



Transportation Association of Canada

YEAR 2022/23 IN REVIEW

TRANSPORTATION THAT MAKES CANADA SAFE, HEALTHY AND PROSPEROUS



Transportation Association of Canada

WHO WE ARE

The Transportation Association of Canada (TAC) is a not-for-profit, national technical association that focusses on road and highway infrastructure and urban transportation.

Our 500 corporate members include all levels of governments, private companies, academic institutions, and other associations. TAC provides a neutral, non-partisan forum for those organizations, and their thousands of staff, to come together to share ideas and information, build knowledge, and pool resources in addressing transportation issues and challenges.

TAC develops publications identifying best practices and encouraging harmonization of those practices across jurisdictions. While TAC does not set standards, it is a principle source of guidelines for planning, design, construction, management, operation, and maintenance of road, highway, and urban transportation infrastructure systems and services.

“THE WORK BEING DONE BY THE ASSOCIATION’S VOLUNTEER NETWORK ACROSS OUR FOCUS AREAS MAKES VALUABLE CONTRIBUTIONS TO EVOLVING THE TRANSPORTATION SECTOR IN SUPPORT OF CANADA’S SOCIAL AND ECONOMIC GOALS.”

PRESIDENT'S MESSAGE

Hello TAC members and stakeholders from the office of the President! Having been offered the opportunity to serve in 2022, it's a privilege to work with you, the Association's volunteers, Board of Directors and staff.

Transportation is an exciting sector. Across the country, important investments are being made to support our systems, infrastructure, operations, and supply chains. Innovative practices and technology are emerging to address new and existing challenges. With so much happening in transportation, sharing information and collaborating is essential for us all to capitalize on opportunities to improve efficiency, resiliency, safety, sustainability, mobility, and equity. TAC provides a vital forum where we can connect, exchange ideas, and build knowledge.

Through online and in-person meetings, technical publications, webinars, training courses, library services, and other communication platforms, TAC offers lots of ways to learn about the latest developments in transportation. The work being done by the Association's volunteer network across our focus areas – infrastructure and asset management, environment and climate change, mobility, safety, technology and workforce development – makes valuable contributions to evolving the transportation sector in support of Canada's social and economic goals.



The vibrancy of the TAC network was particularly evident last fall when the conference and exhibition were held in person again, after two years online. The energy in Edmonton was remarkable! Thanks to everyone who contributed to its success. Our local hosts made us welcome, sponsors and exhibitors provided critical support, and volunteers and staff were instrumental in the smooth-running operation. Of course, central to it all were the hundreds of participants who generously shared and learned from each other – a great demonstration of what TAC is all about. I look forward to being part of the event again this fall and hope to see many of you when we gather in Ottawa in September.

Thank you for being a member of the Association. The commitment of so many dedicated people and organizations to work together to improve transportation in Canada is inspiring. I, along with the Board of Directors, appreciate your active participation and support as we strive towards our vision of transportation that makes Canada safe, healthy and prosperous.

SARAH THIELE
PRESIDENT

EXECUTIVE DIRECTOR'S REPORT

On behalf of the TAC staff, it's a pleasure to present this Year in Review, highlighting the Association's achievements in 2022/23.

The year brought a welcome return to some familiar routines as we started to emerge from pandemic restrictions that marked the previous two years. Reconvening in person in Edmonton for our conference, exhibition, and fall technical meetings was a big step. The TAC community was clearly ready to reconnect; the enthusiastic turnout was a vivid reminder of how much we all benefit from personal interactions and professional networking.

To complement the flagship in-person conference, we continued to offer a variety of online TAC forums in 2022/23. Outstanding rates of participation in our spring technical meetings, committee lunch and learn sessions, virtual roundtable discussions, and webinars were evidence these are meaningful ways to engage people, discuss issues and share information among a broad audience of transportation stakeholders.

We're proud to count a record-breaking number of volunteers on TAC councils and committees. Now approaching 900 people involved across our 30+ groups, this is a truly impressive network of transportation professionals. It's also a testament that people find value in active participation that allows them to build their networks, share knowledge and learn from others. Please consider becoming involved if you're not already. Your input is important; our work is made better by having a broad range of perspectives and skill sets at our tables. And there's simply no better place to meet others in the field.

Another number to celebrate is that 52 organizations contributed to at least one pooled-fund project in 2022/23. That level of activity reflects the merits of the projects being undertaken collaboratively through



TAC and members' commitment to developing tools and resources needed in the transportation sector. We salute the organizations who support project work, acknowledged in the long list presented later in this report.

A major achievement in the last year was the launch of TAC's online learning platform. As of October 2022, five road safety training courses are available. Developed in partnership with ITE Canada, we've already received very positive feedback from learners about them. We're also exploring potential additional online training courses, which we believe will be increasingly useful as the transportation workforce grows in the future.

All in all, as you read some of the details in this report, you'll see that 2022/23 was another busy and productive TAC year. We have new initiatives planned for the years ahead too, intending to improve our products, services and approaches to engaging with Association members. Soon, we'll conduct a survey to gather your feedback on our work. We look forward to hearing from you, and to continuing to serve and support this remarkable community of transportation practitioners.

DR. SARAH WELLS
EXECUTIVE DIRECTOR

FINANCIAL SUMMARY*

	ACTUAL		
	2022/23	2021/22	2020/21
Revenues	\$4,423,080	\$3,517,071	\$3,420,621
Conference & Learning Program	1,571,749	365,050	446,035
Publication Sales	262,574	393,360	206,875
Non-Government Membership Fees	567,975	567,376	507,001
Government Membership Fees	616,422	598,465	598,465
Project Contributions & Other Income	1,404,360	1,592,820	1,662,245
Expenses	\$3,703,585	\$3,027,985	\$2,709,373
Net Revenue	\$719,495	\$489,086	\$711,248
Net Assets	\$7,406,106	\$7,268,250	\$7,218,815
Unrestricted Funds	3,297,148	2,690,541	2,766,177
Invested in Capital Assets	207,508	265,518	328,463
Defined Benefit Pension Plan	613,186	1,194,825	1,634,476
Internally Restricted Funds	3,288,264	3,117,366	2,489,699

*As per audited financial statements. Includes revenue for reserves and intergovernmental programs.

PROJECT ACTIVITY

42

funded & volunteer projects

6 in progress	6 in development	30 volunteer
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CONFERENCE ACTIVITY

87

sessions delivered

MEMBER RETENTION RATE

90.1%

SIZE OF VOLUNTEER BASE

888 unique individuals on active councils, committees & PSCs

SIZE OF RESERVES

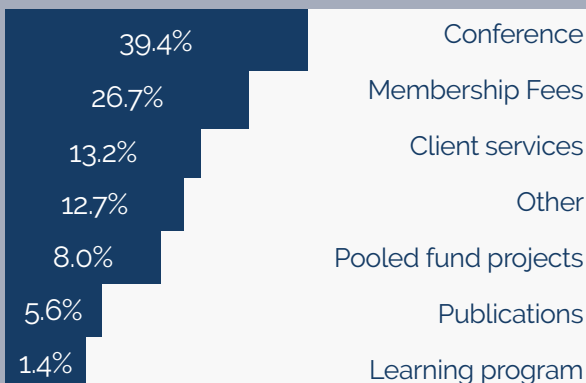
\$3,288,264

MEMBERSHIP DISTRIBUTION

505

 CORPORATE MEMBERS

DIVERSIFICATION OF REVENUE



Municipalities **227**

Private sector organizations **203**

26 Educational institutions

23 Associations

14 F/P/T govt depts of transport

12 Govt non-transport dept or transportation agency

BOARD OF DIRECTORS

TAC is governed by a Board of Directors elected from all levels of government, the private sector, and other organizations. The Board sets the strategic direction for our Association and oversees TAC's volunteer structure.

EXECUTIVE

PRESIDENT & CHAIR	VICE-PRESIDENT, F/P/T	VICE-PRESIDENT, MUNICIPAL	VICE-PRESIDENT, MEMBERS-AT-LARGE	TREASURER	SECRETARY
Sarah Thiele Deputy Minister <i>Manitoba Transportation and Infrastructure</i>	Peter Hackett Deputy Minister <i>Nova Scotia Public Works</i>	Lon LaClaire General Manager, Engineering Services <i>City of Vancouver</i>	Scott Stewart Chief Executive Officer <i>Arcadis IBI Group</i>	Michael Thompson General Manager, Infrastructure Services <i>City of Calgary</i>	Sarah Wells Executive Director <i>Transportation Association of Canada</i>

OTHER DIRECTORS

Brad Anguish	Executive Director, Public Works	Halifax Regional Municipality
Jim Berezowsky	Director of Public Works	City of Winnipeg
Hugues Bessette	Director, Urban Development Projects, Urban Planning and Mobility	City of Montreal
Gerry Chaput	Director, Partnerships	Arcadis IBI Group
Bob Creed	Deputy Minister	Prince Edward Island Transportation and Infrastructure
Cory Grandy	Deputy Minister	Newfoundland and Labrador Transportation and Infrastructure
Barbara Gray	General Manager, Transportation Services	City of Toronto
Catherine Harwood	Deputy Minister	Yukon Highways and Public Works
John Hawkins	Assistant Deputy Minister	Nunavut Economic Development and Transportation
Stephanie Hébert	Assistant Deputy Minister, Programs	Transport Canada
Doug Jones	Deputy Minister	Ontario Ministry of Transportation
Steve Loutitt	Deputy Minister	Northwest Territories Department of Infrastructure
Jeannette Montufar	Founding Partner and CEO	MORR Transportation Consulting
Frédéric Pellerin	Assistant Deputy Minister, Engineering and Infrastructure	Ministère des Transports et de la Mobilité durable du Québec
Suzanne Proulx	Executive Director	AQTr
Patrick Puccini	Vice President	AECOM Canada Limited
Bryce Stewart	Deputy Minister	Alberta Transportation and Economic Corridors
Rob Taylor	Deputy Minister	New Brunswick Transportation and Infrastructure
Kevin Volk	Assistant Deputy Minister, Major Projects, Infrastructure & Properties	British Columbia Ministry of Transportation and Infrastructure
Blair Wagar	Deputy Minister	Saskatchewan Ministry of Highways



**THIS IS AN
EXCITING TIME
TO BE IN THE
TRANSPORTATION
SECTOR – THERE IS
A LOT OF GROWTH
AND CHANGE
HAPPENING AT
A RAPID PACE.**

ADVANCING TAC'S WORK

FOCUS AREAS ARE THE OVER-ARCHING TENETS THAT INFLUENCE THE TECHNICAL WORK OF THE ASSOCIATION.

Aligned with TAC's vision, focus areas describe core interests of TAC's councils and committees.

These focus areas and their descriptions are from TAC's 2017 Strategic Plan.



ENVIRONMENT & CLIMATE CHANGE

Transportation and the environment have a complex and critical relationship. To protect the environment while also providing for the mobility of goods and people, transportation-related works must take into consideration many factors, including striving to conserve natural resources, prevent pollution and protect the ecology. Furthermore, transportation is known to generate significant greenhouse gasses, which affect the world's climate. It is also a sector that faces serious challenges to ensure that infrastructure is resilient to the impacts of climate change, including unpredictable weather and storm events. Sharing research about, and experience with, environmental practices, mitigation and adaptation initiatives is important to ensure Canada's transportation network continues to provide the level of service the Canadian economy and people require every day.



INFRASTRUCTURE & ASSET MANAGEMENT

Transportation is an enabler, critically important to support Canada's social, economic and environmental goals. The transportation network relies on safe, secure, solid infrastructure that can be efficiently planned, built, maintained and operated. The challenge of securing long-term sustainable infrastructure funding is an ongoing concern, given the fiscal realities most regions are facing. Despite recent significant investments by governments and the private sector in roads, bridges and public transit, the need for more persists. Alternative financing models, such as public-private partnerships, offer opportunities to fund projects and share the risks and benefits of investing in transportation. Asset management programs, which help ensure those investments are made in the right projects at the right time, are being implemented in more and more jurisdictions. Many jurisdictions are also looking for ways to include not only condition data in their asset management analyses, but also social, environmental and innovation factors.



MOBILITY

Mobility is a paradigm that stretches transportation beyond its traditional limits. TAC members recognize the importance of considering mobility as a service, for both goods and people. Seamless, integrated multi-modal transportation is the long-sought mobility solution. Greater attention is being paid to the integration of land use planning and transportation, recognizing the potential that offers to improve mobility and enhance urban form. Increasing the use of active modes of transportation, like walking and cycling, offers benefits for both individual and environmental health. Planning, designing and building 'complete streets', which accommodate all modes of transportation for users of all ages and abilities, is expected to improve the overall health of our communities. Tools and guidelines are needed to support transportation professionals as they incorporate these kinds of approaches in their work.

OUR VISION

Transportation that makes Canada safe, healthy and prosperous

OUR MISSION

Working together to share ideas, build knowledge, promote best practices, foster leadership, and encourage bold transportation solutions



SAFETY

Safety in Canada's transportation network is a priority for TAC and its members. The rate of deaths and injuries of road users – whether they be in a vehicle or in a work zone, riding a bike, motorcycle or mobility device, on public transit or on foot – is a public health issue that is both devastating and costly. Transportation professionals are tackling the problem from all angles, considering engineering, education and enforcement and adopting safe systems approaches to plan, design, and build infrastructure and deliver transportation services. Fundamentally, most every TAC technical guideline offers means, directly or indirectly, to improve and ensure transportation safety.



TECHNOLOGY

In all aspects of modern life, technology is changing rapidly. In transportation, innovation and technological developments may have potentially profound impacts on demand for, and construction, operation, maintenance and delivery of, infrastructure and services. The future will look different than the present as intelligent systems, automated and connected vehicles, unmanned aerial vehicles, and electrification initiatives change transportation as we know it. Connectivity also means vast amounts of data are generated that offer the potential to improve transportation, but processing and analyzing the data to make them useful to decision-makers and understood by the public, is a challenge to address. Opportunities abound to evolve transportation for the benefit of all Canadians.



WORKFORCE DEVELOPMENT

The transportation profession, like many others, is experiencing demographic changes, including significant retirement rates at senior levels in the public and private sectors. As a result, priority is being put on identifying and implementing good recruitment and retention practices, succession planning, knowledge management and leadership development. At the same time, the transportation profession is seeing changes whereby new and sometimes non-traditional skills are needed by those who work with evolving technologies or in multi-disciplinary environments. TAC members are interested in building and strengthening the sector and its workforce by attracting people to the profession, expanding learning and career growth, and developing leaders that will take the industry into the future.

COLLECTIVELY, THESE ARE THE FACE THAT TAC PRESENTS OUTWARDLY TO THE WORLD IN ITS TECHNICAL DISCUSSIONS, PROJECTS AND PUBLICATIONS, AND ANY OTHER PRODUCTS FOR MEMBERS AND STAKEHOLDERS.



ENVIRONMENT & CLIMATE CHANGE

The **Environment and Climate Change Council** guides TAC in fulfilling its commitment to protection of the environment and climate in the delivery of transportation services, and in the planning, approval, design, construction, operation, maintenance and rehabilitation of transportation infrastructure. It provides a national forum for information exchange and problem solving related to climate change mitigation and adaptation, environmental impact avoidance and mitigation, environmental legislation and regulation, and environmental management systems.



TOPICS AT THIS YEAR'S MEETING

This year, volunteers on the Environment & Climate Change Council and its committees heard presentations on varied topics including British Columbia's best management practices for bats and bridges, transportation emissions modelling for climate action, and consultation with Indigenous peoples. They also discussed environmental management systems in government agencies, vehicle electrification, enabling fish passage through culverts, and climate resiliency for goods movement in Peel Region.

GUIDING TRANSPORTATION PRACTITIONERS IN THE USE OF CLIMATE DATA

Canada's changing climate will have significant impacts on transportation systems, and having realistic data on tomorrow's climate is essential to building resiliency today. A three-part series of free webinars, led by experts from Environment and Climate Change Canada, explained key climate information concepts, reviewed key sources of climate information, and explored how risk assessments can identify vulnerabilities and actions to mitigate them.

BUILDING UNDERSTANDING OF FEDERAL LEGISLATION

Because federal environmental regulatory processes often impact transportation projects, a key goal of TAC's Environment & Climate Change Council and its Environmental Legislation Committee is to keep members up to date on the state of regulation, and to facilitate their sharing of information on related challenges. Attendees at TAC's spring and fall technical meetings routinely discuss the *Fisheries Act*, *Impact Assessment Act*, and *Canadian Navigable Waters Act*.



THE COUNCIL IS SUPPORTED BY:

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

COUNCIL CHAIR

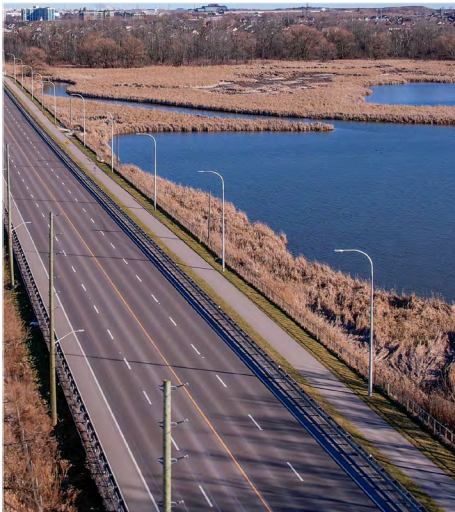
Ethan Askey
City of Calgary

COUNCIL VICE-CHAIR

Dawn Irish
Ontario Ministry of Transportation

BOARD LIAISON

Lon LaClaire
City of Vancouver



2022 TAC ENVIRONMENTAL ACHIEVEMENT AWARD

THIS AWARD RECOGNIZES A TAC MEMBER ORGANIZATION FOR INITIATIVES THAT DEMONSTRATE EXCELLENCE IN THE PROTECTION AND ENHANCEMENT OF THE NATURAL ENVIRONMENT THROUGH TRANSPORTATION PROJECTS.

WINNER: Regional Municipality of Durham, Ontario
PROJECT: Victoria Street Reconstruction and Widening

CLIMATE ACTION ACHIEVEMENT AWARD GIVEN FOR THE FIRST TIME

TAC's Climate Action Achievement Award, one of five new Technical Achievement Awards, was given for the first time in 2022. A panel of volunteers reviewed abstracts and detailed applications before recommending the award go to the Ville de Montréal for its Transportation Electrification Strategy. This award highlights the valuable efforts that TAC member organizations are making to both combat and adapt to climate change.

2022 TAC CLIMATE ACTION ACHIEVEMENT AWARD

THIS AWARD RECOGNIZES INITIATIVES THAT DEMONSTRATE EXCELLENCE IN MITIGATING EMISSIONS FROM TRANSPORTATION THAT CAUSE CLIMATE CHANGE, AND/OR IN IMPROVING THE RESILIENCY OF TRANSPORTATION SYSTEMS IN RESPONSE TO CLIMATE CHANGE.

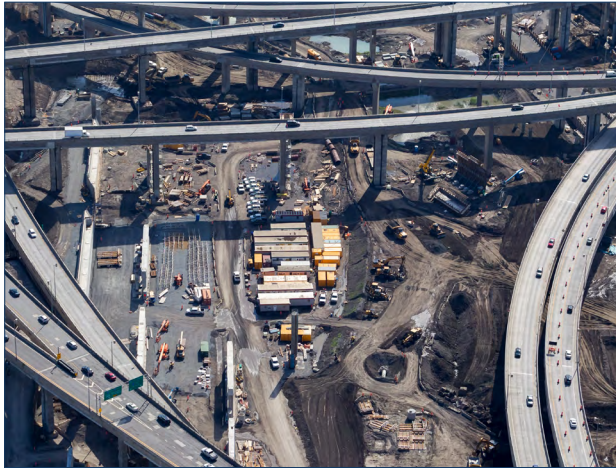
WINNER: Ville de Montréal, Québec
PROJECT: Transportation Electrification Strategy /
Stratégie d'électrification des transports





INFRASTRUCTURE & ASSET MANAGEMENT

The **Infrastructure and Asset Management Council** guides TAC in fulfilling its commitment to safe, efficient and sustainable transportation infrastructure. It provides a national forum for information exchange and problem-solving related to soils and materials, pavements, structures, asset management, and construction and maintenance practices.



TOPICS AT THIS YEAR'S MEETINGS

Meetings of the Infrastructure & Asset Management Council and its six committees heard about a wide variety of technical issues this year. Presentation topics included changes to spring load restrictions in Ontario, asset management for sustainable infrastructure, light rail transit in Edmonton, culvert assets in New Brunswick, winter maintenance benchmarking, pavement preservation guidelines in Alberta, worker safety, and the use of digital images to generate surface cracking indices.

NEW TRAINING COURSE UNDER DEVELOPMENT

This year, TAC contracted with the authors of its 2021 publication *Performance-Based Decision Making for Asset Management: Lessons Learned and Practitioner Toolkit* to develop and deliver related training. When it becomes available in 2023/24, the instructor-led online course "Data Management for Performance-Based Decision Making" will equip transportation engineering managers with the knowledge they need to meet key objectives for transparency, accountability and security in a "big data" world.

SHARING KNOWLEDGE ABOUT RECYCLED ASPHALT PAVEMENTS

As many TAC councils and committees continue to hold online Lunch & Learn events on topics of interest, the Recycled Asphalt Pavement (RAP) Subcommittee of the Soils & Materials Committee held its fourth and fifth Lunch & Learns this year. Both events – one on the status of rejuvenators in the U.S., and the other on the use of RAP in France – involved international speakers. This series of RAP Lunch & Learns will continue in 2023, and insights from them will be applied in an upcoming TAC pooled-fund project.



THE COUNCIL IS SUPPORTED BY:

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

COUNCIL CHAIR

Jennifer Graham Harkness
Ontario Ministry of Transportation

COUNCIL VICE-CHAIR

Brad Neirinck
City of Winnipeg

BOARD LIAISON

Stephanie Hébert
Transport Canada



FIRST YEAR FOR TAC'S INFRASTRUCTURE ACHIEVEMENT AWARD

TAC's inaugural Infrastructure Achievement Award, recognizing excellence in the delivery of major transportation infrastructure projects, was given out in 2022. A review panel of volunteers from several committees selected British Columbia's Ministry of Transportation and Infrastructure as this year's winner for its Ten Mile Slide Slope Stabilization project.

2022 TAC INFRASTRUCTURE ACHIEVEMENT AWARD

THIS AWARD RECOGNIZES INITIATIVES THAT DEMONSTRATE EXCELLENCE IN THE USE OF BEST PRACTICES TO DELIVER SAFE, DURABLE AND EFFICIENT TRANSPORTATION INFRASTRUCTURE, WITH A FOCUS ON MAJOR ROAD, HIGHWAY AND URBAN TRANSPORTATION ASSETS.

WINNER: British Columbia Ministry of Transportation and Infrastructure

PROJECT: Ten Mile Slide Slope Stabilization

UPDATE ON POOLED-FUND PROJECTS

A project on using recycled asphalt pavements in asphalt mixtures was added to TAC's list of pooled-fund projects in development. This project would develop new Canadian guidance around material management, mixture design, plant production, and laydown of asphalt mixes produced with recycled asphalt pavements to ensure proper performance.

Two other pooled-fund projects made progress this year. A project to develop guidance for the paving of bridges is nearing completion, while a project to update TAC's *Guide to Bridge Hydraulics* now has a consulting team on board and is making progress.



MOBILITY

The **Mobility Council** guides TAC in fulfilling its commitment to integrated, multimodal mobility for people and goods. It provides a national forum for information exchange and problem-solving related to: planning, monitoring, governing and funding transportation systems, particularly in urban areas; understanding and managing transportation demand; and delivering mobility services related to active transportation, public transit and other modes in communities of all sizes.



TOPICS AT THIS YEAR'S MEETINGS

Supported by its four committees, the Mobility Council addresses many aspects of integrated, multimodal mobility. Recent presentations have covered regional transportation plans in Greater Vancouver and the Greater Golden Horseshoe, last-kilometre goods movement, and an academic perspective on transportation system disruptions. Other issues of recent interest include universally accessible design, electric vehicles, public-private partnerships, and transportation modelling.

WEBINAR SHOWCASES HALIFAX'S BOLD MOVE TO IMPROVE MOBILITY

Many Canadian cities struggle with what to do about aging and outdated roads. Halifax Regional Municipality faced its own challenge in the form of the underutilized Cogswell Interchange, which divided downtown communities when it was built in the 1970s. A TAC webinar explored issues and opportunities presented by the interchange's removal, including the creation of a new mixed-use neighbourhood and improved options for safe and sustainable travel by residents.

VOLUNTEER PROJECTS FORGE AHEAD

Two volunteer groups prepared reports for approval by the Mobility Council. One addressed key issues in transportation funding, such as the impacts of electric vehicles on gas tax revenues, and the other looked at road designs that incorporate continuous sidewalks and bike paths at local street crossings.

POOLED-FUND PROJECTS CONTINUE

A new project on shared micromobility services across Canada was successfully launched this year, with a request for proposals issued and consultant selection initiated. Another project, on mobility pricing opportunities and challenges, continued its progress and is nearing completion.



THE COUNCIL IS SUPPORTED BY:

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

COUNCIL CHAIR

Brian Hollingworth
City of Hamilton

COUNCIL VICE-CHAIR

David MacIsaac
Halifax Regional Municipality

BOARD LIAISON

Michael Thompson
City of Calgary

TAC'S INAUGURAL ACTIVE TRANSPORTATION ACHIEVEMENT AWARD

Complementing its pre-existing Mobility Achievement Award, the Mobility Council approved the first-ever Active Transportation Achievement Award in 2022. After volunteers reviewed numerous applications, they recommended that the award go to the City of Toronto, in partnership with IBI Group, for its ActiveTO Midtown Complete Street pilot project.

2022 ACTIVE TRANSPORTATION ACHIEVEMENT AWARD

THIS AWARD RECOGNIZES INITIATIVES THAT DEMONSTRATE EXCELLENCE IN THE IMPROVEMENT OF FACILITIES OR SERVICES TO ENCOURAGE AND BENEFIT PEOPLE WHO WALK, BIKE OR USE OTHER FORMS OF ACTIVE TRANSPORTATION.

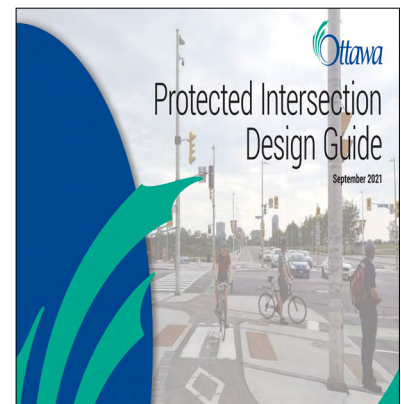


WINNER: City of Toronto, Ontario in partnership with IBI Group
PROJECT: ActiveTO Midtown Complete Street Pilot

2022 MOBILITY ACHIEVEMENT AWARD

THIS AWARD RECOGNIZES INITIATIVES THAT DEMONSTRATE EXCELLENCE IN THE DELIVERY OF INTEGRATED OR MULTIMODAL MOBILITY FOR PEOPLE AND GOODS, WHILE REINFORCING THE SOCIAL, ECONOMIC AND ENVIRONMENTAL PILLARS OF SUSTAINABILITY.

WINNER: City of Ottawa, Ontario in partnership with Alta Planning + Design Canada
PROJECT: Protected Intersection Design Guide





SAFETY

The **Safety, Design and Operations Council** guides TAC in fulfilling its commitment to a safe and efficient transportation system with enhanced mobility and a reduced rate of death and injury among all road users. It provides a national forum for information exchange and problem-solving related to road safety programs, geometric design and traffic operations as key elements of a safe systems approach; it also offers a lens on priority issues for small municipalities.



TOPICS AT THIS YEAR'S MEETINGS

In fulfilling its broad mandate, the Safety, Design & Operations Council discussed topics as diverse as climate vulnerabilities in TAC's *Geometric Design Guide for Canadian Roads*, equity considerations in road safety, and municipal liability related to winter maintenance. It also received presentations on pedestrian crossing safety in Edmonton, and on testing automated vehicle technologies.

TAC ENTERS THE AGE OF ONLINE TRAINING

TAC launched "Road Safety for Canadian Practitioners," the most in-depth online training program for road safety engineering in North America and the product of a partnership with ITE Canada. The program's five courses are accessible through TAC's new, cloud-based learning management system that makes both self-directed and instructor-led training more affordable and accessible.

NEW ONLINE COMPREHENSION TESTING TOOL FOR SIGNS AND SIGNALS

TAC launched an online platform to help ensure that the intent of new road signs and traffic signals is understood by road users. The tool was created during the development of TAC's *Manual of Uniform Traffic Control Devices for Canada, Sixth Edition*. Members of TAC's Traffic Operations & Management Committee coordinate the tests, and TAC's member organizations are invited to promote each opportunity to their citizens.

VISION ZERO AND THE SAFE SYSTEM APPROACH

In March 2023, TAC published *Vision Zero and the Safe System Approach: A Primer for Canada*. This concise introduction to a hot topic resulted from a volunteer project of the Road Safety Committee. Volunteers also led a free TAC webinar that was viewed live by more than 250 participants.



NEW POOLED-FUND PROJECTS

In the fall of 2022, two new projects were approved to seek pooled-fund commitments. One project will study the design and operation of lower-speed collector and arterial roads, and was fully funded by the end of 2022/23. The other will synthesize practices related to roadway cross section elements as a major step towards an update of Chapter 4 of TAC's *Geometric Design Guide for Canadian Roads*.



THE COUNCIL IS SUPPORTED BY:

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

COUNCIL CHAIR

Ashley Curtis
City of Toronto

COUNCIL VICE-CHAIR

Vacant

BOARD LIAISON

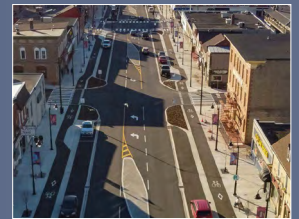
Kevin Volk
British Columbia Ministry of Transportation
and Infrastructure

SMALL MUNICIPALITIES ACHIEVEMENT AWARD MAKES ITS DEBUT

Volunteers from TAC's Small Municipalities Integrated Committee reviewed the first-ever applications for this award, and recommended that it be given to the Town of Smiths Falls, Ontario, in partnership with Parsons, for its Beckwith Street Revitalization.

2022 SMALL MUNICIPALITIES ACHIEVEMENT AWARD

THIS AWARD RECOGNIZES INITIATIVES THAT DEMONSTRATE EXCELLENCE IN THE USE OF BEST PRACTICES TO IMPROVE TRANSPORTATION SYSTEM PERFORMANCE IN RURAL OR SMALL URBAN COMMUNITIES, WITH A PRINCIPAL FOCUS ON ROAD SAFETY AND TRAFFIC OPERATIONS.



WINNER: Town of Smiths Falls, Ontario in partnership with Parsons

PROJECT: Beckwith Street Revitalization

2022 ROAD SAFETY ACHIEVEMENT AWARD

THIS AWARD RECOGNIZES INITIATIVES THAT DEMONSTRATE EXCELLENCE IN THE APPLICATION AND ADVANCEMENT OF ROAD SAFETY ENGINEERING PRACTICES.



WINNER: Regional Municipality of York, Ontario in partnership with EXP

PROJECT: Pedestrian and Cycling Intersection Safety Pilot

RESEARCHING NON-STANDARD PAVEMENT MARKINGS FOR CROSSWALKS

A pooled-fund project researching non-standard pavement markings for crosswalks (e.g., "rainbow crosswalks") was completed and released. The research addresses uncertainties about the impacts of such crosswalks on pedestrian and driver safety. It involved a review of international literature, interviews with experts, a survey of North American jurisdictions, and simulation-based testing of road user perceptions and reactions. The report will inform future work by TAC volunteers to develop new guidance on crosswalk markings in the *Manual of Uniform Traffic Control Devices for Canada*.

TOWARD A NEW ROAD SAFETY GUIDE FOR CANADA

This pooled-fund project launched after receiving funding commitments from more than 30 partner organizations. The project will create a new foundational publication for TAC by updating and expanding on the *Canadian Road Safety Engineering Handbook (CRaSH)*, a series of publications released over two decades. The target audience for the new Guide will be employees of TAC member organizations in the public, private and academic sectors who focus on engineering but also require an understanding of the broader system that influences road safety outcomes.



TECHNOLOGY

The **Technology Council** guides TAC in fulfilling its commitment to the innovative, efficient and effective integration of technology across the transportation sector. It provides a national forum for information exchange and problem-solving related to intelligent transportation systems, connected and automated vehicles, vehicle electrification, data management, cybersecurity and smart cities.

TOPICS AT THIS YEAR'S MEETINGS

This year, the Technology Council continued to explore a range of ways that technology is challenging current practices in transportation, even as it enables new solutions. Members heard presentations on guidance for connected and automated vehicle (CAV) infrastructure being developed by the CSA Group, and on intelligent transportation system (ITS) initiatives in British Columbia. The Council and its three committees also discussed topics from road safety to smart work zones, digital twinning, and micro-utility automated vehicles.



CREATION OF CONNECTED & AUTOMATED VEHICLES INTEGRATED COMMITTEE

During TAC's spring 2022 meetings, the Technology Council approved terms of reference for a new CAV Integrated Committee to carry on the work of the CAV Task Force that the Board of Directors created in 2018. Over three years, Task Force members held six meetings, organized numerous conference sessions, wrote a primer on CAVs for Canadian municipalities, and aided the creation of a CAV discussion paper, an inventory of Canadian initiatives, a lexicon of terms, and a list of resources for practitioners.

NEW TECHNOLOGY ACHIEVEMENT AWARD

The Technology Council approved the first-ever winner of the Technology Achievement Award – a project by the Regional Municipality of Durham, Ontario, in partnership with Visual Defence Inc., that automated the detection and analysis of potholes by patrol vehicles.

2022 TECHNOLOGY ACHIEVEMENT AWARD

THIS AWARD RECOGNIZES INITIATIVES THAT DEMONSTRATE EXCELLENCE IN THE USE OF ADVANCED TECHNOLOGIES TO ADDRESS ROAD, HIGHWAY OR URBAN TRANSPORTATION CHALLENGES.

WINNER: Regional Municipality of Durham, Ontario in partnership with Visual Defence Inc.

PROJECT: Road Maintenance Innovation

What is Rover?

R ROVER is an app that is installed on a smartphone, that automatically detects and identifies potholes on the road using artificial intelligence and maps them.



VOLUNTEER PROJECT TO CONSIDER A FRAMEWORK FOR HARMONIZING ROAD AUTHORITY DATA

With support from other TAC committees, the Technology Council initiated a new volunteer project that will survey TAC member organizations and identify the benefits and challenges of harmonizing the structures and formats of major transportation datasets.

THE COUNCIL IS SUPPORTED BY:

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

COUNCIL CHAIR

Jeannette Montufar
MORR Transportation Consulting

COUNCIL VICE-CHAIR

Ken Moshi
Transport Canada

BOARD LIAISON

Scott Stewart
Arcadis IBI Group

WORKFORCE DEVELOPMENT



The **Workforce Development Council** guides TAC in fulfilling its commitment to supporting the development of a skilled, interdisciplinary workforce for Canada's transportation sector. It provides a national forum for information exchange and problem solving related to: recruiting and retaining professional and technical staff; building leadership and managing knowledge within TAC member organizations; encouraging post-secondary institutions to develop and enhance transportation-related programs; and encouraging students to learn about and find employment in the transportation sector.



TOPICS AT THIS YEAR'S MEETINGS

The Workforce Development Council continued to expand its footprint in the realm of education, professional development and human resources. It heard presentations on the recruitment and retention of technical experts in TAC member organizations, and on the objectives and processes of the Canadian Engineering Accreditation Board. The Council's three committees also remained busy, with a focus on topics such as the use of TAC publications as teaching tools, student awareness of transportation careers, hybrid work models, online learning, and knowledge transfer in organizations.

DEVELOPING HIGHLY QUALIFIED PERSONNEL

A major pooled-fund project report, *Developing Highly Qualified Personnel for an Era of Connected and Automated Vehicles*, was published by TAC and made available as a free download. The report's lead author presented the project and its recommendations to several interested groups, including TAC's Board of Directors.

TASK FORCE TO IDENTIFY PRIORITY ACTIONS ON HIGHLY QUALIFIED PERSONNEL

The Workforce Development Council created a task force that is prioritizing recommendations in TAC's publication *Developing Highly Qualified Personnel for an Era of Connected and Automated Vehicles*. By fall 2023, volunteer members of the Task Force will consult with stakeholders, conduct additional analysis, and report back to the Council with its suggested actions for TAC's Board of Directors, Secretariat staff, and volunteer councils and committees.

ENCOURAGING THE USE OF TAC PUBLICATIONS AS POST-SECONDARY TEACHING TOOLS

TAC's member organizations need employees who are familiar with Canadian road design guidance and practices. For this reason, TAC would like to increase the use of the *Geometric Design Guide for Canadian Roads* (and several other products) in college and university courses. This year, the Education Committee supported a survey of geometric design and traffic engineering instructors at Canadian colleges and universities to ask how they use the Guide as a teaching tool, and how TAC could encourage its use for the benefit of students, instructors and Canada's transportation sector.

THE COUNCIL IS SUPPORTED BY:

- Education Committee
- Human Resources Committee
- Professional Development Committee

COUNCIL CHAIR

Sean Nix
Sheridan College

COUNCIL VICE-CHAIR

Brittney Speed
British Columbia Ministry of Transportation
and Infrastructure

BOARD LIAISON

Patrick Puccini
AECOM Canada Limited

OTHER HIGHLIGHTS

TRAINING PROGRAM BUILDS MOMENTUM

In October 2022, TAC launched its new Online Training Centre, a flexible cloud-based learning management system that supports both self-directed and instructor-led courses.

The first courses offered were the five modules of "Road Safety for Canadian Practitioners," a comprehensive online training program developed through a pooled-fund project in partnership with ITE Canada. Very positive feedback from learners on their experience has confirmed the training program's value for both individuals and their employers.

At its meeting in the fall of 2022, TAC's Board of Directors approved the allocation of some funds from TAC's reserves to develop more training. Work has begun to create new courses on data management for performance-based decision making, and on geometric design.

TAC WEBINARS CONTINUE TO ATTRACT AUDIENCES

TAC provides year-round learning opportunities through free webinars that are recorded and available to stream from our website. This year, more than 1,575 participants attended the following live events:

- ▶ A series of three webinars, "Using Climate Information in the Transportation Sector," offered a comprehensive look at the use of climate information for decision making, finding and accessing climate data, and assessing climate risks
- ▶ An overview of TAC's new publication *Developing Highly Qualified Personnel for an Era of Connected and Automated Vehicles*
- ▶ A presentation on Vision Zero and the Safe System Approach in Canada
- ▶ A presentation on the removal of the Cogswell Interchange in downtown Halifax
- ▶ The winners and finalists for each of TAC's 2022 Technical Achievement Awards
- ▶ A series of three Corporate Demos featured presentations by TAC sponsors about innovative projects, tools or services

TECHNICAL MEETINGS AND ACADEMIC ROUNDTABLE

TAC's Fall Technical Meetings in 2022 returned to an in-person setting – attracting 925 participants to 32 council and committee meetings in Edmonton – after being held online in 2020 and 2021. The 2022 Spring Technical Meetings were held online with more than 1,150 participants and 660 unique individuals attending at least one event. The spring meetings will continue to take place online in future to maximize the number of volunteers who can attend at least one meeting each year, and to reduce the cost and environmental impacts of our technical meetings.

TAC's second Academic Roundtable meeting took place in June 2022, with 22 researchers and instructors participating. The event offered an overview of the Association's programs and services for academics and post-secondary students, and included discussions on sharing research, connecting public agencies to academic researchers, and using TAC publications in the classroom. The Academic Roundtable helps TAC strengthen its engagement with professors and students via its councils and committees, technical projects and publications.



PROJECT FUNDING COMMITMENTS

TAC's pooled-fund project model allows member and partner organizations to collaboratively produce national technical guidelines, syntheses of practice, and research reports. As shown below, TAC's 2022/23 pooled-fund projects (including those in progress and in development) were supported by 52 different organizations — with half of those funders supporting three or more projects.

This success is evidence of the benefits of a pooled-fund approach – collaborating organizations can maximize the impact of their own resources while they leverage TAC's experience in managing projects and producing respected publications. They also give their staff the opportunity to participate on project steering committees, where they work closely with peers and experts from across Canada.

- 3M Canada
- Alberta Transportation and Economic Corridors
- Autorité régionale de transport métropolitain
- British Columbia Ministry of Transportation and Infrastructure
- Bunt and Associates
- Canadian Association of Road Safety Professionals
- City of Brampton
- City of Burlington
- City of Calgary
- City of Edmonton
- City of Guelph
- City of Hamilton
- City of Kamloops
- City of Kelowna
- City of Kingston
- City of London
- City of Mississauga
- City of Moncton
- City of Ottawa
- City of St. Albert
- City of St. John's
- City of Saskatoon
- City of Toronto
- City of Vancouver
- City of Vaughan
- City of Whitehorse
- City of Winnipeg
- Durham Region
- G. Ho Engineering Consultants
- Halifax Regional Municipality
- Insurance Corporation of British Columbia
- ITE Canada
- Manitoba Transportation and Infrastructure
- McAsphalt Industries
- Ministère des Transports et de la Mobilité durable du Québec
- National Research Council Canada
- New Brunswick Department of Transportation and Infrastructure
- Newfoundland and Labrador Transportation and Works
- Northwest Territories Department of Infrastructure
- Nova Scotia Public Works
- Ontario Ministry of Transportation
- Prince Edward Island Transportation and Infrastructure
- Region of Peel
- Region of Waterloo
- Saskatchewan Government Insurance
- Saskatchewan Ministry of Highways
- Town of Milton
- TransLink
- Transport Canada
- Ville de Montréal
- York Region
- Yukon Highways and Public Works

OVER THE LAST 20 YEARS, TAC HAS WORKED WITH ALMOST **80 FUNDING PARTNERS** TO UNDERTAKE ABOUT **150 POOLED-FUND PROJECTS** HAVING AN AGGREGATE VALUE OF **\$15 MILLION.**

BACK IN PERSON FOR CONFERENCE 2022

The 2022 TAC Conference & Exhibition was the Association's first major in-person event since 2019 due to the COVID-19 pandemic. Extraordinary support from conference hosts Alberta Transportation, in partnership with the City of Edmonton and the City of Calgary, made the Edmonton-based event a success. Attendance was high and the energy onsite was palpable as delegates were excited to network, share, and learn face-to-face.

The event featured live-streaming of the Opening Plenary and the Monday and Wednesday Lunch events. The Exhibition space and floor plan were large, well-designed, and good for encouraging networking. A large technical program offered a wide variety of sessions discussing topics related to transportation planning and finance, engineering practices, climate change, mobility, road safety, using technology and data, and much more. The conference's technical content and planning also prioritized sustainability, implementing measures to conserve resources, reduce waste, and offset carbon emissions.

The TAC Conference & Exhibition has become one of the keystone transportation conferences of the year. The transportation industry, and its members, are stronger when we share knowledge, ask tough questions, and grow together as professionals.



MAKING CONNECTIONS ACROSS THE TRANSPORTATION SECTOR

Networking is an essential tool for sharing information and learning about the latest issues and innovations relevant to the transportation sector. TAC strives to connect with other organizations to ensure work on our shared interests is comprehensive, complementary, and makes efficient use of our volunteers' scarce resources. TAC connected with the following organizations in 2022/23:

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, ASPHALT INSTITUTE OF CANADA, ASSOCIATION OF CONSULTING ENGINEERING COMPANIES – CANADA, ASSOCIATION QUÉBÉCOISE DES TRANSPORTS, CANADIAN ASSOCIATION OF ROAD SAFETY PROFESSIONALS, CANADIAN CONSTRUCTION ASSOCIATION, CANADIAN COUNCIL OF MOTOR TRANSPORT ADMINISTRATORS, CANADIAN ENGINEERING ACCREDITATION BOARD, CANADIAN SOCIETY FOR CIVIL ENGINEERING, CANADIAN TECHNICAL ASPHALT ASSOCIATION, CANADIAN TRANSPORT RESEARCH FORUM, CANADIAN URBAN TRANSIT ASSOCIATION, CEMENT ASSOCIATION OF CANADA, CNIB FOUNDATION, COORDINATING COUNCIL ON AUTOMATED AND CONNECTED VEHICLES, CSA GROUP'S CONNECTED AND AUTOMATED VEHICLES ADVISORY COUNCIL, ITE CANADA, ITRD, ITS CANADA, NATIONAL RESEARCH COUNCIL CANADA, ONTARIO SMART MOBILITY READINESS FORUM, TAC FOUNDATION, TECHNOLOGY ACCREDITATION CANADA, TRANSPORTATION RESEARCH BOARD, AND THE WORLD ROAD ASSOCIATION.

INDIVIDUAL & COMMITTEE AWARDS

2022 VOLUNTEER CONTRIBUTION AWARD RECIPIENTS

DISTINGUISHED SERVICE AWARD

- Gerry Chaput, IBI Group
- Ruth Eden (late), formerly with Manitoba Transportation and Infrastructure
- Anne-Marie Leclerc, Ministère des Transports du Québec

INDIVIDUAL CONTRIBUTION AWARD

- Stephen Legaree, Alberta Transportation
- Bruno Marquis, Ministère des Transports du Québec
- Marian Mithani, City of Toronto

LEADERSHIP AWARD

- Pedram Izadpanah, True North Safety Group
- Shauna Lehmann, Saskatchewan Ministry of Highways

COMMITTEE EXCELLENCE AWARD

- Connected & Automated Vehicles Task Force
- Environmental Legislation Committee
- Public Utilities Management Subcommittee

2022 YOUNG PROFESSIONAL AWARD RECIPIENTS

YOUNG TRANSPORTATION PROFESSIONAL AWARD

- Matt Pinder, WSP Canada

2022 STUDENT PAPER AWARD RECIPIENTS

1ST PRIZE: Mohamed Saleh, University of Alberta

Evaluation of Cracking Resistance and Permanent Deformation of Control and Fibre Modified Plant Produced Hot Mix Asphalt

2ND PRIZE: Alanna Yu, University of British Columbia

Vehicle fleet electrification and its effects on life cycle global warming impact of highway pavements across the contiguous United States

3RD PRIZE: Abdulrahman Hamid, University of Waterloo

Effect of High Temperature on the Behaviour of Geopolymer Modified Asphalt Binders



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