systems	17
Image Sensing Systems, Inc.	18
Econolite	19
Siemens RUGGEDCOM	20
Cubic ITS	21
JTS	22
Miovision	23

Exhibitor	BOOTH
AM Signal LLC	24
Applied Information	25
Paradigm Traffic Systems	26
Wireless Technology, Inc./ WTI	27
Versilis	28
Skyline Products	29
Citian	30
Mobotrex	31
Antaira Technologies	32
SWARCO McCain Inc.	33
Consolidated Traffic Controls, Inc.	34
EtherWAN	35
Twincrest Technologies	36
Southern Manufacturing	37
Daktronics	38
Genetec	39
UrbanLogiq	40
Abloy USA Critical Infrastructure	41
The Hoosier Company Inc./ HCI.	42



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