



Transportation Association of Canada

Lessons in **2023** **LEADERSHIP**

CONFERENCE & EXHIBITION

**CALL FOR
PRESENTERS**
Guide

24-27 SEPT • OTTAWA



2023

Lessons in

LEADERSHIP

CONFERENCE & EXHIBITION

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#TACCONF

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INTRODUCTION

The **Transportation Association of Canada (TAC)** is soliciting submissions for the 2023 TAC Conference & Exhibition Technical Program.

BE A PRESENTER

Submit a 200- to 400-word abstract
to be reviewed by a TAC council or committee member.

IF YOUR ABSTRACT IS ACCEPTED

You will be required to **submit a presentation, paper and/or poster** depending on the requirements of that technical session (see session descriptions below). Submissions will be reviewed by a TAC council or committee member.

IF YOUR SUBMISSION IS ACCEPTED

You are expected to present in person at the Conference in September 2023.

For more information on submission requirements, submitters are encouraged to read the [Guidelines for Preparing Presentations, Papers and Posters](#).

Session organizers may invite an author to submit a poster rather than a presentation; this is most likely to occur when too many submissions are proposed for a given session. When posters are requested, papers are optional unless they are a requirement of that technical session (see descriptions below).

IMPORTANT INFORMATION

- **Submissions must:**
 - **Be submitted using TAC's [conference submission portal](#).** When submission is completed, an email confirmation is sent.
 - **Be substantially different** from any papers or presentations delivered through other organizations.
 - **Not favour special interests, be of a commercial nature, or promote a proprietary product or service.**
- **Submissions will be reviewed for quality, format, relevance** to the session topic, and general interest.
- **Submitters must confirm that their employer and/or related clients are aware and approve of the submission.**
- **Submitters not adhering to deadlines may be disqualified.**
- Submitters are responsible for ensuring that all relevant account details and information are correct and current.
- **Presentations during the conference will be recorded** and made available by TAC as it sees fit.
- Papers whose principal author is a registered full-time student at a recognized post-secondary institution may be considered for a [Student Paper Award](#). **This option must be selected when the abstract is submitted.**
- **Presenters must register for the conference, pay to attend as a delegate, and accept any and all costs to participate.**
- **A maximum of two presenters may co-present any one presentation during the conference.**
- **Accepted papers will be published** on [TAC's 'Conference Papers' webpage](#), catalogued in [TAC's Library](#) and the [Transportation Research International Database \(TRID\)](#).



KEY DATES

STEP	DATE
Call for abstracts ends	January 30
Abstract notification issued to authors	Mid-March
Submission (draft presentation, paper (as required) or poster) DUE	April 24
Submitters notified	Mid to late June
Revised submission (as required) DUE	July 11
Presentation schedule communicated	Early August
Last day to make presenter/author detail changes	September 1
FINAL presentation, paper (as required) or poster DUE	September 14

WITHDRAWALS

Submission withdrawals must be requested in writing to [Christina Ghazal](#), Meetings & Events Coordinator.

QUESTIONS?

Christina Ghazal

Meetings & Events Coordinator | cghazal@tac-atc.ca | 613-736-1350 x236



SESSION TRACKS

The conference technical program includes topics related to road and highway infrastructure and urban transportation, all while supporting the conference theme:

Lessons in Leadership

In times of rapid change, leadership and innovation are key. How is Canada's transportation sector responding to transformative challenges in areas like safety and security, mobility, equity, technology and climate change resiliency? The conference will showcase lessons learned as organizations break new ground as they seek – and find – bold transportation solutions.

Session topics are organized into six tracks reflecting [TAC's strategic focus areas](#) which are also aligned with [TAC's councils](#), described in the table below. **Please review all sessions carefully. Many involve two or more tracks, as shown by the coloured icons next to the session descriptions.**

TRACK	TAC COMMITTEES ORGANIZING SESSIONS
 ENVIRONMENT & CLIMATE CHANGE	<ul style="list-style-type: none"> • Climate Change Integrated Committee • Environmental Issues Committee • Environmental Legislation Committee 
 INFRASTRUCTURE & ASSET MANAGEMENT	<ul style="list-style-type: none"> • Asset Management Committee • Construction Committee • Maintenance & Operations Committee • Pavements Committee • Soils & Materials Committee • Structures Committee 
 MOBILITY	<ul style="list-style-type: none"> • Active Transportation Integrated Committee • Mobility Management Committee • Transportation Finance Committee • Transportation Planning Committee 
 SAFETY, DESIGN & OPERATIONS	<ul style="list-style-type: none"> • Geometric Design Committee • Road Safety Committee • Small Municipalities Integrated Committee • Traffic Operations & Management Committee 
 TECHNOLOGY	<ul style="list-style-type: none"> • Connected & Automated Vehicles Integrated Committee • Digital Applications Committee • Intelligent Transportation Systems Committee 
 WORKFORCE DEVELOPMENT	<ul style="list-style-type: none"> • Education Committee • Human Resources Committee • Professional Development Committee 



ENVIRONMENT & CLIMATE CHANGE



ORGANIZED BY THE CLIMATE CHANGE INTEGRATED COMMITTEE

Climate Action Case Studies

Presentation Session (Papers Optional)

ENV

This session will explore Canadian climate actions for either mitigation or adaptation in the transportation sector, and will present case studies that showcase challenges and successes in real-world situations. Submissions could range from small municipal initiatives to those at the provincial or national level, and should focus on the lessons learned and wisdom gained through the experience of leaders.

INFRASTRUCTURE & ASSET MANAGEMENT



ORGANIZED BY THE ASSET MANAGEMENT COMMITTEE

Emerging Asset Management Classes and Maturity

Presentation Session (Papers Optional)

INF

While many asset classes are encompassed by an agency's asset management system, there are typically insufficient resources to handle them all and insufficiently mature condition and prediction data to use proper asset management principles. Lessons learned from how various mature asset classes have evolved can help us apply best practices to emerging asset classes. This session will consider how asset managers can apply knowledge about the maturity of existing assets to the management of emerging asset classes.

Incorporating Climate Change into Asset Management

Presentation Session (Papers Optional)

INF

This will be run as a panel session with presentations; the session organizer will communicate directly with authors, who should be prepared to participate in a panel discussion.

ENV

In-place civil infrastructure assets (e.g. roads, railways, ports, aerodromes, utilities, pipelines) are currently managed by a process of planned maintenance, renewal and replacement based on predicted loss of capacity (through deterioration) relative to demand. Many of these assets were designed and installed at a time of less-frequent extreme weather events, and might be at an increasing risk of failure due to these events. This session will explore methodologies and/or case studies for addressing the combination of loss of capacity and extreme weather events in the preservation/enhanced resiliency of these assets.



Innovations in Asset Management with a Focus on Multi-Asset Systems

Presentation Session (Papers Optional)

INF

This session will highlight innovations in asset management. Submissions could address topics including, but not limited to:

- Data, data collection and reporting
- Tools and technology to aid decision making
- Performance measures for asset management
- Establishing and monitoring asset management plans
- Implementation within organizations
- Managing assets for a resilient future
- Effectively communicating asset management
- Renewal and rejuvenation of aging infrastructure

Leadership and Culture in Asset Management

Presentation Session (Papers Optional)

INF

This will be run as a panel session with presentations; the session organizer will communicate directly with authors, who should be prepared to participate in a panel discussion.

WOR

This session will focus on how to successfully build a culture of asset management in your organization and will address how organizations have embedded asset management practices across the organization, as opposed to just within the asset management team. The focus of this session includes:

- Asset Management Leadership: How leaders impact asset management culture and success? How to get senior management and political leaders to embrace asset management practices?
- Asset Management Learning and Awareness: Successful strategies to build asset management knowledge, understanding and awareness across your organization. Could include learning and development plans, competency frameworks for transportation staff.
- Culture: How to establish a culture of asset management? How to move from a siloed approach to asset management to a centralized and coordinated approach? How can we manage this change?

ORGANIZED BY THE CONSTRUCTION COMMITTEE

Utility Coordination in Various Delivery Models

Organized by the Utilities Management Subcommittee

Presentation Session (Papers Optional)

INF

This session will explore utility coordination innovations in several capital project delivery models (e.g. Design-Bid-Build, Design-Build, P3, Alliance) through the use of case studies—what went well, what challenges were encountered, and what lessons were learned. A panel discussion will follow, with industry experts sharing their knowledge.



ORGANIZED BY THE MAINTENANCE & OPERATIONS COMMITTEE

Innovations in Summer and Winter Maintenance

Presentation Session (Papers Optional)

INF

This session will explore projects that address challenges in summer and winter maintenance operations, and share those experiences to increase effectiveness and efficiency of operations and/or reduce environmental impacts. Submissions could address topics such as workforce acquisition, supply chain management, new equipment, new products or procedures, COVID impacts and opportunities, active transportation, route optimization, Indigenous opportunities, pavement markings, mowing, or artificial intelligence. New initiatives/systems, pilot projects, case studies and lessons learned are of interest.

Maintenance Standards for Active Transportation Infrastructure

Presentation Session (Papers Optional)

INF

This session will explore maintenance standards for active transportation facilities. Submissions could address responses to public and political pressure to modify the level of service, innovative and standard methods of maintenance, fiscal and legal challenges, and future directions. They could also address operational diversity and maintenance responses, consistent standards and legal alignment, and hesitation to create standards.

MOB

ORGANIZED BY THE PAVEMENTS COMMITTEE

Innovations in Pavement Management, Engineering and Technologies

Presentation Session (Papers Required)

INF

Submissions could address:

- Innovative designs, tools, techniques or technologies applied to pavement management or pavement engineering
- Case studies presenting projects involving unique challenges in pavement management or engineering
- Pavement management/maintenance, design, or methods of best practices

ORGANIZED BY THE SOILS & MATERIALS COMMITTEE

Green Technology in Roadway/Embankment Materials and Geotechnical Engineering

Presentation Session (Papers Required)

INF

This session will explore green technology in roadway/embankment materials and geotechnical engineering. Submissions could address:

ENV

- Recycling and incorporating recycled materials
- Alternative materials for road construction
- Quantifying greenhouse gas emissions for roadway/embankment materials
- Energy and greenhouse gas emission reductions through innovative use/design of materials
- Durable construction materials that increase design life
- Field performance of products/methods using recycled vs. traditional materials



Innovation in Roadway/Embankment Materials and Geotechnical Engineering

Presentation Session (Papers Required)

INF

This session will explore innovations in roadway/embankment materials and geotechnical engineering. Submissions could address:

ENV

- Advancements in design and construction of road and bridge embankments
- Incorporating climate change considerations for geotechnical and pavement materials engineering
- Application of trenchless technology in constructing new infrastructure under existing roadways
- Remote sensing and drone use for geotechnical engineering

Testing and Modelling of Roadway/Embankment Materials and Geotechnical Engineering

Presentation Session (Papers Required)

INF

This session will explore testing and modelling of roadway/embankment materials and geotechnical engineering. Submissions could address:

- Innovative testing and modelling of embankment and road materials, including unbound and bound soil, geosynthetics, and bituminous and Portland cement-based materials
- Development of estimation models for mechanical properties of pavement materials
- Assessment and use of frost and moisture susceptibility
- Seasonal variation in mechanical properties of soil and pavement materials
- Case studies summarizing road and/or embankment construction projects with challenges and respective solutions applied
- Lessons learned from difficulties encountered in road and/or embankment construction
- Long-term performance evaluations of roads and/or embankments and lessons learned

ORGANIZED BY THE STRUCTURES COMMITTEE

Transportation Structures

Presentation Session (Papers Required)

INF

This session will explore case studies and technical advice related to experiences in bridge analysis and design, construction, rehabilitation, management and inspection.



MOBILITY

ORGANIZED BY THE ACTIVE TRANSPORTATION INTEGRATED COMMITTEE

The Active Transportation Integrated Committee seeks to host diverse and inclusive conference sessions. Women and those who identify as a visible minority, non-cisgendered person, Indigenous person, or member of any other underrepresented group, are invited to self-identify when submitting an abstract.

Active Transportation in Small Municipalities and Rural Areas

Presentation Session (Papers Optional)

MOB

This session will educate and inform attendees about current and emerging practices for planning, designing and managing active transportation in small municipalities or rural contexts. For this session, small municipalities are characterized by a rural environment, the absence of regional transportation planning, and a lower population density. Submissions could address:

SAF

- Active transportation objectives that include commuting, recreation, tourism and economic development
- Active transportation initiatives from small municipalities/towns and Indigenous/First Nations communities
- Case studies or guidance for active transportation facilities near rural roads/highways
- Active transportation planning to connect communities

Addressing the Other Barriers to Active Transportation

Presentation Session (Papers Optional)

MOB

If you build it, they will come... yet even as sidewalk and bikeway networks expand, other barriers to active transportation remain. This session will focus on removing those barriers to accommodate and encourage potential active mode users. Submissions could address:

SAF

- Integrating pathways/amenities at transit stations, transit-oriented development, new multi-residential development, and development retrofits such as entrance orientation, accessible and direct pathways, and parking for non-standard bicycles (e-bikes, cargo bikes, bike trailers)
- Crossing built or natural barriers such as interchanges, underpasses, railways, ravines and creeks
- Legislation that enables active transportation trips or supportive design (e.g. micromobility, Highway Traffic Act amendments for bicycle signals)
- Amending warrants for active transportation facilities (e.g. pedestrian crossings, multimodal level of service standards)
- Integrated land use and transportation planning to support accessible 15-minute cities



Cycling Solutions: Overcoming Challenges through Design

Presentation Session (Papers Optional)

MOB

While cycling infrastructure has evolved greatly over the past decade, design practices continue to seek to overcome new challenges and barriers to safe cycling infrastructure – and design treatments are often implemented before formal design guidance is available. Submissions could address:

SAF

- Designs for elements that are beyond available guidance
- Designs for crossing facilities
- Designs at interchanges
- Innovations to improve operations and safety
- Solutions that overcome challenges and barriers to implementing cycling infrastructure
- Designing for interactions between cyclists and pedestrians, motor vehicles and transit

ORGANIZED BY THE MOBILITY MANAGEMENT COMMITTEE

Influencing Travel Behaviour through TDM—Effective Approaches

Presentation Session (Papers Optional)

MOB

Cities are encouraging increased use of transit, active transportation and flexible work to help reduce greenhouse gas emissions, enhance equity, and improve safety. By incentivizing preferred travel behaviours, transportation demand management (TDM) supports these goals and helps maximize the value of investments in sustainable transportation infrastructure. This session will:

- Highlight TDM approaches in Canadian jurisdictions
- Quantify the benefits of TDM measures
- Help jurisdictions determine the most effective TDM approaches for their context

Electric Vehicle Charging

ORGANIZED IN PARTNERSHIP WITH THE CLIMATE CHANGE INTEGRATED COMMITTEE

Presentation Session (Papers Optional)

MOB

Electrification of transportation is becoming a priority for all levels of government. The widespread adoption of EVs will require large-scale installation of public and private charging infrastructure, and many local and regional governments are working to meet rapidly changing needs. This session will explore lessons learned in the development of EV strategies and deployment of charging infrastructure, and submissions could address:

ENV

- Development and implementation of EV strategies
- Public and private deployment responsibilities and operating models
- Selecting EV charging locations and balancing on-street/off-street charging
- Emerging issues such as curb space management, permitting/licensing strategies, and managing public perceptions
- Documented guidance or best practices



ORGANIZED BY THE TRANSPORTATION FINANCE COMMITTEE

CapEx, OpEx & New Models: Funding, Financing and Delivering Transportation Systems in Changing Times

Presentation Session (Papers Optional)

MOB

This session will highlight lessons learned and case studies of innovative models, tools and techniques related to:

- Transportation infrastructure financing and alternative procurement models – e.g. P3, alliance
- Infrastructure program funding structures and requirements – e.g. capital investment planning, state-of-good-repair backlogs, operating budget shortfalls, future of gas tax revenue
- Mobility pricing – e.g. best practices, building public support
- Transportation governance in metropolitan areas – e.g. jurisdictional/modal integration, mobility-as-a-service

Sustainable Transportation Infrastructure: From Strategy to Maintenance

Presentation Session (Papers Optional)

MOB

This session will explore key dimensions of social, environmental and economic sustainability of transportation infrastructure, ranging from strategy to design, construction, operation and maintenance.

ENV

Submissions could address:

- Evaluating the sustainability of transportation projects
- Implementing sustainable transportation assets
- Policies, standards and regulations
- The roles of government and the private sector

ORGANIZED BY THE TRANSPORTATION PLANNING COMMITTEE

Applications of Data in Transportation Planning

Presentation Session (Papers Optional)

MOB

Data collection has always been a core component of transportation planning, and it provides a reliable foundation for informed decisions. This session will explore practical applications related to:

TEC

- Best practices in transport survey methods
- Innovations in data collection, including to address security and equity concerns
- The use of large data sets and novel analysis techniques
- Data collection supporting infrastructure and policy direction to achieve climate change resiliency
- Significant trends in travel behaviour including post-pandemic mobility
- Previously unavailable data sources that have been used to improve understanding and guide decision making
- Data collection efforts supporting public engagement and improved community outcomes



Goods Movement

Presentation Session (Papers Optional)

MOB

The transport of goods has an essential role in Canada's transportation sector with broad social, economic and environmental impacts. This session seeks presentations to highlight leadership and innovation in the following areas:

- Best practices in infrastructure planning and design for all modes of goods movement to improve safety, security and efficiency
- Maintaining resilient supply chains (e.g. agriculture, food and energy) in the face of current global challenges
- Equity considerations in planning and operating freight corridors, including environmental justice and community impacts of major truck routes
- Improvements in the safety and efficiency of supply chains and logistics practices to meet public- and private-sector needs
- The role of e-commerce, 3-D printing, last-mile logistics and urban freight technology innovations in urban and rural communities

Health, Equity and Transportation

Presentation Session (Papers Optional)

MOB

Transportation and health practitioners jointly recognize the opportunity to promote health and equity through transportation planning and policy. Submissions could address:

- The health and equity benefits of safe, affordable, accessible and multimodal travel options
- Integrating accessibility, active living and public health into transportation plans, policies and programs
- Integrating equity into transportation project assessments, designs and implementation
- Using transportation to fight climate change, which is a key public health issue
- Transit solutions for aging populations and persons with disabilities

Innovations in Transportation Systems Modelling

Presentation Session (Papers Optional)

MOB

This session will explore new forms or applications of transportation systems modelling in Canada. It will focus on advances in best practice and benefits for stakeholders, and show how they can be applied elsewhere. Submissions could address:

- Accessibility modelling and other GIS applications
- New or innovative calibration practices
- Modelling of transit, cycling and/or walking
- Modelling connected and automated vehicles, shared mobility and on-demand services
- Greenhouse gas emissions modelling
- Using new big/small data streams to inform and develop travel models
- Location/destination choice modelling Artificial intelligence and predictive analytics for travel models



Integration of Land Use and Transportation Planning

Presentation Session (Papers Optional)

MOB

This session will explore the changing environments for transportation planning and land use planning, and how the two fields can better help one another. Submissions could address:

- Examples of concurrent, integrated transportation and land use planning
- Studies of the relationship between land use and travel behaviour
- Suitable locations for increased density
- The role of employment location on mode share
- Aligning street classifications and land uses
- Trade-offs between function, land use and amenities
- Understanding the impact of weather on transportation impact studies
- Incorporating emerging mobility services in new developments
- Applying context-sensitive design

SAFETY, DESIGN & OPERATIONS



ORGANIZED BY THE GEOMETRIC DESIGN COMMITTEE

All Highways Big and Small: Interchanges, Major Facilities, and Two-Lane Highways

Presentation Session (Papers Optional)

SAF

This session will showcase highways and rural road networks, from large complex projects to comparatively small initiatives that have a big impact. Submissions could address a range of projects, design standards and challenges solved, but should incorporate different types of geometric design elements.

Cycling Network Geometric Design Leaders

Presentation Session (Papers Optional)

SAF

As cycling networks grow quickly across Canada, adding facilities in built-up areas can create a challenge for designers. What are some common challenges, what practices can help projects succeed, and what lessons have been learned by our leaders in geometric design for cycling networks?

MOB

Unconventional Intersections and Roundabouts

Presentation Session (Papers Optional)

SAF

Intersections serve diverse users and design vehicles, and often face unusual geometric constraints, site conditions and constructability challenges. From protected intersections to offset lefts, roundabouts that may or may not be round, and specialized signals beyond red, amber and green, how can practitioners improve the design of unconventional intersections?

Urban Design Challenges—Accessibility, Vision Zero and Complete Streets

Presentation Session (Papers Optional)

SAF

Urban design continues to evolve, addressing the desire and need for accessibility, complete streets, and vision zero objectives. How are practitioners across the country rising to these challenges while adhering to the principles of good geometric design?

MOB



ORGANIZED BY THE ROAD SAFETY COMMITTEE

Road Safety Analysis

Presentation Session (Papers Optional)

SAF This session will explore the use of data and analysis for road safety planning, network performance evaluation, prioritization, decision making, and post-installation evaluation. Submissions could address data sources for road safety analysis, evaluation techniques (e.g. safety performance functions, conflict analysis), asset management, and performance measures and outcomes.

Road Safety Implementation and Assessment

Presentation Session (Papers Optional)

SAF This session will explore the implementation and evaluation of road safety efforts (both site-level measures and system-level plans, programs and policies), focusing on innovative road safety strategies and evaluation methods (ideally including pre and post studies, and associated collision modification factors). While papers are optional, documented evaluation findings would be extremely helpful in building industry knowledge and could support additions to the CMF Clearinghouse.

Road Safety Planning

Presentation Session (Papers Optional)

SAF This session will focus on experience and innovation in road safety planning. Presentations may focus on any of the various stages of plan or policy development, including but not limited to strategic plans, action plans, mobility plans, plan updates, and equity plans. Lessons learned, methods of engagement, structure, funding, political considerations, use of data, and measures of success are expected to be addressed through the session.

Road Safety Tools and Technologies

Presentation Session (Papers Optional)

SAF This session will focus on the development and application of emerging and innovative road safety tools and technologies related to data collection, monitoring, diagnosis and countermeasure selection, as well as vehicle solutions and in-road or roadside technologies (e.g. sensors). Submissions related to vehicle technologies could address applications or case studies related to micromobility or connected and automated vehicles, possibly responding to issues such as vulnerable road users, adverse weather conditions, or wildlife safety.

TEC

Successes of the Vision Zero and Safe System Approach in Canada

ORGANIZED BY THE VISION ZERO & SAFE SYSTEM SUBCOMMITTEE

Presentation Session (Papers Optional)

SAF This session will explore lessons learned across Canada through road safety improvements based upon the Vision Zero and the Safe System approach. Submissions should address how successes were achieved within the local regulatory context, how they were measured, and how key challenges were overcome. Submissions are encouraged to support the conference theme by highlighting the importance and benefits of leadership, possibly including partnerships with non-governmental organizations.



ORGANIZED BY THE SMALL MUNICIPALITIES INTEGRATED COMMITTEE

Innovative Micromobility Applications in Small Municipalities

Presentation Session (Papers Optional)

SAF

While large-scale shared micromobility pilot projects and vendor partnerships are becoming more common in Canada's large urban centres, small municipalities are challenged to provide similar

MOB

opportunities. This session will explore how small municipalities are overcoming these challenges and providing new mobility options to residents and business owners.

Quantifying GHG Reductions in Small Municipalities

Presentation Session (Papers Optional)

SAF

Meeting Canada's national emission reduction targets will require new approaches and innovative techniques that demonstrate the benefits of various transportation-related initiatives. Small

ENV

municipalities are especially challenged and have limited capital and human resources to document these important results. This session will explore approaches used to document GHG reductions in small municipalities.

ORGANIZED BY THE TRAFFIC OPERATIONS & MANAGEMENT COMMITTEE

#InnovativeTrafficControl

Presentation Session (Papers Optional)

SAF

This session will focus on innovation in traffic operations and management across the country. The intent is to highlight practical examples that demonstrate new ways to solve traffic engineering challenges across the country.

Next Generation Mobility

Presentation Session (Papers Optional)

SAF

Next-generation mobility will be defined by safer, more sustainable and convenient ways of moving around. This session will focus on transportation technologies that present a significant opportunity for infrastructure owners, operators and the traveling public to experience safer roadways, reliable drivetimes, less congestion and greater transportation equity.

MOB

TEC

Topics can include:

- Connected/Automated Vehicles
- Intelligent Transportation Systems
- Micromobility (e-scooter & bike share)
- Carshare, electric vehicle strategies, and Smart Mobility



TECHNOLOGY

ORGANIZED BY THE CONNECTED & AUTOMATED VEHICLES INTEGRATED COMMITTEE

Automated Micro-Utility Devices

Presentation Session (Papers Optional)

TEC Micro-utility devices are small, autonomous machines that can perform tasks such as package delivery and seasonal maintenance. They can be more efficient and cost-effective than traditional methods, and they can operate in places that are inaccessible or dangerous for humans. However, they also pose some challenges when operating in built environments and, if policy direction is unclear, they could become a nuisance on city streets and sidewalks. This session will explore the current state of practice, challenges and opportunities related to micro-utility devices, and their future potential.

SAF

Automated Technology—Beyond the Roadway

Presentation Session (Papers Optional)

TEC This session will explore automated technologies in industries such as forestry and mining that may have applications to automated vehicles in a transportation context. It will address challenges, opportunities and lessons learned from other sectors that can inform the future of automation on public infrastructure.

ORGANIZED BY THE DIGITAL APPLICATIONS COMMITTEE

Digital Twinning for Transportation Assets

Presentation Session (Papers Optional)

TEC This session will explore the rapid development of digital twinning applications and their long-term potential to benefit transportation system planning, operations, safety and asset management.

INF Submissions could address pilot program implementation and results, data needs and governance, and security or legal issues.

Transportation Data and Analytics

Presentation Session (Papers Optional)

TEC This session will explore emerging applications of data and analytics in the transportation sector. Submissions could touch on topics such as road safety, transportation planning, asset management, and developments in machine learning or artificial intelligence.

INF

SAF

MOB

ORGANIZED BY THE INTELLIGENT TRANSPORTATION SYSTEMS COMMITTEE

Innovations in ITS

Presentation Session (Papers Optional)

TEC The growth of the ITS industry and advances in products and solutions have opened the door to a range of new applications such as infrared wildlife detection, drone-based condition inspections, and digital freight manifests. This session will explore ITS innovations that look beyond traditional objectives like congestion management.



ITS Cyber Security—Problems and Solutions

Presentation Session (Papers Optional)

TEC

According to the Canadian Centre for Cyber Security's National Cyber Threat Assessment 2023-2024, cyber attacks and cyber crime are targeting critical infrastructure sectors in Canada; there has also been an increase in cyber threat activity against municipal and provincial governments. This session will help transportation professionals – not IT experts – understand ITS cyber security issues. It will focus on the unique challenges of operational technology cyber security, threats and vulnerabilities, and the tools, resources and best practices that can help reduce cyber risk and improve resiliency and recovery.

Rural ITS—Opportunities and Challenges

Presentation Session (Papers Optional)

TEC

Advanced technologies and telecommunications have created new opportunities for ITS to improve safety and operations in rural communities. However, ITS deployments are met by new challenges and complexities. This session will explore related initiatives and discuss lessons learned.

SAF

ORGANIZED BY THE TECHNOLOGY COUNCIL

Back to the Future: Hydrogen Fuel Cell Vehicles

Presentation Session (Papers Optional)

TEC

Transportation is the second-largest source of greenhouse gas (GHG) emissions in Canada, accounting for a quarter of total GHG emissions. Hydrogen fuel cell electric vehicles (FCEV) can help reduce GHGs from transportation, and quick refuelling can make them a great option for industries like busing and trucking. But haven't we heard this before? Are FCEVs still 20 years out? They may be closer than you think—and this session will explore technical and non-technical aspects of FCEVs such as:

ENV

- Research and lessons learned from trials in Canada
- Commercialization timelines and business cases for FCEV fleets
- Challenges and opportunities related to hydrogen refuelling infrastructure