

2023



INNOVATION ADVANCES TOWARDS  
THE FUTURE OF MANAGING TRAFFIC

# Program

26-30 June 2023

Vienna

(Status June, 23 2023)

## Welcome to the 4th International Symposium on Freeway and Tollway Operations!

From 26 – 30 June 2023, you will be able to interact with up to 400 experts, attend over 40 sessions, and participate in numerous side-events, such as technical tours! This program gives you an overview of when which event takes place and where.

## TRACKS

A

Governance and  
Organizational  
Challenges

B

Managing and  
Analyzing  
Operational  
Strategies and  
Performance

C

Next Generation  
of Traffic  
Management  
Systems and  
Services

D

Innovative  
Financing to  
Build and  
Operate  
Motorways

Focusing on the future of traffic management means looking for solutions for a sustainable, safe and efficient transport system. The TRB ISFO 2023 addresses this goal in four tracks at different levels.

**Track A** will provide a substantial path planning for the mission of delivering “directionality” towards common goals for all relevant stakeholders in traffic management. Also the governmental roles need to be redefined and reconsidered, to face future challenges and force the necessary solutions.

**Track B** investigates the latest of operational strategies for managing freeways and toll roads. The session will discuss various management methods and conducts an analysis of the strategies and their performance. During this track, you will hear about the latest strategies and performance for managed motorway, management during emergency situations, post-covid management, digital twinning and the utilization of artificial intelligence for freeway and tollway operations.

**Track C** The next generation of an agencies traffic management systems (TMSs) and their operations centers (TMCs) offer the potential to improve safety and mobility. To achieve these goals, it is important to build and maintain the support and resources needed to enhance services, plan and pursue improvements, and develop a strategic direction and chart a path to prepare for the next generation of the agencies TMS. Opportunities continue to emerge for agencies to improve the capabilities and performance of their TMSs by taking advantage of new technologies, advances in telecommunications, and new and emerging sources of data generated from connected and automated vehicles (CAVs), travelers using connected devices, and service providers.

**Track D** will explore different approaches in project finance involving public or private partners, congestion pricing to promote reliability and efficient use of the transport system, distance-based pricing to address declining motor fuel tax revenue, safety considerations on priced roads, and how pricing and financing decisions contribute towards net zero emissions goals to meet the global climate imperative.

## Monday, 26 June

08:00-09:00 Registration

### Workshop 13: Urban Vehicle Access Regulations - a Key Tool for Future Traffic Management

UVAR - Urban vehicle access regulations as a dynamic tool and a key strategic element for urban transportation planning and management to tackle climate and transport challenges. This includes Low Emission Zones (LEZ), Congestion charging, Limited Traffic Zones (LTZ) Pedestrian Zones, and Parking Regulations. This workshop focuses on different implementation scenarios of UVAR pilots. First findings according to organizational, technical approaches as well as impacts on urban traffic management and environmental aspects will be discussed.

09:00-10:25

Room: 1.1

Moderator:

Julia Düh from AustriaTech

Speakers:

Martin Böhm from AustriaTech

Kristina Andersson from RISE - Research Institutes of Sweden

Coen Bresser from ERTICO

Ruud van den Dries from RDW (Nationaal Dataportaal Wegverkeer)

### Workshop 14: How to implement connected and automated logistic solutions into the overall traffic management

Connected, cooperative and automated Mobility (CCAM) is considered a game changer in the transport logistics. Efficiency and safety increases are expected, as well as a reduction in emissions and costs. This workshop will take stock of latest requirements and challenges related to CCAM deployment in transport logistics from both sides of the Atlantic. Stakeholder expectations, technology readiness, government readiness and deployment requirements will be discussed to provide a more nuanced, realistic implementation road map to bring innovation in real logistics operation.

09:00-10:25

Room: Auditorium

Moderator:

Aggelos Soteropoulos from AustriaTech

Speakers:

Alexander Barth from DigiTrans GmbH

Konstantinos Mattas from European Commission

Hany Hassan from Louisiana State University

Jacqueline Erhart from ASFINAG

Manabu Umeda from The University of Tokyo

Christoph Glauser from ArgYou AG

### Workshop 1: Setting a Strategic Direction for Agency Traffic Management Systems

The workshop will leverage the collective insights and experiences of participants to identify and explore successful practices, available resources, and issues that agencies should consider in relation to the following: Opportunities to plan for the next generation of Agencies TMSs, setting a strategic direction for TMS, and planning and plans to support TMS improvements.

09:00-12:00

Room: 1.2

**Moderator:** Jon Obenberger from Federal Highway Administration, TRB ITS Committee

**Speakers:** Fanis Papadimitriou from Attica Tollway Operations Authority  
Gonzalo Alcaraz from International Road Federation Geneva  
Daniel Lukasik from Parsons  
Matthew Junak from HNTB  
Les Jacobson from WSP  
Pete Marshall from HDR  
Phil Masters from Parsons  
Susanna Zammataro from International Road Federation Geneva  
David Graham from Gannett Fleming  
Jianming Ma from Texas DOT

### Workshop 3: Traffic Modeling and Impact Assessment

The management of transport is a continuing series of decisions that should be based on facts and predefined targets. This workshop will address a) the process of defining these KPIs (Key Performance Indicators) - with sustainability and especially CO2 reduction in mind - and b) the evaluation of the defined KPIs and the limits of this evaluation. The outcome of this session will be the latest developments in integrating sustainability into road traffic management.

10:35-12:00

Room: Auditorium

**Moderator:** Wolfgang Ponweiser from Austrian Institute of Technology

**Speakers:** Tim Lomax from TrafficGuyTim, LLC  
Tamara Djukic from ERTICO  
Daniel Franco from Rupprecht Consult  
Martin Fellendorf from TU Graz

### Workshop 9: Using Connected and Automated Vehicle Messages to Manage Traffic on Freeways

This workshop will focus on the freeway applications of connected and automated vehicle (CAV) technologies. Representatives from academia, industry, and government will share the latest CAV technologies developments and its freeway applications. Among other topics, critical research needs and future research directions on the applications of CAV technologies in freeway management will be identified.

10:35-12:00

Room: 1.1

**Moderator:** David Noyce from University of Wisconsin-Madison  
**Speakers:** Torgeir Vaa from Norwegian Public Road Administration  
Kaan Ozbay from New York University  
Yafeng Ying from University of Michigan  
Xiaopeng Li from University of Wisconsin-Madison  
Sisinnio Concas from University of South Florida

12:00-13:15 Lunchbreak

### Workshop 2: Three Pillars of Transportation Systems Management and Operations in the United States

To serve the Transportation Systems Management and Operations (TSMO) community, three initiatives led by the American Association of State Highway and Transportation Officials have taken shape over the last decade. These three pillars are the National Operations Center of Excellence, the Regional Operations Leadership Forum and the Transportation Operations Manual. Attendees will share similar programs from around the world, provide feedback, and discuss collaboration opportunities.

13:15-16:15

Room: 1.2

**Moderator:** Scott Marler from Iowa Department of Transportation (DOT)  
**Speakers:** Joseph Sagal from Maryland Department of Transportation  
Blaine Leonard from Utah DOT  
Shanté Hastings from Delaware DOT  
Brent Cain from Arizona DOT  
San Lee from Colorado DOT  
John Hibbard from Georgia DOT  
Jim Sturdevant from Indiana DOT  
Salvatore Cowan from New Jersey DOT  
Jennifer Portanova from North Carolina DOT  
Jianming Ma from Texas DOT  
Daniela Bremmer from Washington State DOT  
Tracy Scriba from U.S. DOT Federal Highway Administration

### Workshop 6: Ecosystems to Enable the Sharing of Electronic Messages and Data (C-ITS and more)

C-ITS service operation has started in Europe, pilot operation is reality in the US but it is still unclear if the current organizational structure is prepared for a permanent operation covering the whole transport infrastructure and all vehicles. Therefore, this workshop will especially focus on the ecosystems' needs for fully operational C-ITS service delivery. Additionally, there will be a focus on permanent operation of C-ITS services and specific technical and organizational management structures.

13:15-16:15

Room: Auditorium

Moderator:

Martin Böhm from AustriaTech

Speakers:

Kathrin Hagemann from IAV

Susanne Schulz from Die Autobahn GmbH des Bundes

Jacqueline Erhart from ASFINAG

Eric Rensel from Gannett Fleming

Kevin T. Miller from Southwest Research Institute

### Workshop 12: Transportation Emergency Management during Significant Events

Transportation operators from around the world will assemble to share their experiences, challenges, successes, and shortcomings in emergency management in response to significant events. The focus will be on a realm of significant events that require extraordinary operations, regionally coordinated actions and decisions, clear communications among public agencies and private service providers, and effective customer information. Significant events refer to external factors that disrupt typical transportation system operations and safety, such as severe weather (e.g. hurricane), natural disasters (e.g. flooding) and planned events (e.g. Olympics).

13:15-16:15

Room: 1.1

Moderator:

Alexander Chloupek from AustriaTech

Speakers:

Clarissa Han from NTRO / ARRB

Vlad Vorotovic from ERTICO

Fanis Papadimitriou from Attica Tollway Operations Authority

Philip Masters from Parsons

Dan Baxter from Parsons

Steve Cyra from HNTB Corporation

Matthias Friedrich from City of Vienna

### Workshop 16: Future Concepts for Managing and Operating the Surface Transportation System

According to the political objectives for climate protection at European level, the mobility system will change significantly by 2040. In addition to avoiding and shifting traffic, there will be a strong focus on improving transport and efficiency optimization of existing infrastructure. The focus of the workshop is to show and discuss the different implementations of the concepts in multiple EU countries, the US and the UK. Measures, which can improve traffic operations, implementation requirements, harmonize road design and legal requirements between different European countries regarding these measures will be discussed.

16:15-17:45

Room: 1.1

**Moderator:** Alexander Walcher from ASFINAG  
**Speakers:** Akira Mitsuishi from East Nippon Expressway Company Limited  
Nicolas Moronval from APRR / AREA  
François Jeanjean from APRR / AREA  
Martin Binder from ASFINAG  
Martin Knopp from Federal Highway Administration  
Matthias Zimmermann from Karlsruhe Institute of Technology

### Workshop 8: Sharing Mobility Data for Traffic Management (Mobility Data Spaces and Platforms)

Mobility data is created by many sources, such as dedicated equipment installed specifically for data collection, or as a by-product of human mobility behavior via car sensors or mobile phone tracking. To achieve progress in traffic management, the accessibility of up-to-date and dynamic mobility data will provide an evidence based foundation for planning, managing, and prognosticating the mobility of humans and goods. This will form the cornerstone for political, strategic, and operational traffic management measures. The NAPCORE project has the objective of harmonizing the provision and accessibility of these data categories with the governmental interest in service provision.

16:15-17:45

Room: Auditorium

**Moderator:** Damaris Anna Gruber from AustriaTech  
**Speakers:** Tobias Schleser from ASFINAG  
Matthew Juckes from Aimsun  
Wolfgang Schildorfer from FH Oberösterreich  
Lucie Kirstein from acatech – National Academy of Science and Engineering  
Annet van Veenendaal from Nationaal Toegangspunt Mobiliteitsdata  
Kevin T. Miller from Southwest Research Institute  
Timo Hoffmann from Bundesanstalt für Straßenwesen

17:45 End



## Tuesday, 27 June

08:00-09:00 Registration

### Plenary Session 1: Opening

09:00-09:45	Moderator:	Martin Russ from AustriaTech
Room: Auditorium	Speakers:	Beverly Kuhn from TRB Freeway Operations Committee
		Bill Halkias from Hellenic Association of Toll Roads Network
		Henriette Spyra from Austrian Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation & Technology
		Hartwig Hufnagl from ASFINAG
		Wolfgang Hribernik from Austrian Institute of Technology

### Plenary Session 2: Visioning Traffic Management's Future

09:45-11:00	Moderator:	Susanna Zammataro from International Road Federation Geneva
Room: Auditorium	Speakers:	Scott Marler from AASHTO
		Holger Erhardt from Yunex Traffic
		Christoph Stögerer from SWARCO AG
		Anouar Benazzouz from Moroccan Highways
		Mike Evans from ARUP

11:00-11:30 Break

### Session 1A: Collaboration and Added Value in Traffic Management

Traffic Management is now, more than ever, recognized to be the key to not only the fluidity of traffic but is also seen as the backbone for an efficient transport system. There is a common understanding that traffic cannot be managed by one actor alone but it is rather a matter of cooperation and understanding among stakeholders at strategic, operational and tactical levels. The priorities for managing traffic are to be set by the orchestrator and while this role should be reserved for the public authorities, a number of other stakeholders should also become aligned and support the targets set for the common good. The collaboration between the public and the private sector in managing traffic is set to provide added value for users, operators and the network as a whole. This Session will feature a panel of public and private actors who are already cooperating with stakeholders from a number of sectors towards deploying interactive traffic management based on the principles of co-opetition and trust (based on the TM 2.0 concept). The panelists will share their experience and lessons learned along with the challenges faced in deploying interactive traffic management.

11:30-13:00	Moderator:	Martin Böhm from AustriaTech
Room: City	Speakers:	Susanne Schulz from Die Autobahn GmbH des Bundes
		Christopher Hochmuth from HERE Technologies
		Tobias Schleser from ASFINAG
		John Hibbard from Georgia Department of Transportation

Track A

### Session 1B: Latest Advances/Emerging Technologies used for Managed Motorways

Managed motorways, also referred to as active traffic management (ATM) in certain geographies, is the concept managing traffic in a more “proactive” manner. This includes deployment of strategies such as variable speed limits, part-time shoulder use, dynamic lane assignment, queue warning, adaptive ramp metering, and reversible lanes among others. During this session you will hear from presenters that are implementing managed motorways/ATM using more advanced technologies and data sources.

11:30-13:00

Room: Auditorium

#### Track B

**Moderator:** Phil Masters from Parsons Corporation  
**Speakers:** Konstantinos Papandreou from Olympia Odos Operation SA  
Justin Geistefeldt from Bochum University  
Salvatore Cowan from New Jersey DOT  
Holger Erhardt from Yunex Traffic  
Fernando Ribeiro from Lindsay

### Session 1C: Assessing the Capabilities and Performance of Traffic Management Systems

This session will explore how essential it is to have information about the capabilities and performance to act on or incorporate efforts to enhance a traffic management system (TMS) into agency programs, plans, or allocation of resources. Takeaways from this session will include: issues to consider from assessments of TMSs into the planning, programming, and allocating of resources to improve the capabilities and performance of TMSs.

11:30-13:00

Room: 1.2

#### Track C

**Moderator:** Pete Marshall from HDR  
**Speakers:** Menno Malta from Monotch  
Sigrid Pirkelbauer from Bundesamt für Straßen ASSTRA  
Fabrizio Paoletti from Autostrade per l'Italia – DITD/BDO  
Brent Cain from Arizona Department of Transportation

### Session 1D: Traditional Public Transportation Finance vs. Concession Models

This session will explore the differences and benefits of financing transportation infrastructure projects and funding operations and maintenance through traditional public financial models versus the approach of engaging a private concession company to design, construct, operate and maintain transportation facilities. Takeaways from this session will include: tax policy and public acceptance factors; the role of business and policy objectives in shaping the preferred approach; considerations of risk tolerance and assignment of risks. Should Concession contracts be flexible to allow for integration of technological advancements?

11:30-13:00

Room: 1.1

#### Track D

**Moderator:** Bill Halkias from Hellenic Association of Toll Roads Network  
**Speakers:** Tim Hartwig from Hochtief PPP Solutions  
Morteza Farajian from USDOT Build America Bureau  
Nikolaos Gavrilis from Globalis Insurance Agents  
Cherian George from CG Infracap Strategies, LLC  
Cathal Masterson from Transport Infrastructure Ireland

13:00-14:15 Lunchbreak

### Kapsch TrafficCom: Sustainable Mobility Management for a Digitalized Road

The connected mobility ecosystem is changing how agencies manage and operate their transportation systems and enabling people to make smarter travel choices. This panel discussion will focus on emerging best practices and how to implement innovative technologies for making mobility safe, efficient, equitable, accessible and sustainable.

14:00-15:30

Room: City

**Moderator:** Jeff Adler from Kapsch TrafficCom  
**Speakers:** Bill Halkias from Hellenic Association of Toll Roads Network  
Estibaliz Baranano from Kapsch TrafficCom  
Justin Hamilton from Kapsch TrafficCom  
Nina Elter from NEWROAD Consulting

### Session 2A: Fulfilling Promises and Meeting User and Operator Needs

There is a multiplicity of specific demands in deploying traffic management, which make its balanced operation a challenging endeavor. Users demand a safe and efficient journey while operators wish to achieve balance in the system. The individual optimal may sometimes be misaligned with what is good for the public. For instance, a parent will wish to drop off his kids at the entrance of the school where safety is guaranteed in terms of other vehicles speeding on the same road, or a delivery truck may find it more convenient to enter the city center just before the morning opening hours. At the same time, the public authority managing traffic, has to ensure that geofencing the area in both of these cases prioritizes on safety and as a result neither the parent can enter the school zone by car not the delivery truck can follow an itinerary that routes it via the city center at this morning peak traffic hour. The promise of efficient traffic does not answer all demands at equal level and what is more, other modes of transport should also enter the picture contributing towards the balance of the mobility system in the area. This Session will feature panelists from the sector of Service providers and public authorities, who will share their experience is routing travelers through traffic and who abide to a variety of public authority set rules and demands in doing so. What does geofencing mean for them as operators and how do public authorities assign access limitations to areas within the mobility network. Both the challenges and also the benefits from synergies of action between the private and the public sector will be addressed in the Session discussion.

14:15-15:45

Room: 1.2

**Moderator:** Luca Studer from Politecnico di Milano  
**Speakers:** Manfred Harrer from ASFINAG  
Kristina Vuletic from TomTom  
Tomi Laine from Traficon Ltd  
Daniela Bremmer from Washington Department of Transportation  
Martin Pichl from Czech Ministry of Transportation

Track A

### Session 2B: Traffic Operations During Emergency and Severe Weather Events

Many agencies have faced challenges with emergency and severe weather events. This includes hurricanes, severe snowstorms, earthquakes, major hazmat spills, evacuation scenarios, etc. This session will be to discuss how freeway/tollway agencies manage/operate during these critical situations. You will hear about very specific emergency and weather events and the actions and systems that public agencies implemented to respond.

14:15-15:45

Room: 1.1

Moderator:

San Lee from Colorado DOT

Speakers:

Dimitris Mandalozis from Aegian Motorways

Fanis Papadimitriou from Attikes Diadromes S.A. ("Attiki Odos" - Attica Tollway Operations Authority)

Torgeir Vaa from Norwegian Public Road Administration

Jennifer Portanova from North Carolina Department of Transportation

Christos Karadimas from Olympia Odos Operation SA

Track B

### Session 2C: Planning for the Next Generation of Traffic Management Systems

This session will consider the value of planning efforts to identify the capabilities (e.g., functions, actions, and services), enhancements, and resources needed to improve the performance of traffic management systems (TMSs). Takeaways from this session will include: issues agencies may consider when planning for improvements or preparing a strategic plan to chart the future direction, goals, capabilities, and evolution of a TMS.

14:15-15:45

Room: Auditorium

Moderator:

Jon Obenberger from Federal Highway Administration

Speakers:

Patrick Hofman from Gemeente Helmond

Joey Sagal from Maryland Department of Transportation

Ahmad Jawad from D2 Traffic Technologies

Blaine Leonard from Utah DOT

Track C

### Session 2D: Congestion Pricing: Global Experiences on Traffic, Revenue, Investment, and Operations

This session will explore the experience of congestion pricing programs across the globe and their outcomes for traffic management, revenue generation, operational impacts, and revenue investment. Takeaways from this session will include: experience in congestion reduction; use of revenue to improve public transport; ability to sustain financial goals; evidence of improved system performance; cost to operate the system; policy goals (i.e., safety benefits, air quality improvements, etc.).

14:15-15:45

Room: 1.3

Moderator:

Andrew Fremier from Bay Area Toll Authority / Metropolitan Transportation Commission

Speakers:

Nick Wood from Texas A&M University

Tracy Scriba from Federal Highway Administration

Hannah van Amelsfort from Goudappel

Roberto Carrasco from Cintra

Track D

15:45-16:15 Break

### SWARCO: Preparing and Classifying the Road Infrastructure in terms of its Suitability for Automated Driving

The SWARCO workshop at the TRB ISFO conference in Vienna 2023 offers a unique platform for experts and stakeholders to delve into the crucial topic of preparing and classifying road infrastructure for the seamless integration of automated driving technologies. With a focus on the classification of infrastructure supporting wide-scale deployment of solutions, this workshop brings together thought leaders, industry pioneers, and policymakers to explore the challenges and opportunities associated with the transformation of road networks. Through engaging keynote speeches, collaborative working sessions, and insightful discussions, participants will navigate the intricacies of infrastructure readiness, data management, safety considerations, and policy frameworks, aiming to shape a future where automated driving thrives within a harmoniously adapted road infrastructure. This workshop promises to inspire innovative approaches, foster knowledge exchange, and establish potential pathways for follow-up actions, all aimed at revolutionizing transportation systems and paving the way towards a safer and more efficient era of automated driving. **If you are interested in participating, we kindly ask you to pre-register by sending an e-mail to [richard.neumann@swarco.com](mailto:richard.neumann@swarco.com) so that we can better calculate the number of participants.**

15:45-17:45

Moderator: Gonzalo Alcaraz from International Road Federation, Geneva

Room: City

Speakers: Bin Ran from University of Wisconsin at Madison  
Harald Mosböck from SWARCO AG  
Steve Penn from SWARCO AG

### Workshop 4: Integrated Mobility Management

Traffic Management must evolve into Automated Mobility Management. This is the shift from the management of volumes of vehicles to the management of the travelers and goods. The management task is to combine the need of going from A to B by certain constraints (arrival time ...) and preferences (price, travel time, comfort, safety...) with the capacity available and with a global optimization approach. This becomes even more complex if the whole, multi-modal, automated and multi-actor mobility offer is taken into account.

16:15-17:45

Moderator: Stefan Seer from Austrian Institute of Technology

Room: 1.3

Speakers: Johanna Tzanidaki from ERTICO  
Itir Coskun from SWARCO AG  
Sabine Kühschelm from CEDR  
Tamara Djukic from ERTICO  
Annet van Veenendaal from Nationaal Toegangspunt Mobiliteitsdata  
Martin Müllner from Verkehrsauskunft Österreich VAO GmbH

Track A

### Session 3B: Post COVID Safety Management

Despite greatly reduced traffic volumes in a post-covid world, accidents and fatalities have increased, which includes average vehicle speed increases and increases in driver distraction. This panel will investigate this issue and which policies, strategies and technologies that can and have been applied to address these issues. Included in this discussion are methods that agencies can deploy in future similar situations.

16:15-17:45

Room: 1.1

**Moderator:** Panos Prevedouros from University of Hawaii  
**Speakers:** Claire Depre from European Commission  
Carol Kuester from MTC - Metropolitan Transportation Commission  
Hatun Atasayar from Kuratorium für Verkehrssicherheit  
San Lee from Colorado DOT  
Preston Judkins from Parsons Corporation

#### Track B

### Session 3C: Collecting and Using Connected and Automated Vehicle Data to Manage Traffic

This session will explore the potential collecting, using, and sharing electronic messages with connected and automated vehicles (CAVs) may offer public agencies. Takeaways from this session will include: possible actions to enable traffic management systems sharing and using electronic messages (e.g., advisory, warning, regulatory) with CAVs in support of with using different operational strategies (e.g., ramp metering) to improve safety and mobility.

16:15-17:45

Room: Auditorium

**Moderator:** Shanté Hastings from Delaware Department of Transportation  
**Speakers:** Zuxuan Deng from Transportation Research Board, National Cooperative Highway Research Program  
Kaan Ozbay from New York University  
Markus Sihvonen from HAMK University of applied sciences  
Blaine Leonard from Utah DOT

#### Track C

### Session 3D: Distance-based Road Charging: A Solution for Declining Motor Fuel Tax Revenues?

This session will explore the declining financial contributions of motor fuel taxes with vehicle designs becoming more efficient and the growing transition to alternative fuels. Does the prospect of distance-based road-user charging fill the void and achieve transportation system objectives? Takeaways from this session will include: technological readiness, administrative costs, privacy, scalability, adapting to innovation and new technologies. The session will also touch upon implications for emissions, congestion mitigation, safety for motorists and vulnerable road users, etc.

16:15-17:45

Room: 1.2

**Moderator:** Susanna Zammataro from International Road Federation Geneva  
**Speakers:** Ansgar Kauf, Senior Expert for Innovative Mobility (economy, private participation & networks)  
Nina Elter from New Road Consulting  
Lauren Prehoda from California Department of Transportation  
Gerd Nees from Be Mobile  
Norbert Schindler from GNSS Consulting

#### Track D

17:45 End

## Wednesday, 28 June

08:00-08:30 Registration

### Workshop 5: Section Management - Efficient use of scarce infrastructure

Within the framework of this workshop, we want to discuss the technical feasibility of "Section or slot management" in road (freight) transport. There are only a few real "slot management" systems on street side. In most cases, these are inflow controls for parking lots, terminals, borders, construction site or ports. On other transport modes is section management standard. For example on railway (block spacing and train path allocation), in aviation (airway management) and tunnels (block handling). Furthermore, in Europe, there is the "Rollende Landstraße", semi-trailers are transported by train over longer distances - in Austria, for example, over the Alps, here the transporter has to reserve a "ticket" for his transport lot on the train. Another use case is traveling to and from tourist hotspots. We will discuss the technology on road (sensors, display panel, possibilities of using toll data etc.) or on the vehicle (position data, OBU) and possible booking and management options (mobile phone, internet, etc.) as well as infrastructure measures (preliminary parking lots, waiting areas). Another important aspect is the legal framework for "section management" (intervention in the free movement of goods in Europe, enforcement options) and the information deployment to the driver.

08:30-10:00

Moderator:

Alexander Chloupek from AustriaTech

Room: 1.1

Speakers:

Madis Sassiad from GoSwift

Markus Racz from Yunex Traffic

Vlad Vorotovic from ERTICO

Mario Lange from EBE Solutions GmbH

Michael Weber from Kapsch TrafficCom

Track A

### Workshop 11: Benefits and Challenges for Integrating Fleet Operations and Traffic Management

Currently, traffic management and fleet management decisions are made independent of each other – on strategic as well as on operational level. The future will head towards an integrated, cooperative approach where decisions in one field directly influence decisions in the other one (and vice versa). The goal of this workshop is to identify relevant stakeholders and branches and their possible interplay with traffic management. Furthermore, possible scenarios of integrated fleet and traffic management scenarios will be discussed.

08:30-10:00

Moderator:

Christian Ecker from Austrian Institute of Technology

Room: 1.2

Speakers:

Christoph Glauser from ArgYou AG

Daniel Lukasik from Parsons

Track B



#### Session 4C: Using New Sources of Data to Improve Traffic Management

This session will highlight the potential with using data from intelligent transportation systems, connected travelers, connected and automated vehicles, and third-party suppliers to enhance the management and operation of Traffic Management Systems (TMSs). Takeaways from this session will include: issues, challenges (e.g., proprietary data, data formats), policies, technologies (e.g., Application Programming Interfaces (APIs), data bases, software), and methods to allow TMSs to receive, process, archive, and use data from these sources.

08:30-10:00

Room: Auditorium

Moderator:

Gonzalo Alcaraz from IRF-Geneva

Speakers:

Nick Cohn, independent consultant

Manfred Harrer from ASFINAG

Jeroen Brouwer from TomTom

Jim Sturdevant from Indiana Department of Transportation

Track C

#### Session 5D: The Climate Imperative: Pricing and Finance Contributions toward Net Zero Transportation Goals

This session will consider how transportation pricing and finance decisions can contribute to net zero transportation operations. How user-payment principles can help lead the move from traditional roadways and facilities to sustainable mobility services. Takeaways from this session will include: the role of data and performance metrics in shaping program development and project priorities; pricing implications for managing indirect emissions; challenges of working with operations; risk assignment, analyses, and vulnerability assessments; cost of project finance; using asset management and for continuous improvement; the role of technology (electric vehicle charging infrastructure, autonomous vehicles, alternative fuels, etc.)

08:30-10:00

Room: City

Moderator:

Emanuela Stocchi from Italian Concessionaires Association

Speakers:

Malika Seddi from ASECAP

Tram Vo from MOBI

Miguel Melchor Garcia from Emovis/Abertis

Bernd Datler from ASFINAG

Track D

#### Special Session: Coffee with an expert

Students and young professionals get the chance to talk to international academic and industry experts.

08:30-10:00

Room: 1.3

10:00-10:30 Break



### Plenary Session 3: Improving the Value Proposition for Traffic Management & Student Award Ceremony

10:30-12:15	Moderator:	Valentina Galasso from PIARC's Technical Committee on Road Network Operations/ITS, Deloitte Consulting
Room: Auditorium	Speakers:	Angelos Amditis from ERTICO
		Andrew Fremier from Bay Area Transportation Authority, IBTTA
		Georg Kapsch from Kapsch TrafficCom
		Tiffany Vlemmings from DG MOVE
		John Hibbard from Georgia Department of Transportation

12:15-13:30 Lunchbreak

### Workshop 17: Traffic Management and Climate Neutrality

Integrating climate neutrality and traffic management has emerged as a solution supporting cities' environmental targets. With regards to mobility, high priority is placed on decarbonizing transport. The mobility industry is taking actions, not only with regards to the vehicle but also with a view on how the entire mobility system operations can support the final target of The Paris Agreement. The workshop will discuss the topics of climate targets integration in traffic management (planning and operations) as well as some of the measures and solutions on the market.

13:30-15:00	Moderator:	Johanna Tzanidaki from ERTICO
Room: City	Speakers:	Jop Spoelstra from Technolution
		Tamara Djukic from ERTICO
		Markus Racz from Yunex Traffic
		Karim Hesham Tarraf from Hawa Dawa/Bernard Group
		Dimitris Kourtesis from Ideas Forward
		Beverly Kuhn from TRB Freeway Operations Committee

Track A

### Session 5B: Use of Artificial Intelligence for Freeway and Tollway Operations

Artificial Intelligence (AI), including basic AI, machine learning (ML) and deep learning are in common use today throughout our world, this includes within transportation, e.g. autonomous driving vehicles and cell phone navigation applications. This session will explore how Artificial Intelligence technology has or can be used to improve freeway and tollway operations systems. This includes the use of cloud-based AI tools, predictive AI algorithms, machine vision, video analytics, and event prediction.

13:30-15:00	Moderator:	Alex Skabardonis from University of California Berkley
Room: Auditorium	Speakers:	Ran Katzir from Valerann
		Yinhai Wang from University of Washington
		Jeffrey Adler from Kapsch TrafficCom
		Mathias Halmetschlager from EFS Consulting
		Sascha Westermann from Fujitsu

Track B

### Session 5C: Managing Traffic Management System Assets and Resources

This session will explore the value and opportunities to use asset condition information to improve how agencies manage and operate traffic management systems (TMSs). Takeaways from this session will include: how the condition of TMS assets support agencies priorities (e.g., maintenance, repair, or replace devices), allocation of resources, day-to-day activities, planning for TMS improvements, or ultimate replacement of the system.

13:30-15:00

Room: 1.1

Moderator:

Speakers:

San Lee from Colorado DOT

Daniel Lukasik from Parsons

David Graham from Gannett Fleming

Steve Penn from SWARCO AG

Anna Huditz from Austrian Institute of Technology

Track C

### Session 4D: Tolled Motorways and Safety

The overall worldwide goals promoted by the United Nations and European Commission is to reach a vision zero roadway incident fatalities. This session will consider whether there are discernible differences in the safety between tolled motorways and roadways without tolls, and whether differences are due to the money available for safety investments or attention to managing operations actively. Takeaways from this session will include the role of: maintenance and asset management systems; communication campaigns to targeted audiences (e.g., old vs young driver behavior); government policies for traveler behavior (seatbelt laws, speed enforcement, anti-texting and distracted driving, helmet laws for vulnerable road users, etc.); operating strategies (i.e., active traffic management, ITS, service patrols, vision zero principles); connected vehicle technology (lane keeping, emergency braking, collision avoidance, vehicle black boxes).

13:30-15:00

Room: 1.3

Moderator:

Speakers:

Patrick Jones from IBTTA

Gilbert Konzett from Austrian Federal Ministry for  
Climate Action, Environment, Energy, Mobility,  
Innovation and Technology

Vassiliki Mylona from Road Safety Institute (RSI Panos  
Mylonas)

Angelos Bekiaris from Hellenic Institute of Transport

Robert Frey from Tampa Hillsborough Expressway  
Authority

Darren Henderson from GHD, Inc.

Track D

### Workshop 18: Managing Traffic for Planned Special Events

Planned special events influence economies, tourism, and community identity. Planned special events pose a unique and diverse set of challenges in maintaining transportation system safety, mobility, and reliability across interconnected streets, arterials, and freeways/tollways. Challenges include managing intense travel demand, mitigating capacity constraints, influencing travel choices, and accommodating parking demand and pedestrian flow. This session particularly focuses on reviewing proven strategies and presents the state-of-the-art in managing travel for planned special events. It opens by spotlighting leading resources to consult in planning for impacts and developing and executing action plans for effective transportation system operations.

13:30-15:00

**Moderator:** Faisal Saleem from National Operations Center of Excellence, AASHTO  
**Speakers:** Steven Latoski from Mohave County (Arizona) Public Works  
Matthias Friedrich from City of Vienna  
Tim Lomax from TrafficGuyTim, LLC  
Gino Franco from SWARCO AG

Room: 1.2

15:00-15:15 Break

### Session 3A: Innovative Methods for Sharing Data

Data sharing is key to enhanced traffic management. No one set of data and no one source of data can be solely used for the traffic management stakeholders to be able to have the full picture of what is really happening on the network. The NAPCORE Community in Europe is working under a dedicated EU funding line in order to coordinate and harmonize the structure of National Access Points (NAPs) in the EU, though which multiple sets of data from multiple sources can be accessed by any interested stakeholder. This is the largest cooperation scheme of mobility data platforms in the world and it is led by National Ministries for Transport in Europe. At the same time, the private sector is being requested to provide and make use of data offered in the NAPs while adjusting its business models accordingly. Can this be feasible when data quality is not defined? How can the private sector share data with NAPs without losing its competitive advantage? What are the lessons learned in Europe and what is the system in the US? Are all data sets to be treated in the same manner or are some data sets more important/shareable than others? This Session will discuss the experience and best practice from different countries, the potential for complementarity in activities that the various data sets offer and the potential that data offers for further innovation. The panel will feature both private and public stakeholders in traffic management who are currently very much involved in these discussions at a global level.

15:15-16:45

**Moderator:** Timo Hoffmann from NAPCORE/German Federal Highway Research Institute  
**Speakers:** Pedro Barradas from ARMIS Group/ITS Portugal  
Christian Kleine from HERE Technologies  
Jonas Matthias from Graphmaster GmbH  
John Hibbard from Georgia Department of Transportation  
Gino Franco from SWARCO AG

Room: 1.1

Track A

#### Session 4B: Digital Twinning for the Future of Freeway and Tolling Operations

Digital Twinning is a process in which a physical object, system or a being is recreated on a virtual interface. A fully developed digital duplicate is constructed in order for it to be used for future testing, development, and experimentation. Simply put, it is a digital replica. This session will explore the possibilities for freeway and tollway design and operations to take advantage of digital twinning.

15:15-16:45

Room: Auditorium

Track B

**Moderator:** Steve Phillips from Conference of European Directors of Roads  
**Speakers:** Kevin O'Connor from Parsons Corporation  
Gerhard Greiner from ALP.Lab GmbH  
Matt Juckes from Aimsun  
Yinhai Wang from University of Washington

#### Workshop 7: Intelligent Asset Management: Information-driven, integrated and sustainable towards the Future of Managing Traffic

Knowing your assets in depth is the foundation for managing and analyzing operational strategies and performance of traffic infrastructure. Choosing the right combination of data, sensors and tools is paving the way for an information-driven and integrated Asset Management that supports sustainable decision-making. For each one of the three pillars, key notes with practical examples will set the scene for the following panel discussion.

15:15-16:45

Room: City

Track C

**Moderator:** Sandra Ulrich from ASFINAG  
**Speakers:** Roland Spielhofer from Austrian Institute of Technology  
Christoph Antony from ASFINAG  
Steven Latoski from Mohave County Public Works  
Wolfgang Schildorfer from Logistikum FH Steyr

#### Workshop 15: Hubs for Transit Ride Sharing

In this interactive session we focus on inclusion with locally fine-tuned efficient multi-modal hub architectures and traffic management in a period of dynamically emerging new forms of mobility and sustainable transport modes. For some national authorities technology is instrumental for governing mobility and transport in heterogeneous environments. Not only economic efficiency and quality of service need to be considered when preparing innovative operational models but also environmental concerns and inclusion. The key research question is how stakeholders can proactively prepare locally fine-tuned efficient multi-modal hub architectures in a period of dynamically emerging new forms of mobility and sustainable transport modes.

15:15-16:45

Room: 1.2

Track D

**Moderator:** Marko Jandrisits from ASFINAG  
**Speakers:** David Kollenhofer from ASFINAG  
Matthias Neubauer from University of Applied Sciences  
Upper Austria  
Martin Nemec from ASFINAG  
Jürgen Strauss from ÖBB

#### Special Session: Coffee with an expert

Students and young professionals get the chance to talk to international academic and industry experts.

15:15-16:45

Room: 1.3

16:45-17:00 Break

**Plenary Session 4: Improving Traffic Management - Collaboration and Research Opportunities**

17:00-18:30

Room: Auditorium

Moderator:  
Speakers

Stefan Seer from Austrian Institute of Technology  
Johanna Tzanidaki from ERTICO  
Marjolein Masclee from RWS (Dutch Ministry)  
Jennifer Portanova from North Carolina DOT  
Jop Spoelstra from Technolution  
Patrick Jones from IBTTA  
Jon Obenberger from Federal Highway Administration,  
TRB ITS Committee  
Wolfgang Ponweiser from ECTRI

18:30 End

## Student Paper Award

During the Plenary Session 3 on Wednesday, 28 June 10:30-12:15 three students who proved themselves against their numerous peers in the Student Paper Competition will present their papers. The first place went to **Xuerun Yan from the Tongji University in China** with his work “A Simulation Platform for Truck Platooning Evaluation with Interactive Traffic Consideration”. **Chintaman Bari from the Sardar Vallabhbhai National Institute of Technology in India** addressed the “Establishment of Warrants for Electronic Toll Collection Lane Operations in India” and achieved the second place. **Junlan Chen from the Monash University in Australia** reached the third place with his paper “A Generative Deep Learning Approach for Highway Crash Severity Modeling with Imbalanced Data”.

## Poster Sessions

From Tuesday to Wednesday (27–28 June), you will also find posters in the foyer that have been submitted by individuals that want to provide an additional input to our four tracks. During lunchbreaks, those who are interested can participate in discussions with the respective authors of the posters. **Following posters have been submitted and accepted:**

The Smart 25 Managed Motorways Pilot Project – A Successful Demonstration of the Next Generation of Traffic Management Systems	
Author	Darren Henderson from GHD
Machine Vision for Roadway Maintenance	
Author	Sofia Clark from Blyncsy
Safety Aware Predictive Control Neural Network for Connected Automated Vehicle Operations	
Authors	Handong Yao from Harbin Institute of Technology at Weihai
	Qianwen Li from University of South Florida
Trajectory Prediction Dimensionality Reduction for Low-Cost Connected Automated Vehicle Systems	
Authors	Handong Yao from Harbin Institute of Technology at Weihai
	Qianwen Li from University of South Florida
The use of disparate data sources deep fusion for optimal and accurate real-time situation awareness in road traffic monitoring and management	
Authors	Tsz Hei Choi from Valerann
	Ran Katzir from Valerann
Setting an Intelligent Decision Support System for Agency Traffic and Operation Management	
Authors	Sisinnio Concas from Center for Urban Transportation Research
	Robert Frey from Tampa Hillsborough Expressway Authority
	Anna Quinones from Tampa Hillsborough Expressway Authority
	Stephen Novosad from Tampa Hillsborough Expressway Authority
	Steve Cyra from Tampa Hillsborough Expressway Authority

All you need is data: the added value of National Access Points as backbone European ITS data exchange infrastructures	
Authors	Evangelos Mitsakis from CERTH-HIT
	Chrysostoms Mylonas from CERTH-HIT
	Maria Stavara from CERTH-HIT
Real-time Automation of Winter Road Surface Conditions Recognitions using Deep Learning and Road Weather Information Systems	
Authors	Tae J. Kwon from University of Alberta
	Mingjian Wu from University of Alberta
Can drivers be competent to the existing design of semi-direct off-ramps after takeover? A driving simulation study	
Authors	Zijian Lin from Tongji University
	Feng Chen from Tongji University
	Hongchao Zhang from Tongji University
	Chen Li from Tongji University
Application Effect of Self-luminous Variable Road Marking in Freeway Confluence Area Based on Lane Change Behavior Intervention	
Authors	Chen Li from The Key Laboratory of Infrastructure Durability and Operation Safety in Airfield of CAAC, Tongji University
	Feng CHEN from Tongji University
	Hongchao Zhang from The Key Laboratory of Infrastructure Durability and Operation Safety in Airfield of CAAC, Tongji University
	Zijian Lin from Tongji University
Enable Intelligent Vehicles to Avoid Crashes due to View Blocking	
Authors	Quan Yuan from Tsinghua University
	Jiangqi Zhu from Fada Institute of Forensic Medicine & Science, China University of Political Science and Law
	Yiwei Gao from Fada Institute of Forensic Medicine & Science, China University of Political Science and Law
	Yang Yu from Fada Institute of Forensic Medicine & Science, China University of Political Science and Law
	Wei Ji from Fada Institute of Forensic Medicine & Science, China University of Political Science and Law
	Shengnan Yu from Fada Institute of Forensic Medicine & Science, China University of Political Science and Law
Cooperative control and optimization for connected signalized intersections using mixed-integer linear programming models	
Authors	Jianguang Huo from SUTPC
	Zujian Wang from SUTPC
	Zhenwu Chen from SUTPC
	Yong Zhou from SUTPC
	Xiaochun Zhang from SUTPC
	Yu Wang from SUTPC
	Jie Peng from SUTPC

Inferring Causal Effects of Crashes on Highway Traffic: A Novel Causal Machine Learning Approach	
Authors	Shuang Li from Southeast University
	Ziyuan Pu from Monash University
	Zhiyong Cui from Beihang University
	Guo Xiucheng from Southeast University
	Yinhai Wang from University of Washington
Reimagining Freeway Traffic Management with Flexible Travel Lane Configuration	
Author	Smita Sharma from Lindsay
Congestion pricing acceptability: how to win the audience	
Authors	Draženko Glavić from University of Belgrade, Faculty of Transport and Traffic Engineering
	Marina Milenković from University of Belgrade, Faculty of Transport and Traffic Engineering
	Jelica Komarica from University of Belgrade, Faculty of Transport and Traffic Engineering
	Aleksandar Trifunović from University of Belgrade, Faculty of Transport and Traffic Engineering
Predict temporal variation of daily travels based on a time-frequency transform method	
Author	Zhong Zheng from Beijing Normal University
A framework for integrated analyses of operations and safety on freeways	
Author	Fabio Sasahara from University of Florida
	Seyedbehzad Aghdashi from University of Florida
	Shen Dong from University of Florida
	Jeremy Gluck from University of Florida
	Gustavo de Andrade from University of Florida
	Karla Rodrigues Silva from University of Florida
Map-Based Digital Twinning for Freeway System Planning	
Author	Seyedbehzad Aghdashi from McTrans Center
	Shen Dong from McTrans Center
	Guoqian Yan from McTrans Center
	David Nazef from McTrans Center
Why do government policy matter in predicting MaaS adoption intention in China?	
Authors	Tianpei Tang from Nantong University
	Feng Chen from Tongji University
	Quan Yuan from Tsinghua University
	Yuntao Guo from 同济大学
	Meining Yuan from Nantong University
Festival Traffic Volume Forecast of Toll Stations on Freeway under Abnormal Traffic Demand Conditions	
Authors	Luo Jiachen from SUTPC
	Zhang Xiaochun from SUTPC
	Zhou Yong from SUTPC
	Chen Zhenwu from SUTPC
	Wang Yu from SUTPC



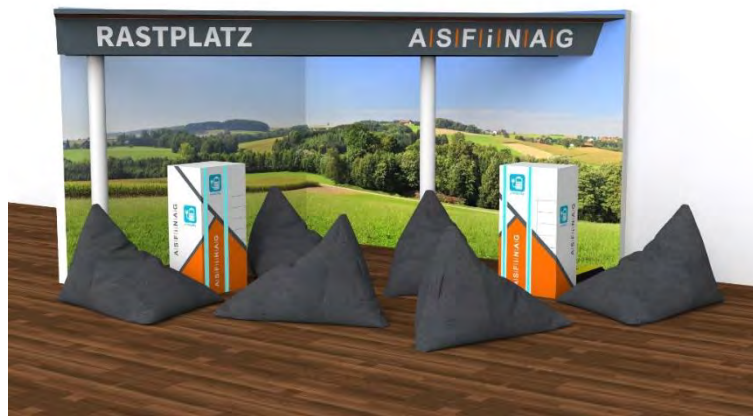
	Peng Jie from SUTPC
Potentials for Modal Shift through HOV/HOT Lanes in Germany	
Authors	Thomas F. Schönhofer from TU Munich
	Bernd Kaltenhäuser from Baden-Württemberg Cooperative State University
	Klaus Bogenberger from TU Munich
Evaluation Research on Park&Ride Facilities from Carbon Emission	
Authors	Jing Liu from Beijing Transport Institute
	Hongzhi Guan from Beijing University of Technology
	Tao Li from Research Institute of Highway Ministry of Transport
Quantifying Multimodal Metrics of Performance on Arterial Corridors Using ITS Data	
Author	Bassil Maria from The University of Texas at Austin
Conceptual Framework for Distance-Based Dynamic Toll Pricing for Mixed Traffic Conditions	
Authors	Dhamaniya Ashish from Sardar Vallabhbhai National Institute of Technology Surat
	Chintaman Bari from Sandip Institute of Technology and Research Centre
	Shubham Gupta from Aakash Education Services Limited
Impacts of Compliance Factor and Penetration Rate on Performance of Urban Arterial Roads Under Mixed Traffic Conditions	
Authors	Susilawati Susilawati from Monash University Malaysia
	Kishore Kirubananthan from Monash University Malaysia
	Ziyuan Pu from Monash University Malaysia
	Hup Seong Liew from Monash University Malaysia
Technology for Enhancing Safety in Traffic Incident Management	
Authors	Samia Rubaiat from HNTB
	Rakesh Sharma from HNTB
How Managed Lanes in USA Performed During COVID-19? A Case Study from 95-Express in South Florida	
Author	Md Sakoat Hossan from WSP USA
Identification and Evaluation of Critical Urban Freight Corridors	
Author	Evangelos Kaisar from Florida Atlantic University
Simulating multi-modal transportation network ridership interaction during earthquake emergency disruptions and recovery	
Authors	Bingyu Zhao from TU Wien
	Tianyu Han from University of California, Berkeley
	Kenichi Soga from University of California, Berkeley
	Yili Tang from University of Regina
Linking the green transition and sustainable toll road financing	
Author	Emilija Erent from DARS
Traffic Operation and Safety of Freeway Weaving Segments in Germany	
Authors	Alexander Brandenburg from Institute for Traffic Engineering and Management, Ruhr University Bochum
	Julian Sauer from Institute for Traffic Engineering and Management, Ruhr University Bochum

	Justin Geistefeldt from Institute for Traffic Engineering and Management, Ruhr University Bochum
Utilizing Flexible Lane Management to Improve Intersection Traffic Control: A Review of Recent Research Advances	
Authors	Aleksandar Z. Stevanovic from University of Pittsburgh
	Zhenxu Hu from University of Pittsburgh
	Nikola Mitrovic from CHA
	Farzaneh Azadi from University of Pittsburgh
Location Optimization of Changeable Message Signs for improved Traffic Management	
Authors	Nathan H. Gartner from Ariel University
	Sushma Srinivas from AECOM
	Yuanchang Xie from University of Massachusetts Lowell
	Chronis Stamatiadis from University of Massachusetts Lowell
Attractiveness of on-demand transport systems: users' satisfaction	
Authors	Roxani Gkavra from University of Natural Resources and Life Sciences, BOKU, Vienna
	Roman Klementsitz from University of Natural Resources and Life Sciences, BOKU, Vienna
	Yusak Susilo from University of Natural Resources and Life Sciences, BOKU, Vienna
The Future of Trucking: Remote Operation of Automated Trucks on Freeways	
Authors	Cesar Luis Andriola from University of Wisconsin-Madison
	David Noyce from University of Wisconsin-Madison
	Madhav Chitturi from University of Wisconsin-Madison
Network-wide Short-term Traffic Speed Prediction Using Deep Neural Networks	
Authors	Hao Yang from McMaster University
	Ali Ardestani from McMaster University
FDOT V2X DEP Program	
Authors	Raj Ponnaluri from Florida Department of Transportation
	Dahiya Rupender from HDR
Spatio-Temporal Prediction of Freeway Congestion Patterns Using Neural Networks -- A Conceptual Approach	
Authors	Barbara Metzger from TU Munich
	Klaus Bogenberger from TU Munich
	Lisa Kessler from TU Munich
Adaptive Lane Width Approach To Improve Traffic Condition At Freeway Weaving Sections	
Authors	Athanasia Karalakou from TU Munich
	Majid Rostami Shahrabaki from TU Munich
	Klaus Bogenberge from University of Canterbury
	Mehdi Keyvan-Ekbatani from TU Munich
Observing the Impacts of Dynamic Message Sign Content and Road Geometry on Freeway Speed Choice Using Connected Vehicle Data	
Authors	Christopher Day from Iowa State University
	Dorcas Okaidjah from Iowa State University

A Sensitivity Analysis of Freeway CAV Platooning Parameters to use in Microsimulation	
Author	Saumik Sakib Bin Masud from The University of Kansas
Leveraging Machine Learning Algorithms To Predict And Analyze Single-Vehicle And Multi-Vehicle Crash Occurrences On Freeways, And Optimizing Highway Design Parameters To Reduce Both Types of Crashes	
Author	Saumik Sakib Bin Masud from The University of Kansas
An Analytical Framework for Managing and Analyzing Operational Strategies and Performance	
Authors	Montasir Abbas from Virginia Tech
	Filmon Habtemichael from Battelle Memorial Institute
Utilizing the Pillar Diagram for Analysis, Modeling, and Simulation of Cooperative Automated Vehicle Applications in Transportation Systems	
Authors	Montasir Abbas from Virginia Tech
	David K Hale from Leidos, Inc.
User cost-based analysis of shared autonomous vehicles (SAV) and public transport	
Authors	Susilawati Susilawati from Monash University Malaysia
	Gan Wei Heng from Monash University Malaysia

## Recharge at ASFINAG Rastplatz

During the event, our partner ASFINAG offers a relaxing area where you can recharge, network, and take a break from the excitement of the event. Whether you're feeling a bit tired, want to have a casual conversation, or simply need a moment of tranquility, the lounge is the perfect spot for you. At the Rastplatz, you will find comfortable seating and charging stations for your devices. Enjoy the atmospheric view to the hills of Austria.



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## Learn more about Tunnel Projects go digital

Yunex Traffic Digital Twin solution presents a virtual reality visualization of tunnels, achieved through the integration of BIM, traffic and asset management systems, as well as traffic simulation. VR experience has an impact on decision making and overall understanding of the project.



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## Side events

Monday, 26 June

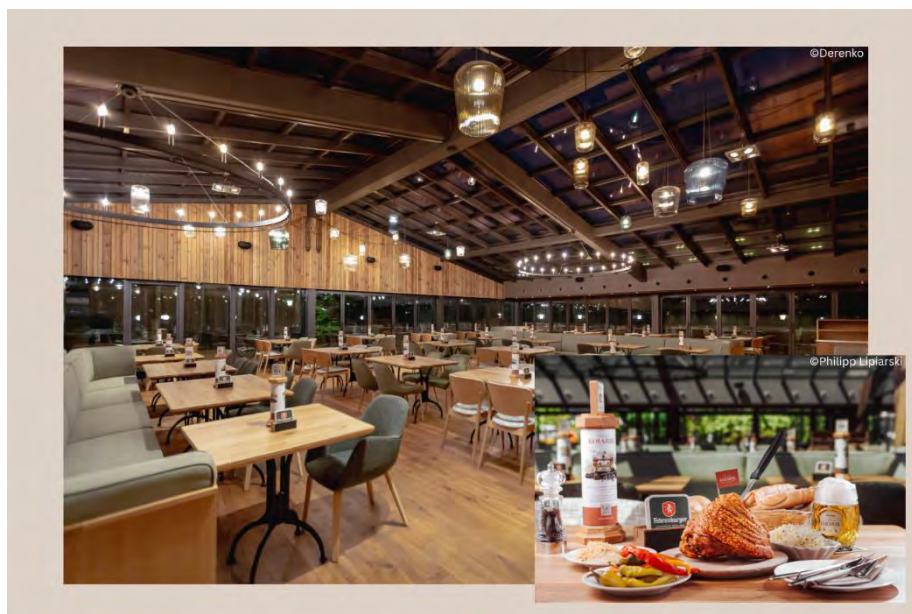
Technical Tours addressing Traffic Management System and ITS

Information related to the Technical Tours can be found [here](#).

Tuesday, 27 June, 18:30

Networking Dinner at Luftburg

This year's TRB ISFO participants can join a Networking dinner at Luftburg. This restaurant does not only serve everything from traditional Viennese cuisine to vegetarian and vegan dishes and drinks in 100% organic quality but is also located in the world famous "Wiener Prater" amusement park.



f.l. ©Derenko ©Philipp Lipiarski

Technical Tours addressing Traffic Management System and ITS

Information related to the Technical Tours can be found [here](#).

Wednesday, 28 June

Technical Tours addressing Traffic Management System and ITS

Information related to the Technical Tours can be found [here](#).

Thursday, 29 June

2 <sup>nd</sup> ASECAP Sustainability Forum (separate registration)	
The Second ASECAP Sustainability forum will address scenarios for road decarbonisation, actions to reduce CO2 emissions in road management and operation including contractors as well as steps to reach the sustainability aims. The focus will also be on how to reduce Scope 3 emissions related to suppliers with impact on tendering process, costs and contract issue. Following questions will also be discussed: “How to ensure the resilience of the road infrastructure for new challenges?”, “How to approach the EU Taxonomy, which sectoral activities should be considered as taxonomy eligible and which as taxonomy aligned?”, “How do climate change adaptation solutions, that motorway operators will have to fulfil in order to prepare their infrastructure for climate change, need to be deployed and interpreted?”. Moreover new TEN-T regulation and future Alternative Fuels infrastructures will be discussed.	
When: 09:00-17:00	Where: Auditorium, TechGate Vienna
<a href="#">REGISTER HERE</a>	

Joint Meeting: TRB ACP20 – Freeway Operations Committee Meeting & TRB Research Board Standing Committee on ITS	
When: 16:00-18:00	Where: AustriaTech, Raimundgasse 1/6, 1030 Vienna

Friday, 30 June

Technical Tours addressing Traffic Management System and ITS
Information related to the Technical Tours can be found <a href="#">here</a> .

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## Transportation Research Board Committees and Council

Freeway Operations Committee (ACP20)  
Artificial Intelligence and Advanced Computing Applications Committee (AED50)  
Intelligent Transportation Systems Committee (ACP15)  
Active Traffic Management Joint Subcommittee (ACP20-5)  
Managed Lane Committee (ACP35)  
International Coordinating Council (A0020C)



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