Transportation Association of Canada

TACCONF 2024

Technology & transformation

Call for Presenters Guide

22–25 Sept Vancouver

TACCONF 2024

Technology & transformation
Technologie et transformation

22–25 Sept Vancouver

CONTENTS

INTRODUCTION 1

HOW TO PARTICIPATE IN PRESENTATION SESSIONS 2

HOW TO PARTICIPATE IN PANEL DISCUSSIONS 4

SESSION TOPICS 5

- ENVIRONMENT & CLIMATE CHANGE 5
- INFRASTRUCTURE & ASSET MANAGEMENT 6
- MOBILITY 9
- SAFETY, DESIGN & OPERATIONS 14
- TECHNOLOGY 17

INTRODUCTION

This guide provides information on how to participate in technical sessions at the **2024 TAC Conference & Exhibition** as a presenter or panelist.

Conference sessions are organized into six tracks related to road and highway infrastructure and urban transportation. Within each track, sessions are organized by TAC's volunteer committees (see Figure 1):

Presentation sessions include multiple 25-minute slots for individual presentations. Presenters must submit slide decks for review and acceptance; accompanying papers are optional or required, according to the wishes of the session organizers.	***Panel discussions*** vary in format according to the wishes of the session organizers. They may involve presentations by individual panelists, facilitated dialogue among panelists, and/or open-floor question-and-answer periods. Panelists may or may not be asked to use slide decks, but do not submit papers.

Not all TAC conference technical sessions appear in this guide. Many of TAC's committees are organizing other panel discussions or workshops, and will use different channels to invite speakers to participate in those sessions.

Figure 1: TAC Conference Technical Session Tracks and Organizing Committees

ENV

ENVIRONMENT & CLIMATE CHANGE

- Climate Change Integrated Committee
- Environmental Issues Committee
- Environmental Legislation Committee

INF

INFRASTRUCTURE & ASSET MANAGEMENT

- Asset Management Committee
- Construction Committee
- Maintenance & Operations Committee
- Pavements Committee
- Soils & Materials Committee
- Structures Committee

MOB

MOBILITY

- Active Transportation Integrated Committee
- Mobility Management Committee
- Transportation Finance Committee
- Transportation Planning Committee

SAF

SAFETY, DESIGN & OPERATIONS

- Geometric Design Committee
- Road Safety Committee
- Small Municipalities Integrated Committee
- Traffic Operations & Management Committee

TEC

TECHNOLOGY

- Connected & Automated Vehicles Integrated Committee
- Digital Applications Committee
- Intelligent Transportation Systems Committee

WOR

WORKFORCE DEVELOPMENT

- Education Committee
- Human Resources Committee
- Professional Development Committee

HOW TO PARTICIPATE IN PRESENTATION SESSIONS

The submission process for presentation sessions has three phases: **Phase 1 – Abstracts**, **Phase 2 – Draft papers and/or decks**, and **Phase 3 – Final papers and/or decks**. See Figure 2 for details.

Figure 2: The Submission Process for Presentation Sessions

Phase 1 – Abstracts	
By January 29:	Submit your abstract for review
Mid-March:	TAC will notify you whether your abstract has been accepted or rejected ➔ If your abstract is: ☐ *Accepted*, you will proceed to Phase 2. ☐ *Rejected*, you will not proceed to Phase 2.
Phase 2 – Draft papers and/or decks	
By April 23:	If your abstract was accepted, submit your draft paper and/or deck for review ➔ You *must* submit a draft deck for all sessions. ➔ You *must* submit a draft paper for a "papers required" session. ➔ You *may* submit a draft paper for a "papers optional" session.
Early June:	TAC will notify you whether your draft paper and/or deck has been accepted or rejected ➔ If your draft deck is: ☐ *Accepted*, you will proceed to Phase 3 and are invited to present at the conference. You *must* register for the conference by June 27. You *should* consider reviewer comments and make revisions before submitting a final deck by September 12. ☐ *Rejected*, you will not proceed to Phase 3. Any draft paper you submit will also be rejected. ➔ If your draft paper is: ☐ *Accepted*, you will proceed to Phase 3. Your paper will be published on TAC's website; you *should* consider reviewer comments and make revisions before submitting a final paper by September 12. ☐ *Accepted with conditions*, you will proceed to Phase 3. You *must* submit a revised draft paper by July 15 that meets reviewer conditions; otherwise it will not be published on TAC's website. ☐ *Rejected*, it will not be published on TAC's website. For a "papers required" session you will not proceed to Phase 3 and your draft deck will also be rejected. For a "papers optional" session you will proceed to Phase 3 as long as your draft deck was accepted.
Phase 3 – Final papers and/or decks	
By July 15:	If your draft paper was accepted with conditions, submit your revised draft paper for review ➔ If your revised draft paper is: ☐ *Accepted for publication*, it will be published on TAC's website. You *should* consider reviewer comments and make further revisions before submitting a final paper by September 12. ☐ *Rejected for publication*, it will not be published on TAC's website. You are still invited to present at the conference.
Mid-August:	TAC will notify you whether your revised draft paper has been accepted or rejected for publication
By September 12:	Submit your final paper for publication and/or your final deck for presentation

Before submitting an abstract

- Review the submission process in Figure 2, and the presentation session descriptions starting on page 5.
- Seek approval of your employer, partners and/or clients (as applicable) for your intention to submit an abstract.
- Login to TAC's conference submission portal with your previous login credentials or create an account if you are a first-time user.
- Abstracts should be 200 to 400 words long and describe background information, key issues, objectives, methodology and conclusions.
- Ensure that you are prepared to:
  - Attend the conference in person, participate in your scheduled session, and bear all related costs.
  - Have TAC record your presentation and make it available to others.
  - **Register for the conference by June 27, 2024.** You will not appear in the online conference program until you register, and you may be removed from the program if you are not registered by this date. *Note: TAC acknowledges that an employer's travel permission may not be obtained in some cases, and a flexible refund/cancellation policy will apply in those circumstances. See the cancellation policy for more details when registration opens in April.*

Abstracts, decks and papers

- Must be submitted via TAC's online conference portal by the deadlines; late submissions will not be accepted.
- Must be substantially different from any presentations or papers delivered through other organizations.
- Must not favour special interests, be of a commercial nature, or promote proprietary products or services.
- **Must adhere to TAC's** *Guidelines for Presenters and Authors: Preparing Slide Decks and Papers*.

Other important information

- TAC will send a confirmation email to submitters when abstracts, deck and papers are received. If you do not receive a confirmation, contact Christina Ghazal, Program Officer.
- Submitted abstracts, decks and papers are reviewed by volunteers from TAC's councils and committees for quality, format, relevance to the session theme, general interest and overall significance.
- The conference schedule of technical sessions will be announced by late July 2024.
- The deadline for TAC to receive final presenter/author information and presentation titles for inclusion in the conference program is September 3, 2024. Program changes cannot be guaranteed after this date.
- Any conference presentation may involve a maximum of two co-presenters.
- Accepted papers will be published on TAC's website and added to TAC's Library catalogue and Transportation Research International Database (TRID).

New for 2024!

Authors of papers accepted for technical sessions in the 2024 Conference may be invited to submit their papers for peer review and possible publication in a special issue of the *Canadian Journal of Civil Engineering* arising from the conference.

Students!

Your paper will be eligible for a Student Paper Award, which recognizes the excellence of papers delivered by students at the TAC conference, if:

- The principal author is a full-time student registered at a recognized post-secondary institution.
- The submitter selects the Student Paper Award option in TAC's online conference portal at the time of abstract submission.
- The paper is accepted without conditions (at Phase 2) for inclusion in a TAC conference presentation session, and for publication on TAC's website.

HOW TO PARTICIPATE IN PANEL DISCUSSIONS

Some panel discussions being planned for the TAC conference are included in this guide, and organizers of those sessions invite potential panelists to identify themselves and their related experience. **Panelist applications must be submitted via TAC's online conference portal by January 29, 2024.** Applicants will be contacted by session organizers, but may not be selected to participate.

Before submitting a panelist application:

- Review the panel discussion descriptions starting on page 5.
- Seek your employer's approval (if required) for your intention to submit a panelist application.
- Login to TAC's conference submission portal with your previous login credentials, or create a new account if you are a first-time user.
- Applications should be 200 to 400 words long and describe your interests, qualifications, and expertise relevant to the panel topic.
- Ensure that you are prepared to:
  - Attend the conference in person, participate in your scheduled session, and bear all related costs.
  - Have TAC record your participation and make it available to others.
  - **Register for the conference by June 27, 2024.** You will not appear in the online conference program until you register, and you may be removed from the program if you are not registered by June 27. *Note: TAC acknowledges that an employer's travel permission may not be obtained in some cases, and a flexible refund/cancellation policy will apply in those circumstances. See the cancellation policy for more details when registration opens in April.*
- Be aware that panelists must not promote proprietary products or services.

Other important information:

- TAC will send a confirmation email to submitters when panelist applications are received. If you do not receive a confirmation, contact Christina Ghazal, Program Officer.
- Panelist applications are reviewed by volunteers from TAC's councils and committees for relevance to the topic and fit with other panelists being considered.
- The conference schedule of technical sessions will be announced by late July 2024.
- The deadline for TAC to receive final presenter/author information and presentation titles for inclusion in the conference program is September 3, 2024. Program changes cannot be guaranteed after this date.
- The deadline to submit any slide deck you plan to use in your presentation is September 12, 2024.

QUESTIONS?

Christina Ghazal, Program Officer | cghazal@tac-atc.ca | 613-736-1350 x236

SESSION TOPICS

The following sessions are grouped under the principal organizing committee, although many are relevant to multiple tracks (as shown by the coloured icons).

ENVIRONMENT & CLIMATE CHANGE

ORGANIZED BY THE CLIMATE CHANGE INTEGRATED COMMITTEE

Driving to Net Zero: What Are Organizations Doing to Reach Their Goals?

Presentation Session (Papers Optional)

ENV

Transportation is a major contributor to global greenhouse gas emissions, and achieving net zero emissions is crucial for a sustainable future. Making rapid and significant progress will require a commitment to different approaches, initiatives and priorities. This session will explore what organizations are doing to be on the path to net zero, with a focus on agency efforts to reduce operational and community-wide emissions over ambitious timelines.

Tools for Assessing Climate Resilience of Transportation Projects

Presentation Session (Papers Optional)

ENV

Climate change is already challenging the ability of road and transit authorities to maintain their assets in a state of good repair, and many organizations are thinking proactively about preparing for future impacts and designing their assets to be more resilient. In this session, presenters will describe frameworks or tools that organizations are using to conduct quantitative, indicator-based assessments and ensure that transportation project deliverables are resilient to climate stressors.

ORGANIZED BY THE ENVIRONMENT & CLIMATE CHANGE COUNCIL

Environmental Successes and Lessons Learned

Presentation Session (Papers Optional)

ENV

This session will focus on sharing lessons learned – from challenges faced, successes or failures – in an ever-changing regulatory environment where the importance of sustainability and reduced environmental impacts will only continue to grow. Submissions could address:

- Projects involving federal approvals, permits or authorizations
- Projects involving federal and provincial agencies
- Adaptation to federal design guidance (e.g., no net loss of habitat, fish passage)
- Habitat offsetting approaches that are relevant to multiple jurisdictions

Wildlife Collision Mitigation

Panel Discussion – To be considered as a potential panelist, submit a panelist application describing your related interests, qualifications and expertise. The panel discussion organizer will respond directly.

ENV

SAF

Measures to mitigate animal-vehicle collisions can enhance road safety and minimize impacts on wildlife populations. This session will focus on key considerations for the planning and delivery of projects to mitigate animal-vehicle collisions, and on lessons learned from them.

INFRASTRUCTURE & ASSET MANAGEMENT

ORGANIZED BY THE ASSET MANAGEMENT COMMITTEE

Artificial Intelligence and Drone Applications in Asset Management

Presentation Session (Papers Optional)

INF
TEC

Artificial intelligence (AI) and drone technologies can improve asset management by reducing costs, improving worker safety, and increasing inspection speed and accuracy. This session will explore the integration of drones into asset management workflows, and the development of AI algorithms to analyze drone data and automate asset management tasks.

Bridging the Gap Between Asset Management Teams and Senior Leaders

Presentation Session (Papers Optional)

INF

This session will present insights and success stories from jurisdictions where teams responsible for managing individual asset classes have gained buy-in from senior leaders responsible for allocating funding among multiple asset classes. Success requires a strategic and collaborative approach to fostering alignment of goals, effective communication and mutual understanding.

Cost-Effective Asset Condition Data Collection and Monitoring

Presentation Session (Papers Optional)

INF

This session will explore new technologies and other innovations for low-cost transportation asset condition data collection and monitoring, such as:

- Sensor technologies
- Replacing legacy systems
- Data management and analysis solutions
- Data acceptance standards

Implementing Asset Management Systems with Cross-Asset Capabilities

Panel Discussion – To be considered as a potential panelist, submit a panelist application describing your related interests, qualifications and expertise. The panel discussion organizer will respond directly.

INF

In this discussion, practitioners will share their expertise in implementing cutting-edge asset management systems with cross-asset capabilities. Panelists who have navigated challenges and unearthed key lessons will offer valuable insights on practical considerations and innovative solutions.

Navigating Funding Silos for Cross-Asset Optimization

Presentation Session (Papers Optional)

INF

This session will focus on the impact of budgeting and funding structures on cross-asset optimization. Presenters will explore how jurisdictions have overcome challenges posed by funding silos, and how modifications to budgeting frameworks can either hinder or facilitate robust asset management. Presentations will dissect the constraints of existing budget structures and identify practical solutions to break down silos, showcasing instances where jurisdictions have successfully adapted budgeting to propel cross-asset optimization.

Using Risk and Condition for Cross-Asset Prioritization

Presentation Session (Papers Optional)

INF This session will explore the use of risk and condition to simplify decisions related to large asset bases and cross-asset prioritization. Presenters will share their real-world experiences and lessons learned, and contribute to the audience's understanding of practical strategies and methodologies.

ORGANIZED BY THE MAINTENANCE & OPERATIONS COMMITTEE

Emerging Technology in Maintenance and Operations

Presentation Session (Papers Optional)

INF Technology is helping agencies implement modernized approaches to transportation maintenance, and improve efficiency and consistency by creating new methods and updating older ones. This session will investigate emerging technologies and share experiences on their adoption by Canadian jurisdictions.

Innovative Support Systems for Maintenance and Operations

Panel Discussion – To be considered as a potential panelist, submit a panelist application describing your related interests, qualifications and expertise. The panel discussion organizer will respond directly.

INF This session will consider how organizations have leveraged innovation to drive better decision making and service delivery in the face of continuously changing environmental factors, funding sources, legislation and regulations.

The Transformation of Maintenance and Operations Culture

Presentation Session (Papers Optional)

INF Summer and winter maintenance are not glamorous, and are sometimes described as thankless roles. However, many organizations have succeeded in changing this perception among their staff and the public through media campaigns, training, advertising and personal interaction. This session will hear from leaders who will share their successes and lessons learned.

ORGANIZED BY THE PAVEMENTS COMMITTEE

Innovations in Pavement Management, Engineering and Technologies

Presentation Session (Papers Required). Authors of papers accepted for this session may be invited to submit their papers for peer review and possible publication in a special issue of the Canadian Journal of Civil Engineering *arising from the conference.*

INF This session will address topics such as:

- Innovative designs, tools, techniques or technologies for pavement management or engineering
- Project case studies involving unique challenges in pavement management or engineering
- Best practices in pavement management, maintenance and design

ORGANIZED BY THE SOILS & MATERIALS COMMITTEE

Testing, Modelling and Innovation for Roadway/Embankment Materials and Geotechnical Engineering

Presentation Session (Papers Required). Authors of papers accepted for this session may be invited to submit their papers for peer review and possible publication in a special issue of the Canadian Journal of Civil Engineering *arising from the conference.*

INF

This session will address topics such as:

- Recycling and integrating recycled materials
- Alternative materials for road construction
- Quantifying carbon emissions in roadway/embankment materials
- Reducing energy use and carbon emissions through innovative material use/design
- Climate change considerations in geotechnical and pavement materials engineering
- Durable construction materials for increased design life
- Design and construction of road and bridge embankments
- Trenchless technologies for infrastructure under existing roadways
- Remote sensing and drone usage in geotechnical engineering
- Case studies of challenges, solutions and lessons learned in the construction and long-term performance evaluation of road/embankment construction projects
- Innovative testing and modelling of roadway/embankment materials, including unbound and bound soil, geosynthetics, and bituminous/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

ORGANIZED BY THE STRUCTURES COMMITTEE

Transportation Structures

Presentation Session (Papers Required). Authors of papers accepted for this session may be invited to submit their papers for peer review and possible publication in a special issue of the Canadian Journal of Civil Engineering *arising from the conference.*

INF

TEC

This session will explore case studies and technical advice related to experiences in bridge analysis and design, construction, rehabilitation, management and inspection. Exploring technological advances and the benefits of emerging digital innovations is also a topic of interest.

ORGANIZED BY THE UTILITIES MANAGEMENT SUBCOMMITTEE OF THE CONSTRUCTION COMMITTEE

Technologies for Utility Coordination

Presentation Session (Papers Optional)

INF

TEC

This session will explore how advanced technologies have enabled new and improved tools for utility coordination on major transportation projects.

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

SAF

The session will explore best practices for planning, designing and managing active transportation in rural areas and communities with less than 40,000 people. Presentations will address topics such as:

- Success stories and design guidance for active transportation facilities near or adjacent to rural roads and highways
- Active transportation plans and strategies
- Opportunities, lessons learned and unique solutions for active transportation facility planning, designing, construction and operation
- Active transportation in Indigenous communities
- Planning active transportation connections between communities

Bring it Home: How Canadian Practitioners Are Learning from Study Tours Abroad

Panel Discussion – To be considered as a potential panelist, submit a panelist application describing your related interests, qualifications and expertise. The panel discussion organizer will respond directly.

MOB

Study tours are an exciting way to see best practices first-hand, build inspiration and expand professional networks. But what's the best way to leverage these often expensive and short-lived experiences in the search for real solutions back home? In this session, panelists will share how their experiences visiting international walking and cycling destinations have led to meaningful transformation in their own communities.

Building Capacity: Experts and Allies for Active Transportation

ORGANIZED IN PARTNERSHIP WITH THE PROFESSIONAL DEVELOPMENT COMMITTEE

Panel Discussion – To be considered as a potential panelist, submit a panelist application describing your related interests, qualifications and expertise. The panel discussion organizer will respond directly.

MOB

WOR

Active transportation continues its evolution into an integrated street management practice with objectives that extend beyond mobility into safety, accessibility, heath, climate, equity and more. As a result, practitioners face growing pressure to be experts in many fields. In this session, panelists from different disciplines will share their expertise in active transportation topics such as:

- Identifying allies and overlapping interests
- Building relationships with practitioners in other disciplines such as road safety, public health and community development
- Improving active transportation planning and design by adapting effective practices from other areas

Complete Networks: Fitting Streets into the Bigger Picture

ORGANIZED IN PARTNERSHIP WITH THE TRANSPORTATION PLANNING COMMITTEE

Presentation Session (Papers Optional)

MOB

Transportation networks are built one corridor at a time, so making active modes truly viable requires seamless, integrated and connected planning. This session will explore how the idea of "complete streets" is becoming one of "complete networks," and will showcase projects that have succeeded in areas such as:

- Integrating walking, cycling or micromobility connections to/from transit stations, as an extension of transit networks, or as part of development planning
- Improving pedestrian connectivity and comfort for short walking trips, at scale
- City- or area-wide cycling network planning, with a focus on implementation pathways or the prioritization of safety and equity outcomes

Cycling Solutions: Designing Transformational Facilities

ORGANIZED IN PARTNERSHIP WITH THE GEOMETRIC DESIGN COMMITTEE

Presentation Session (Papers Optional)

MOB

SAF

Cycling facilities are being built at an unprecedented rate. This session is an opportunity for municipalities, consultants and academics to showcase innovative cycling infrastructure approaches, share the obstacles they faced, and explain their choices when designing modern cycling facilities. They will highlight complex urban and rural challenges including safety concerns and space limitations, and showcase their insights into how well-planned, cyclist-centric facility and intersection designs can make municipalities healthier, safer and more vibrant.

LID Treatments and Complete Streets: Lessons Learned

Presentation Session (Papers Optional)

MOB

ENV

SAF

Many active transportation projects incorporate low-impact development (LID) or green infrastructure features. Cities are gaining experience with many related treatments and standards, both existing and emerging, in different climates. This session will share design standards and construction methods, and will showcase projects that illustrate:

- Lessons learned from LID/green infrastructure as part of complete streets
- Changing standards and guidelines over time
- Prototyping and/or evaluating new methods and materials

Overcoming Active Transportation Challenges and Barriers

Panel Discussion – To be considered as a potential panelist, submit a panelist application describing your related interests, qualifications and expertise. The panel discussion organizer will respond directly.

MOB

Common challenges related to active transportation infrastructure include the removal of on-street parking, managing resident and business concerns, reallocating road space, managing the needs of all road users, building political and public support, and cost concerns. Practitioners dealing with these and other issues are not alone, and can learn from the experiences of others. Panelists in this session will share significant challenges they have faced, and whether and how they overcame them.

Pedestrian-Centred Design

Presentation Session (Papers Optional)

MOB

SAF

Active transportation includes a range of modes, but walking is still a primary concern – with almost all travellers beginning and/or ending their trip on foot. This session will feature presentations on pedestrian-specific user needs and design considerations, the influence of pedestrian volume on design solutions, and design/operating considerations for pedestrian streets and other car-free spaces.

Technology and Decision Making in a Multimodal Era

Panel Discussion – To be considered as a potential panelist, submit a panelist application describing your related interests, qualifications and expertise. The panel discussion organizer will respond directly.

MOB

The justification, planning and design of active transportation or multimodal projects often require significant quantitative and qualitative analysis using tools such as swept path analysis, traffic modelling, warrants, multimodal levels of service, advanced data collection and analytics. While some useful tools are new or have been updated over the years, the evolution of some older tools has not kept pace. This session will showcase examples of:

- Qualitative and quantitive tools for decision making or design
- The innovative use of existing tools, recognizing their benefits and limitations
- New tools and the lessons learned from their use
- Lessons learned from the use of tools, whether they proved to be a hindrance or a key to success

Technology, Equity and Active Transportation

ORGANIZED IN PARTNERSHIP WITH THE INTELLIGENT TRANSPORTATION SYSTEMS COMMITTEE

Panel Discussion – To be considered as a potential panelist, submit a panelist application describing your related interests, qualifications and expertise. The panel discussion organizer will respond directly.

MOB

TEC

Emerging technologies promise to transform our communities into safer, greener and more efficient "smart cities." Panelists in this session will address the opportunities and challenges presented by technology, including:

- Accounting for human behaviour in technology solutions
- Where do active transportation and micromobility fit in smart cities?
- Technology implications for vulnerable road users
- Technologies to balance priorities around intersection conflicts and curbside access
- When are existing low-tech solutions enough?

Trails and Active Transportation Networks

Presentation Session (Papers Optional)

MOB

SAF

Trails are often considered to be recreational facilities, but their level of comfort creates the potential for a high quality experience for many kinds of trips. This session will explore the planning, design, construction and operation of trail facilities and trail networks with a focus on how they balance recreational and commuting trips, how their design varies from cycling facilities in road corridors, and how they address conflicts between cyclists and other active transportation users.

Universal Accessibility and Cycling Facility Design

Presentation Session (Papers Optional)

MOB

SAF

This session will give practitioners an opportunity to share knowledge about emerging solutions for bicycle facility design and their impacts on accessibility. It will address challenges that physically separated bike facilities create for street users with disabilities, such as:

- Impeding access between the road and sidewalk for users with limited mobility
- Altering the tactile and auditory cues that enable people with sight loss to navigate
- Challenging people who cannot detect the edge of the bike path and/or hear approaching cyclists

ORGANIZED BY THE MOBILITY MANAGEMENT COMMITTEE

Navigating the Last Kilometre: The Implications of Transitioning Medium and Heavy Vehicles to Electric Motors

Presentation Session (Papers Optional)

MOB
TEC

What might happen to delivery operations when medium and heavy vehicles are electrified? This session will explore the transformative effects of the electric vehicle revolution on last-mile goods movement, considering both opportunities (e.g., heightened efficiency and reduced emissions) and challenges (e.g., charging limitations and required investments).

Power Struggle: The Challenge of Soaring Demand for Curbside Charging Infrastructure

Presentation Session (Papers Optional)

MOB
TEC

This session will explore the issues faced by agencies wanting to develop a robust network of curbside electric vehicle chargers in the face of escalating demand. Presenters will offer insights into common hurdles as well innovative responses that can support charging infrastructure for an electrified future.

Revamping TDM: Adapting to the New Normal

Presentation Session (Papers Optional)

MOB

Transportation demand management (TDM) is a proven strategy that offers a range of options for public agencies, employers and individuals to encourage the use of sustainable modes and reduce vehicle-kilometres travelled. This session will explore how TDM strategies can remain relevant in the "new normal" where the pandemic's lasting impacts on travel patterns due to remote and hybrid work are having implications for transit's recovery and the emergence of micromobility.

Technology and Equity in Public Transportation

Presentation Session (Papers Optional)

MOB
TEC

This session will examine how technological innovations such as smart cards, real-time information and mobile applications can improve the accessibility, affordability and reliability of public transportation. Presenters could also address how transformational changes such as integrated fare systems, demand-responsive services and participatory planning can make public transit more equitable and inclusive.

ORGANIZED BY THE TRANSPORTATION FINANCE COMMITTEE

Effective and Efficient Requests for Proposals

Panel Discussion – To be considered as a potential panelist, submit a panelist application describing your related interests, qualifications and expertise. The panel discussion organizer will respond directly.

MOB
INF

Each year, Canadian public-sector organizations issue thousands of procurement opportunities for goods, services and construction work. This panel discussion will explore how effective and efficient requests for proposals (RFPs), requests for quotations (RFQs) and tenders can contribute to the success and benefits of transportation projects.

Paying the Bills: How Municipalities and Transit Agencies Are Coping with Revenue Shortfalls

Panel Discussion – To be considered as a potential panelist, submit a panelist application describing your related interests, qualifications and expertise. The panel discussion organizer will respond directly.

MOB

In the wake of the pandemic, Canada's municipalities and transit agencies are coping with unprecedented revenue shortfalls. This panel discussion will explore how transportation organizations continue to address current needs and plan future investments in the face of tighter budgets. Panelists will present the scope of current initiatives, the impacts of previous efforts, lessons learned and next steps.

Sustainable Transportation Infrastructure: From Strategy to Maintenance

Presentation Session (Papers Optional)

MOB
ENV
INF

This session will explore the social, environmental and economic sustainability of transportation infrastructure design, construction, operation and maintenance. Presentations may address a range of topics including:

- Evaluating project sustainability
- Implementing sustainable assets
- Policies, standards and regulations
- The role of government and the private sector

ORGANIZED BY THE TRANSPORTATION PLANNING COMMITTEE

Innovations in Transportation Analysis and Modelling

Presentation Session (Papers Optional)

MOB

This session will feature presentations on innovative modelling approaches at the macroscopic, mesoscopic and microscopic levels. It could address topics such as:

- Innovative approaches to data collection for demand generation, calibration and projection
- Advancements in transport modelling approaches and techniques
- Calibration and validation methodologies
- Techniques and tools for effective analysis and visualization of modelling outcomes
- Modelling disruptive technologies, such as shared mobility services or automated vehicles
- Modelling transportation emissions
- Best practices for the use of data in models
- Innovations, applications and challenges in leveraging data

New Approaches to Decision Making, Evaluation and Monitoring

Presentation Session (Papers Optional)

MOB

This session will address decision-making processes, case studies, monitoring protocols, data collection, modelling, and the assessment of plans, programs and projects. Potential presentation topics include:

- Integrated land use planning
- Multimodal transportation and goods movement
- Measuring the success of transportation plans
- Transportation business case best practices
- Measuring and modelling greenhouse gas emissions

Strategic Land Use and Transportation Planning

Presentation Session (Papers Optional)

MOB

Governments use strategic planning principles and methodologies to shape growth and develop robust transportation systems. This session will feature presentations on topics such as:

- Innovative approaches to strategic transportation and land use planning
- How drivers of change and public expectations influence strategic planning
- Best practices in public engagement
- How legislation and regulations guide transportation and land use planning
- Using supportive land use policies to achieve transportation objectives
- Goods movement strategies and policy innovations
- Incorporating health and equity in transportation planning
- Gender-based analysis and more equitable decision making
- Indigenous community planning

Transportation and Health Equity

Presentation Session (Papers Optional)

MOB

Practitioners are increasingly called on to promote health equity through transportation planning and policy. This session will explore a range of topics that could include:

- Integrating active living and health in transportation plans
- Integrating health equity in transportation project design and implementation
- Maximizing the safety, affordability and accessibility benefits of multimodal transportation
- Address climate change and health through transportation
- Policies and programs focusing on accessibility rather than mobility
- Aging populations, accessibility and assisted mobility (paratransit)

SAFETY, DESIGN & OPERATIONS

ORGANIZED BY THE GEOMETRIC DESIGN COMMITTEE

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

Presentation Session (Papers Optional)

SAF

No job is too big or too small for this session. Presentations will address the details and challenges of a diverse range of projects, from transformative initiatives to more modest efforts that delivered real benefits.

First-Person Lessons on Accessibility in Transportation

ORGANIZED IN PARTNERSHIP WITH THE ACTIVE TRANSPORTATION INTEGRATED COMMITTEE

Panel Discussion – To be considered as a potential panelist, submit a panelist application describing your related interests, qualifications and expertise. The panel discussion organizer will respond directly.

SAF

MOB

This session will showcase the voices and experiences of advocates and/or practitioners living with mobility impairments, vision or hearing loss, or cognitive or other disabilities. Building on a 2023 conference session, it will recognize progress and focus on the many challenges faced in transforming our transportation infrastructure into a universally accessible system.

Unconventional Intersections and Roundabouts

Presentation Session (Papers Optional)

SAF

While predictable, intuitive design helps users navigate the built environment, conventional approaches may not always meet the needs of the travelling public. This session will feature projects that diverged from the norm to transform ordinary intersections into something unique. Presenters will reveal their journeys in designing unconventional intersections or roundabouts.

Urban Design Challenges: Accessibility, Vision Zero and Complete Streets

Presentation Session (Papers Optional)

SAF

The urban environment presents many constraints for practitioners trying to transform our roadways into complete streets that support our goals for accessibility and Vision Zero. In this session, presenters will discuss the design challenges and nuances of projects they have worked on.

ORGANIZED BY THE ROAD SAFETY COMMITTEE

Indigenous Road Safety

Presentation Session (Papers Optional)

SAF

Research has demonstrated that Indigenous people are over-represented among fatalities due to motor vehicle collisions, providing strong justification for efforts to improve Indigenous road safety outcomes. This session will explore road safety issues impacting Indigenous people and communities, and highlight projects that demonstrate partnerships and engagement approaches for implementing safety improvements.

ORGANIZED BY THE VISION ZERO & SAFE SYSTEM SUBCOMMITTEE OF THE ROAD SAFETY COMMITTEE

How Vehicle Design is Shaping Vision Zero's Journey: Research and Technology Trends

Presentation Session (Papers Optional)

SAF

TEC

The Safe Vehicle is a recognized element in the Safe System approach to road safety. This session will explore how vehicle design supports Vision Zero efforts, addressing issues such as:

- Vehicle-related collision trends and data needs
- Crash protection inside and outside the vehicle
- Crash avoidance and mitigation systems – the latest results from track testing
- Human factors and user-centered design of advanced vehicle technologies – challenges and countermeasures, and the building of human trust in a new safety realm

Transformative Change Through Evaluation

Panel Discussion – To be considered as a potential panelist, submit a panelist application describing your related interests, qualifications and expertise. The panel discussion organizer will respond directly.

SAF

Robust evaluation of Vision Zero and Safe System initiatives can generate buy-in among leaders and drive transformative change. This session will include short panelist presentations followed by a discussion of how to embed evaluation in program frameworks and to leverage the results for improved road safety. Issues to be addressed could include:

- Lessons learned in jurisdictions across Canada
- Keys to success when scaling from pilot projects to a broad countermeasure-based approach
- Evaluating and publishing results to build public support for road safety interventions
- Creating data-driven, evidence-based business cases for road safety interventions

Using Technology to Better Understand User Needs and Behaviors in the Safe System Approach

Panel Discussion – To be considered as a potential panelist, submit a panelist application describing your related interests, qualifications and expertise. The panel discussion organizer will respond directly.

SAF

According to TAC's Vision Zero and the Safe System Approach: A Primer for Canada (2023), "The Safe System Approach is designed with the human being at its centre, not only taking human fallibility and vulnerability into account, but accepting that even the most conscientious person will make a mistake at some point. Those involved in the design, operation, maintenance and use of the road system must understand how various components of the system interact but also strive to minimize human error or mitigate its consequences". Accomplishing this will require a sound understanding of why humans behave the way they do. In this session, specialists in human behaviour will elaborate on how they evaluate user needs and capabilities, and how a road can be designed to minimize human error and its impacts.

ORGANIZED BY THE SMALL MUNICIPALITIES INTEGRATED COMMITTEE

Applications of Emerging Traffic Technologies in Small Municipalities

Panel Discussion – To be considered as a potential panelist, submit a panelist application describing your related interests, qualifications and expertise. The panel discussion organizer will respond directly.

SAF
TEC

Small municipalities face many of the same issues as larger communities, but frequently lack the financial and human resources needed to address them effectively. New technological tools such as automated speed enforcement, speed feedback signs and red light cameras continue to emerge, creating opportunities for cost-effective, self-enforcing measures in small municipalities. In this session, panelists will share their experiences with implementing (or being unable to implement) these types of solutions in their communities.

ORGANIZED BY THE TRAFFIC OPERATIONS & MANAGEMENT COMMITTEE

#InnovativeTrafficControl

Presentation Session (Papers Optional)

SAF

This session will highlight practical innovations from across Canada that resolve traffic engineering challenges. Possible topics include non-typical intersection configurations or methods of handling multimodal traffic.

Enhancing Mobility Through Artificial Intelligence and Other Next-Generation Technologies

Presentation Session (Papers Optional)

SAF
TEC

This session will focus on next-generation technologies such as artificial intelligence that offer an opportunity for road authorities and users to benefit from improvements in safety, reliability, convenience, congestion, emissions and equity. Other topics could include connected and automated vehicles, intelligent transportation systems, shared cars and micromobility devices, and electric vehicles.

TECHNOLOGY

ORGANIZED BY THE CONNECTED & AUTOMATED VEHICLES INTEGRATED COMMITTEE

After the Hype: Demystifying CAV Technology, Deployments and State of Industry

Panel Discussion – To be considered as a potential panelist, submit a panelist application describing your related interests, qualifications and expertise. The panel discussion organizer will respond directly.

TEC

The initial "hype era" of the CAV industry has come and gone, leaving many practitioners uncertain about the true state of the industry, what to expect in future, and the appropriate actions by municipalities and provincial agencies. This session will give the audience an opportunity to engage with government and business representatives on the current state of technology and practice. Topics to be addressed may include:

- Current private vehicle deployments
- Emergence of micro-utility devices (e.g., sidewalk delivery bots, snowplows)
- Commercial goods movements (e.g., platooning, fixed-route delivery)
- Deployment challenges (e.g., safety, accessibility)
- Current state of standards and guidance (e.g., SAE, CSA Group, FCC, FHWA)
- Workforce development gaps and activities

Connected and Automated Vehicles: What Are They Good For?

Presentation Session (Papers Optional)

TEC

This session will explore whether, how and when connected and automated vehicles (CAVs) will bring about their potential benefits. Presentations could address a range of issues such as:

- Connected vehicles (CVs) – stakeholder perspectives (vendors, agencies), use cases, preparing for deployment (equipment, staffing, data management)
- Automated vehicles (AVs) – state of development and testing (robotaxis, shuttles, large buses, trucks), stakeholder perspectives (vendors, mobility services, agencies), use cases, regulatory environment (provinces, federal government)

Connected Vehicle Technologies and Infrastructure

Presentation Session (Papers Optional)

TEC

This session will provide a comprehensive overview of the current state of connected vehicle (CV) technologies, highlighting lessons learned from deployments in various communities. Presentations will provide insights into the major strategic, policy and technical considerations for community leaders. With a focus on developments in Canada, the US and internationally, the session will equip audience members with an understanding of current CV applications globally, and present actionable strategies to improve readiness.

ORGANIZED BY THE DIGITAL APPLICATIONS COMMITTEE

Digital Twinning for Transportation Assets

Presentation Session (Papers Optional)

TEC
INF

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. 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
INF
MOB
SAF

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.

ORGANIZED BY THE INTELLIGENT TRANSPORTATION SYSTEMS COMMITTEE

Innovations in Intelligent Transportation Systems

Presentation Session (Papers Optional)

TEC
INF
MOB
SAF

This session will explore how technological advances have enabled new ITS applications that move beyond traditional objectives like congestion management. Topics could include innovations in areas like wildlife detection, drone-based condition inspections, AI-based decision support, vulnerable road user safety alerting, and digital freight manifests.

Intelligent Transportation System Cyber Security

Presentation Session (Papers Optional)

TEC

Intelligent transportation system (ITS) technologies help make Canada's road transportation system safer and more efficient, but could introduce new cyber security vulnerabilities. Road authorities need to be aware of and ready for an evolving cyber threat landscape that features sophisticated criminal and state-sponsored actors. This session will explore recent advancements including new practices and resources for Canadian road authorities.

Intelligent Transportation Systems and Climate Change

Presentation Session (Papers Optional)

TEC
ENV

ITS can play a role in reducing the impacts of mobility on climate change, and in responding to climate change's disruptive impacts on transportation systems. Issues to be explored in this session could include:

- Battery electric and hydrogen fuel cell vehicles can enable reductions in carbon emissions for public and private fleets including long-haul freight. Charging and fueling infrastructure will be needed, and electricity and hydrogen producers will need to ensure an appropriate carbon intensity in their products.
- Advanced traveller information systems such as mobile apps and roadside technologies can help road authorities manage extreme weather conditions and provide guidance to citizens during wildfires or severe weather events.

Rural ITS: Opportunities and Challenges

Presentation Session (Papers Optional)

TEC
SAF

Advanced technologies and telecommunications have created new opportunities for ITS to improve safety and operations in rural communities. However, rural ITS deployments are met by challenges such as a lack of power and communications infrastructure. This session will explore rural ITS initiatives and deployments, and discuss the challenges and lessons learned.

Transportation Operations in the Evolving Digital Ecosystem

ORGANIZED IN PARTNERSHIP WITH THE TRAFFIC OPERATIONS & MANAGEMENT COMMITTEE

Presentation Session (Papers Optional)

TEC
SAF

This session will review challenges in the integration of traffic management systems and operations, and demonstrate how agencies are responding to them. It will highlight emerging mobility trends and discuss how they might affect transportation operations centre (TOC) operations and the systems that support them. Presentations could address topics such as:

- Challenges faced by urban, suburban or rural agencies in Canada and internationally, such as stakeholder engagement and aging infrastructure
- Agency responses to those challenges (e.g., urban control centres, curb/parking management)
- TOCs in a changing mobility landscape (e.g., managing carbon emissions, managing freight and commercial traffic, impacts of vehicle electrification)

Unlocking the Power of Data for Transportation Investment Planning

Presentation Session (Papers Optional)

TEC
INF
MOB

This session will highlight how to leverage an organization's asset data to develop an evidence-based investment plan that aligns with corporate objectives. It could address issues such as:

- Key data needs and sources
- The benefits of data consolidation and maintenance for better capital and operating investment decisions
- The basics of asset investment planning (AIP) and how organizations benefit from a systematic approach that is objective and offers multiple scenarios for decision making on any asset type or program

The session is intended to leave the audience with a better understanding of:

- What data is important and where can it be typically found
- Data for different purposes in managing assets
- How AIP leverages data to enable decision making
- How historical information can be used to calibrate models

ORGANIZED BY THE TECHNOLOGY COUNCIL

Drones and Road Transportation Professionals: Total Besties!

Presentation Session (Papers Optional)

TEC
INF
MOB
SAF

Drones are a game-changing technology for transportation system owners. They can help monitor traffic, inspect and maintain infrastructure, deliver goods and services, and support emergency response. Drone volumes and use cases are growing constantly, whether it's micro-drones that do not require certificates or pilot licensing, or larger drones that could be allowed to fly beyond visual line-of-sight as early as fall 2024. This session will present different use cases and examples of successful drone integration with transportation operations. Presenters will discuss costs and benefits, challenges, best practices and anticipated developments.