

CITE annual conference



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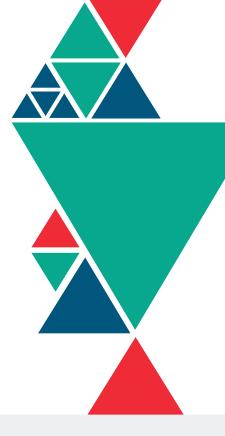
17 CITE awards

18 technical tours

22 special events

24 exhibitor directory & hours

28 sponsors



internet access

Wi-Fi is freely provided to all conference attendees and exhibitors in the meeting space and foyer areas.

Wireless Network: Westin_CONFERENCE Access Code: cite2019

conference app

Use the app to get real time notifications and event updates, create a personalized scheduled, learn about speakers and sessions, and more. Download the app to your iPhone or Android device by searching "CITE" in the Apple App Store or Google Play Store or scanning the QR code below.





Apple Android

lanyards & hotel cards

In an effort to make our conferences more sustainable, we ask that lanyards and hotel key cards be returned following the conference for future re-use. Collection boxes are available at the Registration Desk.

Thank you to **Fairware** for the loaned lanyards (made in Canada from recycled plastic bottles) and hotel card sponsor **WSP**.





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welcome

from your conference co-chairs



On behalf of all the members of the Local Arrangements Committee and the National Capital Section of CITE, we extend our deepest thanks to all those who have contributed to making this Annual Conference another rousing success: our speakers, presenters, session chairs, exhibitors, sponsors, and you, our participants, for enriching these annual conferences with your presence. We are honoured and delighted to welcome you to Ottawa.



Our members are blessed to witness and be part of the transformation in the transportation

landscape currently taking shape. This transformation has been driven by a shift in guiding policies, a significant ramping up in infrastructure spending, and a confluence of new technologies. So, it is very appropriate that this year's conference theme has been chosen to be **bold & transformative solutions**.

We hope that you will fully enjoy the technical program and the lineup of social events. Above all, we hope that you will find the few days spent in fellowship with other CITE members to be fruitful, enriching, and memorable!

Bassan Ger

Bassam Hamwi, M.Eng., P.Eng.Morrison Hershfield Limited
Director, Transportation Planning

Andrew Harte, P.Eng.
CGH Transportation
Senior Transportation Engineer

Many thanks to the following LAC Sub-Committee Chairs and countless other volunteers!

Jennifer Armstrong

City of Ottawa

Ian Borsuk

Dillon Consulting

Michael Flainek

Jacobs

Adam Howell

WSP

Zlatko Krstulic City of Ottawa

Anthony KwokMorrison Hershfield

Denis Paradis

WSP

Julia Salvini CITE & Salvini Consulting **Justin Swan**City of Ottawa

Meghan Whitehead

City of Ottawa

Kate WhitfieldAlta Planning + Design

Suzanne Woo



Welcome to the City of Ottawa, our nation's capital and the host city of the 2019 Canadian Institute of Transportation Engineers Conference and Annual Meeting.

The theme of the conference - bold & transformative solutions – is highlighted through a program showcasing perspectives on innovative and emerging technologies. The exciting technical program features plenary speakers and abstract-driven sessions that present the latest information on a wide range of transportation research. Complementing the presentations, unique technical tours are designed to stimulate discussions and enhance your experience.

The social program includes many opportunities for you to experience the best that the National Capital Region has to offer. Parliament Hill, with its grand Victorian architecture, and museums such as the National Gallery of Canada, Canadian Museum of Nature, Canadian Museum of History, Canada Aviation and Space Museum, and Canada Science and Technology Museum, are all great places to visit and learn. The park-lined Rideau Canal and the Ottawa River are there for you to explore by foot or on a bike. Shopping and dining experiences await you along Sparks Street, in the Glebe District, and the Byward Market District.

CITE's networking opportunities provide attendees with a wealth of opportunities to share knowledge, insight, and experiences with transportation colleagues from across Canada and around the world. Make it a point to meet some new colleagues at the conference and turn them into rewarding friendships.

I am looking forward to meeting you at what promises to be an exciting and memorable event!

Edward Foldo

Edward Soldo, P.Eng.

President, Canadian Institute of Transportation Engineers



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On behalf of Members of Ottawa City Council, I am delighted to extend a warm welcome to all those participating in the 2019 Canadian Institute of Transportation Engineers (CITE) Annual Conference, taking place at the Westin Ottawa, on unceded Algonquin territory, from June 2nd to 5th.

This national gathering provides valuable forum for industry stakeholders representing diversity of modes of transportation to convene under the theme bold æ transformative solutions for transportation. Delegates will explore urban transportation mobility from a wide host of perspectives, and have the opportunity to network, get connected, be inspired, and about cutting-edge learn more applications, tools and techniques in the transportation field.

As Head of Council, I want to acknowledge CITE and City of Ottawa, along with the sponsors, guest speakers and facilitators, for dedicating efforts, expertise, services and resources to the successful planning of this innovative conference.

Allow me to offer my best wishes to the participants for a productive and rewarding assembly, as well as to the visitors for a most enjoyable stay in Ottawa.

Sincerely.

J'ai l'immense plaisir de souhaiter une cordiale bienvenue, au nom des membres du Conseil municipal d'Ottawa, à tous les participants au Congrès annuel 2019 de l'Institut canadien des ingénieurs en transport (ICIT), qui aura lieu au Westin Ottawa, sur un territoire algonquin non cédé, du 2 au 5 juin.



Cette assemblée nationale offrira un cadre précieux où les intervenants de l'industrie représentant une diversité de moyens de transport se réuniront sur le thème bold & transformative solutions for transportation. Les délégués exploreront la mobilité dans les transports urbains dans un large éventail de perspectives et auront la possibilité de réseauter, de nouer des liens, de se laisser inspirer et d'en apprendre davantage sur des applications, des outils et des techniques de pointe dans le domaine des transports.

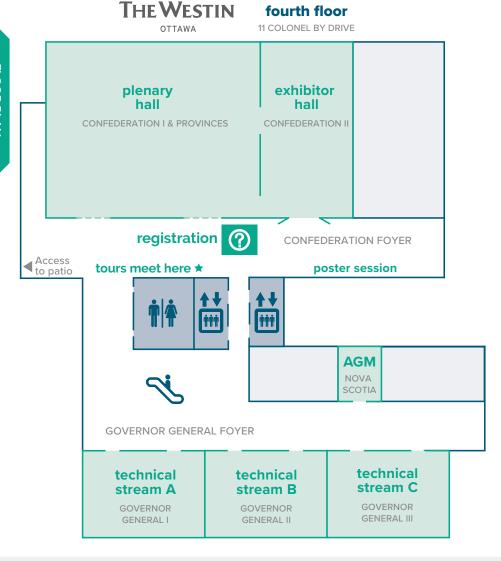
En tant que chef du Conseil, je tiens à remercier l'ICIT et la Ville d'Ottawa ainsi que les commanditaires, les conférenciers invités et les animateurs de consacrer leurs efforts, leur expertise, leurs services et leurs ressources à la planification de ce congrès novateur pour en assurer la réussite.

Permettez-moi de souhaiter aux participants une assemblée productive et enrichissante et aux visiteurs un séjour des plus agréables à Ottawa.

Cordialement,

Jim Watson Mayor / Maire





daily meals

BREAKFAST ▶ 7:30 - 8:30 AM

Grab & go style breakfast for all attendees served in the Confederation Foyer (Mon/Wed) or Exhibitor Hall (Tue)

BREAKS ▶ 10:00 - 10:30 AM & 3:00 - 3:30 PM

Refreshments served in the Exhibitor Hall or Confederation Foyer (see schedule)

LUNCH ▶ 12:00 – 1:30 PM ▶ PLENARY HALL (CONFED I & PROVINCES)



registration & information desk

ALL DAYS ► CONFEDERATION FOYER (THE WESTIN, FOURTH FLOOR)

The Registration Desk is your go-to for assistance and information about the program, wayfinding, and more. The Desk will be open:

SUN, JUN 2 ► 3:00 - 8:00 PM MON, JUN 3 & TUES, JUN 4 ► 7:30 AM - 5:00 PM WED, JUN 5 ► 7:30 AM - NOON

morning run

MON, JUN 3 to WED, JUN 5 ► 6:30 – 7:30 AM MEETING PLACE: THE WESTIN LOBBY

Start your day off with a 5–7 km run and experience some of the Ottawa River and Rideau Canal's finest trails with your CITE colleagues.

speakers' breakfast

SERVED DAILY 7:30 - 8:30 AM

MON, JUN 3 ► GOVERNOR GENERAL I TUE, JUN 4 & WED, JUN 5 ► PLENARY HALL (CONFED I & PROVINCES)

Full breakfast for those presenting, speaking, or moderating on the day you are participating in a session. It is strongly recommended that presenters attend to meet your session moderators and ensure that the conference team has your latest presentation materials and requirements.

sunday, june 2

3:00 - 8:00	REGISTRATION & INFO DESK ► Confederation Foyer
5:00 - 6:00	CITE ANNUAL GENERAL MEETING ► Nova Scotia Room
	5:00 – 5:30 Attendee sign in 5:30 – 6:00 Annual General Meeting starts promptly at 5:30
6:00 - 8:00	EXHIBITOR HALL OPEN ► Confederation II
6:00 - 8:00	WELCOME RECEPTION ► Exhibitor Hall, The Westin, Confederation II
8:00 - LATE	LeadershipITE CANADIAN ALUMNI RECEPTION By invitation

REGISTRATION & INFO DESK

ALL DAY 7:30 - 5:00

▶ Confederation Foyer

EXHIBITOR HALL OPEN

► Confederation II

▶ Confederation Foyer GRAB & GO BREAKFAST KICKOFF KEYNOTE > MARIANA BRUSSONI, UBC



monday, june 3

SPEAKERS' BREAKFAST • Governor General I

With Guest Speaker John Manconi, City of Ottawa 8:30 - 10:00

► Confederation II & Foyer

EXHIBITOR HALL & REFRESHMENTS

1A ▶ Governor General TE Leadership Town 10:30 - 12:00

Methodologies & Applications

Developing methodological framework to enhance dynamic resilience of Omar Elsafdi, Carleton University transportation network International President conversation with ITE Bruce Belmore and

Join a facilitated

Rehabilitation Project (Parliament Hill) Management for the Centre Block Planning for Construction Traffic

about key ITE initiatives,

They will share details

10:50 - 11:10

Vice-President Randy

McCourt.

TE International

10:30 - 10:50

Fleet Size of a Transit Co-Ordinated DRT

Service: Continuous Model Insights

Jacob Lamb, University of Calgary

Management for Stage 2 LRT Construction Bassam Hamwi, Morrison Hershfield & Sarah McDonald, WSP I CENTRUS Strategies for Traffic and Tansit

ask questions or share

eadership.

is your opportunity to suggestions with ITE

11:10 - 11:30

from members. This

and seek feedback including One ITE,

Construction Zones And Application For **Tool For Monetizing User Delay Cost** Campbell Inwood, City of Ottawa Associated With Urban Arterial

Shaffari Dolama, University of Manitoba **Optimizing Work Zone Layout Maryam**

IC ▶ Governor General III

B ▶ Governor General II

Construction Traffic Management:

TDM Strategies and Applications

5 Years On: Accommodating Game Day Transportation Demands at TD Place Hassan Madhoun & Lauren O'Grady, 2014-2019) Stantec

Behzad Rouhieh & Rudy Sooklall, Wood **Multi-Resolutions Modelling Approach** to Traffic Management in an Urban Environment

Cognitive Science: Lessons from a TDM Fransportation Behaviour Change using Victor Ngo, WATT Consulting Group Program in North Vancouver, BC

11:30 - 11:50

7:30 - 8:30

10:00 - 10:30

SCHEDULE MON

Bruce Belmore, ITE International & Scott Streiner, Canadian Transportation Association

LUNCH & GUEST SPEAKERS ▶ Plenary Hall, Confederation I & Provinces

12:00 - 1:30

MORRISON HERSHFIELD

2A ▶ Governor General

1:30 - 3:00

Traffic Management Strategies for Major Events TE Mobility as a

Session includes a MaaS the importance of MaaS as well as discussion on community, how MaaS technical presentation to the transportation Service (MaaS)

1:30 - 1:50

1:50 - 2:10

better understand about ITE members would find members would like to communities, what ITE activities and products the concept, and what most valuable in this playing out in your implementation is technical area.

2:10 - 2:30

2B ▶ Governor General

Avoiding Traffic Trouble: Using Visual Storytelling to Plan for Large Events Hassan Madhoun, Stantec Calgary 2026: A Sustainable Transportation Marc Tan, IBI Group & Chris Blaschuk, City Plan for an Olympic/Paralympic Bid

Eggressing the Bell Centre in Downtown Montreal - A Signal Plan Strategy Jean Hamaoui, Ville de Montréal

Site Hardening & Vehicle Born Attacks Michelle McElligott, City of Ottawa

2:30 - 2:50

2C ▶ Governor General III Resilience for Western Balkans Region **Disaster Risk Management and Climate** Outcomes and Implementation Plan of David Kriger, David Kriger Consultants ssues in Transportation Planning, Calgary Goods Movement Strategy Design & Implementation Behzad Rouhieh, Wood

Policy and Standard vs. Practice: A Case Study of Urban Roads in Kathmandu Valley, Nepal Shubhechchha Bhatta, Government of Nepal & Apil KC, **Jniversity of Alberta**

To Peer Review or not to Peer Review ... Voss, Creative Transportation Solutions that is the Question! Gary Vlieg & Jan

> ► Confederation II **EXHIBITOR HALL & REFRESHMENTS** 3:00 - 3:30

STREET HOCKEY CLASSIC > Jules Morin Park, 340 York St (20 min walk from The Westin)

3:30 - 5:00 TRAFFIC BOWL ▶ Plenary Hall, Confederation I & Provinces

Walking shuttle will leave from The Westin lobby at 5:15. 5:30 - 7:00

STUDENT MIXER

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7:00 - 10:00

tuesday, june 4

3B ▶ Governor General II

Filling the Data Gap: Innovations

n Data Collection & Analysis

SPEAKERS' BREAKFAST > Plenary Hall Vehicles

morning

7:30 – 5:00 **REGISTRATION & INFO DESK** ▶ Confederation Foyer

EXHIBITOR HALL OPEN • Confederation II

7:30 - 3:30

3C ▶ Governor General III **Autonomous and Connected**

Automated Transit Vehicles:

Perspectives from Calgary and

times for arterials and the potential

Stephanie McNeely, City of

Ottawa

8:30 - 8:50

#2019CITE

Ottawa O-Train Expansion

- Building On Success

for using these data for traffic management Alan Xaykongsa,

Jniversity of Waterloo

characteristics of Google travel

An investigation into the

an Borsuk, Dillon Consulting **Edmonton Pilot Projects**

-uture proofing infrastructure

for autonomous and connected of parking and battery charging vehicles: design and feasibility

Fimes Using Measurements From Estimating Facility Specific Travel

Wenfu Wang & Bruce Hellinga, Bluetooth Detection Systems

Autonomous Vehicle Shuttle between a Light Rail Transit Station and a Major Medical Tim Young & Junshen Feng,

Planning and Design of

a Shared Connected

Jniversity of Waterloo

Riley Courtland, Carleton University facilities

Greg Kent, City of Ottawa CAV Research in Ottawa

Using Rear-Axle Weights to Improve

the Accuracy of Class 3 and Class

Calgary's Green Line LRT **Iransit Signal Priority for**

Carleton University

Campus

8:50 - 9:10

Susan McMillan, Hatch

9:10 - 9:30

Karalee Klassen-Townsend,

University of Manitoba

5 Vehicle Classification

First Steps toward an Autonomous

How Smart Intersections can Make

Cities Safer for Vulnerable Road

Sajad Shiravi, Miovision

9:30 - 9:50

Technologies

Vehicle Future in Ottawa: Providing Data Motaz Aladas, City of Ottawa Machine-Readable Intersection





7:30 – 8:30 | GRAB & GO BREAKFAST ▶ Confederation ||

3A ▶ Governor General

8:30 - 10:00 Transit: LRT Projects

TALK & WALK Tour will begin with a presentation in the Plenary Hall.

10:00 – 10:30	EXHIBITOR HALL & REFRES	EXHIBITOR HALL & REFRESHMENTS ▶ Confederation II & Foyer	
10:30 – 12:00	4A ▶ Governor General I 10:30 – 12:00 Transit: BRT Projects	4B ► Governor General II Filling the Data Gap: Innovations in Data Collection & Analysis II	4C ▶ Governor General Emerging Technologies: EV, E-Bike and Integrated Mobility
10:30 – 10:50	Connected Vehicle Signal Priority System Targeted to BRT and LRT Applications Farid Mobasser, Fortran Traffic Systems	Commercial Vehicle Survey Daniel Ghile, City of Ottawa	Toward real-time safety and mobility optimization of traffic signals in a connected-vehicle environment Mohamed Essa, University of Britisl Columbia
10:50 – 11:10	Delivering Calgary's First Dedicated BRT Corridor - MAX Purple Howard Kai, City of Calgary & David Thatcher, Stantec	Data Collection Modernization at The City of Ottawa Tetsuro Ide, City of Ottawa	Planning for Electric Vehicles: Gap Analysis of Charging Station Infrastructure in the Victoria Capit Region Victor Ngo, WATT Consulting Grou
11:10 – 11:30	From suburban to urban: How Bus Rapid Transit is creating the transit city of the future in York Region Stephen Hollinger, York Region Rapid Transit Corporation	Experiential learning in transportation: opportunities for collaboration between industry and post-secondary institutions Sean Nix, Seneca College	Building More Mobile, Efficient, and Accessible Communities through Big Data Mark Masongsong, UrbanLogiq
11:30 – 11:50	Planning for Level Boarding Across a BRT Network Mai-Linh Ho, IBI Group & Jennie Ramsay, City of London	Using location based mobile applications for transportation and transit planning in Windsor, Ontario Mariam Bello & Ian Borsuk, Dillon Consulting	Understanding the impact that autonomous ride-sharing services are likely to have on public transit ridership Trevor Vanderwoerd, University of Waterloo

Calgary

across sectors to build safer roads

building infrastructure: How the

Building relationships while

Bicycle Friendly Communities Program fosters collaboration

1:30 - 1:50

Share the Road Cycling Coalition

for all users Jamie Stuckless,

University Campus Abby Scaletta,

University of Manitoba

and Cyclists Moving to/from a

1:50 - 2:10

Periodicities of Pedestrians

Fusing Data to Characterize

Small efforts add up to big data:

How Bike Ottawa is putting

monitor the Centre City Cycle

Using a bike volume map to

Track Network in the City of

Wendy Pan, City of Calgary

Calgary

Heather Shearer, Bike Ottawa

cycling on the map

2:10 - 2:30

EXHIBITOR HALL OPEN Confederation II

7:30 - 3:30

12:00 - 1:30

1:30 - 3:00

5A ▶ Governor General

Data Collection for Cycling

CHAPTER ROUNDTABLE

TRAINING SIMULATOR

6C ▶ Governor General III Program and Vision Zero Hamilton Analytics and Artificial Intelligence Achieving Vision Zero using Video Safety Action Plan is 7 Years Old. David Ferguson, City of Hamilton Safety: Vision Zero and Traffic Canada's First Vision Zero Road Hamilton Strategic Road Safety Omar Rashid, Microsoft Suzanne Woo, CIMA+ What did we learn? Calming **Fravel Behaviour: Data + Models** A Case Study for Traffic Operation Studies - Development of A Multi-5B ▶ Governor General Incorporating Telematics Data into **Dynamic Roadway Segmentation:** Modelling Analysis for Deerfoot **Understanding & Predicting Level Roadway Segmentation** Ali Hadayeghi & Reza Omrani, CIMA+ & Goran Nikolic, MTO Xiaolin Qin, City of Calgary **Traffic Simulation Models** ► Confederation II Pascal Volet, Aimsun Trail Corridor Study **EXHIBITOR HALL & REFRESHMENTS** Concept to Implementation Kornel 6A ▶ Governor General Street in Gatineau: from Dream to Unidirectional Bike Path on Laurier Brad Hewton, Morrison Hershfield Case Studies in Cycling Design Design Considerations for Cycling Using Advanced Remote Sensing Nadine Lafond, City of Gatineau Facilities on Rural Highways Protected Intersections: From Mucsi, City of Ottawa Reality 3:00 - 3:303:30 - 5:00

3:30 - 3:50

Speed Display Boards - Do They Work Ali Kassim, City of Ottawa Ottawa Experience Modelling Practices in Canada: Practice, Guidelines, and Gaps Alon Weinberger, Evolve Traffic Solutions & Ahmed Abdelnaby, **Multi-Modal Microsimulation** Hatch

Techniques to Determine Road

James Ferguson, Tulloch

Engineering

Sharing Feasibility

4:30 - 4:50

4:10 - 4:30

▶ Plenary Hall (By Invite)

Canadian Museum of History, 100 Laurier St, Gatineau (25 min walk from The Westin) **ANNUAL BANQUET**

SIDRA SOLUTIONS SPONSORED BY:

5:30 - 11:00

40			8:30 - 10	:30 TOUR 8:	TRANSFOR	RMATIVE CORR MAIN STREET"	IDORS: CORRIDORS
wednesday, june 5		SPEAKERS' BREAKFAST ▶ Plenary Hall	7C ▶ Governor General III Thinking Outside of the Box: Alternative Approaches to Design	Enhancing sustainability in highway infrastructure: life cycle cost risk analysis models Baraa Alfasi, Carleton University	Engineering Decisions in Roundabout Capacity Analysis Clayton Rudy, Morrison Hershfield	Retrofitting our way to Safer Streets Justin Swan, City of Ottawa	Probabilistic Highway Analysis and Design – State of the Art of Current: Practice, Gaps, and Future Yasser Hassan & Bashar Dhahir, Carleton University & Ahmed Abdelnaby, Hatch
▲ We	► Confederation Foyer	ederation Foyer	78 ▶ Governor General II Transit: General	Baseline Transitway and Complete Street (Planning and Environmental Assessment Study) Paul Croft, Parsons & Jabbar Siddique, City of Ottawa	Gottingen Street: Halifax's First Urban Transit Priority Corridor Mike Connors, Halifax Regional Municipality	Shared Autonomous Vehicles (SAV's) Will Not Rival or Replace or Reshape (RRR) Public Transit System Kousay Mohamad, University of Washington	The New PUDO Paradigm in the Greater Golden Horseshoe Matthew Browning, Arup
	REGISTRATION & INFO DESK	GRAB & GO BREAKFAST ▶ Confederation Foyer	7A ▶ Governor General I Cycling Network Planning Tools	A Paradigm Shift: Integration of Health and Transportation in Canada Ezra Lipton, Alta Planning + Design	Better, Smarter Suburban Cycling Facilities Sam Roberts, City of Ottawa	Integrating Active Transportation Demand and Supply Assessment with Sustainable and Shared Mobility Modes Sheikh Alam & Dewan Karim, City of Toronto	Active Transportation: Spending Strategically in a Rural/Small Community Kate Whitfield, Alta Planning + Design
	7:30 – 12:00	7:30 – 8:30	8:30 – 10:00	8:30 - 8:50	8:50 – 9:10	9:10 - 9:30	9:30 - 9:50

#2019CITE

hird Floor

10:00 – 10:30 REFRESHMENTS ▶ Confederation Foyer

happens when planners take the wheel?

Transportation Master Plan: what

Michelle Berquist, City of Mississauga

Stuart Edison, City of Ottawa

Signal System Automation Al Pilot on Innes Road

Let's Bike to the Park & Ride: Is it a bikeable donut or a bikeable Kathleen Wilker, City of Ottawa

10:30 – 12:00	8A Sovernor General I Cycling Design Elements	8B ▶ Governor General II Emerging Technologies: ITS	8C ► Saskatchewan Room, Third Floc Transportation Planning - Building Strong Communities
10:30 – 10:50	Investigation Of How Successful The Implementation Of The Dooring Zone & Sharrows On Cyclist And Driver Behavior Shawn McGuire & Ali Kassim, City of Ottawa	Automated Parking Systems - More Parking in Less Space Simon Button, Bunt & Associates	Using the Parking By-law to Support Sustainable Communities John Turecki, City of Vancouver & Christephen Cheng, Bunt & Associates
10:50 – 11:10	Roundabouts for Complete Streets – An Ottawa design guide for bicycle inclusive roundabouts Justin Goulding, Mobycon	Examining the use of data from Bluetooth Detectors for Traffic Responsive Control Amir Zarinbal, University of Waterloo	Highway 104 Paqtnkek Interchange - A Journey Dwayne Cross, Nova Scotia
11:10 – 11:30	The New Ontario Traffic Manual (OTM) Book 18: Cycling Facilities V2.0: Lessons Learned and New and Improved Bikeway Design Guidance for Ontario Jason Neudorf, WSP	Sign Language for Suburbia - Using innovative visualization techniques to model wayfinding solutions Monica Belliveau, Dillon Consulting	Removing Barriers and Improving Accessibility in Scarborough Centre, Toronto Christopher Sidlar, LEA Consulting

CITE 2019 EXCELLENCE IN TRANSPORTATION AWARDS LUNCH ▶ Plenary Hall, Confederation 1 & Provinces

12:00 - 1:30

baguette?

11:30 - 11:50

keynote speakers

Mariana Brussoni University of British Columbia



MON, JUN 3 ▶ 8:30 - 10:00 AM ▶ KICKOFF KEYNOTE

Dr. Mariana Brussoni is a developmental psychologist and Associate Professor in the Department of Pediatrics and the School of Population and Public Health at the University of British Columbia. She is an investigator with the British Columbia Children's Hospital Research Institute and the British Columbia Injury Research & Prevention Unit. Mariana investigates child injury prevention and children's risky play. Learn more at brussonilab.ca.



@mbrussoni

Willa Ng Sidewalk Labs

TUE, JUN 4 ▶ 12:00 – 1:30 PM ▶ KEYNOTE LUNCH

Willa Ng is Directory of Mobility - Streets, Urban Systems at Sidewalk Labs. She has a background in transportation engineering and community engagement, with a focus on parking and transportation demand management. At the City of Berkeley, Willa implemented a demand-responsive parking program, as well as transit and biking programs, under the city's goBerkeley pilot. Willa previously worked at the New York City Department of Transportation managing the PARK Smart value-pricing program, the parking technology pilot program, two communitybased transportation pilots, and the congestion pricing proposal environmental review.

Willa began as a transportation engineer at AECOM. She graduated from UC-Berkeley with an MS in transportation engineering and from MIT with BS degrees in civil engineering and management.



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guest speakers

MON, JUN 3 ▶ 8:30 - 10:00 AM ▶ KICKOFF KEYNOTE

John Manconi

City of Ottawa, General Manager of Transportation Services





MON, JUN 3 ▶ 12:00 - 1:30 PM ▶ SPEAKER LUNCH

- ► Scott Streiner
 Canadian Transportation Agency, CEO
- ▶ Bruce Belmore
 ITE International, President
 WSP, Director of Western Canada Transportation Planning

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Safe. Secure. Connected. We're working with clients across Canada to design innovative and flexible transportation solutions for tomorrow's communities today.

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technical poster session

TUE, JUN 4 ▶ 8:00 AM - 5:00 PM ▶ CONFEDERATION FOYER

The Technical Poster Session will run all day Tuesday in the Confederation Foyer next to the Exhibitor Hall. Presenters will be in attendance during the second half of breakfast (8:00–8:30) as well as both breaks (10:00–10:30 and 3:00–3:30).

Associating Pedestrian Injury Severity with Roadway Infrastructure Jeff Pascua, Lakehead University

Average Speed Enforcement for Different Classification of Heavy Vehicles Based on Gross Vehicle Weight

Mingyue Wang, York University

Bike Rack is the new Blue Box

Elyse McCann, Envirocentre

Investigating the Benefits of Deploying Weather Responsive Traffic Management Systems at Signalized Intersections

Navoda Yasanthi Rillagodage, University of Regina

Measuring the Passing Behaviour of Motorized Vehicles When Overtaking Bicycles on Urban Arterial Roadways

Amir Zarinbal, University of Waterloo

Microsimulation Analysis of Truck Signal Priority using VISSIM Ravichandra Rampure, York University

Parking Classification and Supply Modelling for Inter-Regional Truck Trips Erik Nevland, York University

Using Courier Deliveries to Apply Surveys for Market Research Fernando Miguel Zingler, IPTC

Urban Cycling and Urban Bicycle Networks
Laura Cabral, University of Alberta



CITE 2019 Excellence in Transportation Awards

member awards

H. Robert Burton Distinguished Service Award

Jeannette Montufar, Manitoba Section

Outstanding Voluntary Contribution Award

Dave Richardson, Toronto Section

Rising Star Award

Amy Jiang, Toronto Section | Rebecca Peterniak, Manitoba Section

Stan Teply Outstanding Technical Project Award

Macleod Trail and 162 Avenue, Diverging Diamond Interchange Project

student awards & scholarships

Dr. Michel Van Aerde Memorial Transportation Scholarship

Mohamed Essa, University of British Columbia

John Vardon Memorial Transportation Scholarship

Laura Cabral, University of Alberta

CITE WSP Undergraduate Scholarship

Chandler White, University of British Columbia

Student Presentation Competition Award

Karalee Klassen-Townsend, University of Manitoba

Canadian Capacity Guide Competition Award

Joshua Thompson, Ryerson University

CITE activity awards

Section Activity Award

Atlantic Provinces

Section Delta Award

Southern Alberta

Student Chapter Activity Award

University of Alberta

Student Chapter Delta Award

York University

technical tours

ALL TOURS MEET ACROSS FROM REGISTRATION IN THE CONFEDERATION FOYER except tour 6, which starts in the Plenary Hall.

Participants should meet 15 minutes before the start of the tour. Please be on time; tours are fully booked and will start promptly as scheduled. Tours will run rain or shine; please dress for the weather.

tour 1 Cycling Facilities Sampler

TOUR 1A: MON, JUN 3 ▶ 10:00 - NOON TOUR 1B: TUE, JUN 4 ▶ 8:30 - 10:30 AM **BA** Group

SPONSORED BY: BA GROUP

Join us for a tour of different types of on-road and off-road cycling facilities in Ottawa, including separated facilities such as buffered bike lanes, protected bikeways, bike paths/ cycle tracks and multi-use pathways as well as unseparated facilities. Ride one of the only Advisory Bike Lanes in Canada and see examples such as a cycle track at a bus stop, a bi-directional bikeway and an early protected intersection.

tour 2 Downtown Ottawa & Gatineau Bridge Loop

MON, JUN 3 ▶ 1:30 - 3:30 PM

MCINTOSH PERRY

SPONSORED BY: MCINTOSH PERRY

Sample cycling facilities in downtown Ottawa, including the Corktown footbridge, Laurier Ave and the bikeway treatment across the Portage Bridge. In the City of Gatineau, tour new pedestrianized space along Laval Street and new cycle tracks on Laurier Street. Head back to Ottawa across the Alexandra Bridge to the Mackenzie Ave protected bikeway connecting back to Daly Ave and the Westin Hotel.

NOTES FOR BIKE TOURS 1 & 2

A signed waiver is required for these tours.

After meeting in the lobby, we will be walking over to RentABike, which is located along the canal and under the bridge. Bikes and helmets will be provided there.

Tours will use a combination of bike facilities and regular lanes. Participants should be comfortable with urban cycling.



tour 3 Intelligent Signals: Ottawa's ITS Control Centre and AV Test Track

MON, JUN 3 ▶ 10:00 - NOON

SPONSORED BY: TETRA TECH



Visit Ottawa's new AV technology demonstration and test track and see AV technology with V2I communications demonstrated for participants on the 22km of reserved roadways and three signalized intersections. Next, see the City's Traffic Operations Center which controls traffic operations and infrastructure at over 1,200 signalized intersections throughout the City of Ottawa. Various ITS solutions such as a Centralized Signal Traffic Control System, adaptive technology, non-intrusive detection, preemption and variable messaging are used and applied in day to day operations.

NOTE A signed waiver will be required for this tour.

tour 4 | RT West: Multi-Modal Station Connections & Public Art

MON, JUN 3 ▶ 1:30 - 4:00 PM

integrated public art along the way.

SPONSORED BY: IBI GROUP

IBIThe City of Ottawa's new 13 station LRT line opens in 2019. Tour this newest piece of the local transportation network from downtown Rideau Station (which is linked to the conference hotel) to the western terminus at Tunney's Pasture, stopping to examine multi-modal station connections and

tour 5 | RT Fast Inter-Modal Rail Connections & LRT Training Simulator



TUE, JUN 4 ▶ 1:30 - 4:00 PM

SPONSORED BY: CREATIVE TRANSPORTATION SOLUTIONS

The City of Ottawa's new 13 station LRT line opens in 2019. Tour this newest piece of the local transportation network from downtown Rideau Station east to the intermodal VIA Rail station at Tremblay and visit the LRT Simulator where Electric Rail Operators are trained.

technical tours

ALL TOURS MEET ACROSS FROM REGISTRATION IN THE CONFEDERATION FOYER except tour 6, which starts in the Plenary Hall.

Participants should meet 15 minutes before the start of the tour. Please be on time; tours are fully booked and will start promptly as scheduled. Tours will run rain or shine; please dress for the weather.

tour 6 Downtown Moves: Transformation of Ottawa's Downtown Complete Streets

TUE, JUN 4 ▶ 8:30 – NOON MEET IN PLENARY HALL, CONFED I & PROVINCES



SPONSORED BY: PARADIGM TRANSPORTATION SOLUTIONS LTD (PTSL)

In this Talk & Walk, tour participants will have the opportunity learn how the 2013 City's Downtown Moves Master Plan has inspired and guided investments in complete street renewal. After a brief presentation, tour participants will walk through the heart of the capital and explore completed and partially completed street renewal construction projects highlighting:

- diverse measures used to transform these corridors into multi-modal streets providing public realm opportunities.
- how technical guidance informed the decision-making regarding design solutions.
- · measures that weave the Confederation Line LRT stations into the fabric of the downtown including: broad sidewalks based on pedestrian volumes, flexible multipurpose street side spaces, integrated transit stops, and quality streetscapes for the tens of thousands of downtown transit commuters.

tour 7 Capital Region Bridges

TUE, JUN 4 ▶ 1:30 - 3:30 PM

SPONSORED BY: CIMA+



Join colleagues on a bus tour of bridge projects in the Capital Region. The tour will include a variety of bridge types creating an opportunity to design challenges and wins and construction obstacles. Examples may include the Vimy Memorial Bridge, the Airport Parkway Multi-Use Pathway Bridge and Flora, the newest pedestrian/bike bridge in Ottawa. In Gatineau, the Pont Noir is a 100+ year old bridge supporting bikes, pedestrians, bus, and trail at the same time in the same space. Recent major rehabilitation was done to the Macdonald-Cartier bridge including the addition of a barrier protected multi-use pathway.



tour 8 Transformative Corridors: Transforming "Main Street" Corridors

WED, JUN 5 ▶ 8:30 – 10:30 AM

SPONSORED BY: PTV GROUP



On this walking/bus tour, the transformation of three urban "Traditional Main Street" corridors will be examined- each of which has differing objectives with related tradeoffs in space allocated for placemaking, pedestrians, cyclists, transit, general traffic and onstreet parking. City staff involved in planning, consultations and implementation of each project will be available to provide background information and answer questions.

tour 9 Downtown Cycling Facilities by Foot

WED, JUN 5 ▶ 10:30 - NOON

SPONSORED BY: URBAN SYSTEMS



From the Westin Hotel, we will walk over to the Mackenzie Ave protected Bikeway and then along Wellington Street past Parliament Hill towards the Portage Bridge to see the bridge treatment and bike counter. Changes to the downtown network will be discussed including the future cycle tracks on Bay Street. Walking along the Laurier Avenue on-road separated facility to the O'Connor Street bi-directional facility connects you to the pathway system along the canal and ending near the Corktown bridge before heading back to the Westin hotel.



Connectivity the future of mobility

Morrison Hershfield connects communities across Canada by providing efficient transportation solutions with sustainable results



special events

sunday, june 2

CITE Annual General Meeting

5:00 - 6:00 PM ➤ THE WESTIN, NOVA SCOTIA ROOM

All CITE members are invited to the Annual General Meeting to have a say and hear an update on the organization's initiatives, finances, and meet the new Executive Committee. Sign-in begins at 5:00 PM with meeting starting promptly at 5:30 PM.

Welcome Reception

6:00 - 8:00 PM ➤ EXHIBITOR HALL (THE WESTIN, CONFEDERATION II)

Reconnect with friends old and new, meet all the trade show exhibitors, and enjoy beverages and appetizers at the conference opening cocktail reception. Smart casual.

monday, june 3

CITE Collegiate Traffic Bowl

3:30 - 5:00 PM ▶ PLENARY HALL (THE WESTIN, CONFED I & PROVINCES)

Come cheer on your alma mater at this annual Jeopardy-style competition featuring teams from CITE Student Chapters across Canada. Stiff competition, game show drama, and tricky trivia guaranteed!

SPONSORED BY:



Street Hockey Challenge

5:30 - 7:00 PM ▶ JULES MORIN PARK, 340 YORK STREET

No experience required. All you need is appropriate footwear (sneakers); personal gloves and shin pads are welcome but not required. Sticks and goalie equipment will be provided. Hockey jerseys encouraged for players and spectators alike! Join the walking shuttle, leaving from the Westin lobby at 5:15.

Student Mixer

7:00 - 10:00 PM ► LOWERTOWN BREWERY, 73 YORK ST, BYWARD MARKET

This year's student mixer will feature a local brewpub in the ByWard Market, only an 8 minute scenic walk from the hotel. There will be lots of good company to mingle with and a games room with classics. Casual attire.



tuesday, june 4

Annual Banquet

5:30 - 11:00 PM ➤ CANADIAN MUSEUM OF HISTORY, 100 LAURIER ST, GATINEAU

This year's banquet will be hosted at one of Canada's most iconic sights, the Canadian Museum of History. Take a scenic walk to the museum or jump on the shuttle crossing over the Ottawa River into Gatineau, Quebec. Smart casual attire.

Attendees are invited to walk to the Museum with a group or take the shuttle bus there or back. Please check the app for departure times. Parking is also available on site.

Additional tickets (\$50) are available for purchase at the Registration Desk.

SPONSORED BY:



wednesday, june 5

CITE Excellence in Transportation Awards

12:00 - 1:30 PM ➤ PLENARY HALL (THE WESTIN, CONFED I & PROVINCES)

Honouring the best and brightest of Canada's transportation community, the CITE 2019 Excellence in Transportation Awards luncheon gives you a chance to learn more about the winners and hear from recipients of the highest honours.



We keep you moving



stantec.com/transportation

exhibitor directory

CONFEDERATION II, FOURTH FLOOR



The Exhibitor Hall (Confederation II) will be open at these times with special opportunities for you to connect during breakfast and breaks served in or next to the hall:

SUN, JUN 2 ► 6:00 – 8:00 PM MON, JUN 3 ► 7:30 AM – 5:00 PM TUES, JUN 4 ► 7:30 AM – 3:30 PM

booth 20

Aimsun



aimsun.com

Pascal Volet

pascal.volet@aimsun.com

Aimsun is a software and services provider for strategic transport planning, traffic engineering and mobility management. Our clients include departments of transportation, engineering consulting firms, research institutions and developers of the latest technology in self-driving and connected vehicles.

booth 6

Bosch



bosch.ca

Jacquelyn Davies

Jacquelyn.Davies@ca.bosch.com

Bosch Security and Safety Systems is the premier supplier of security solutions, built upon a long history of excellence and innovative technology. Bosch is your single source for intrusion, fire, communications, access control and security surveillance and components for virtually any application.

booth 9

Brisk Synergies

brisksynergies.com Terezinha Hignett



terezinha.hignett@brisksynergies.com

Brisk Synergies is a video analytics firm specializing in non-intrusive road safety diagnosis. We help transportation authorities to analyze the traffic video collected using their own cameras or with any other temporary camera. The analyses that we perform helps them to identify potential collisions and reduce road vulnerabilities.

booth 5





cima.ca

Suzanne Woo

suzanne.woo@cima.ca

CIMA+ is one of the largest privately-owned engineering consulting firms in Canada. To meet all of our clients' needs, we offer

a full range of engineering services in buildings, energy, municipal infrastructure, communication and ITS systems, and transportation, as well as a number of complementary services.

booth 2

DezignLine



dezignline.com
Susan Altenbach

Susan@DezignLine.com

DEZIGNLINE'S BIKERAIL™ and CURBRAIL™ products are quick-build, modular, adjustable steel rail systems that create fully protected bike lanes and pedestrian safe zones. Designed for permanent or temporary applications, they're easy to install/uninstall, have a narrow footprint, require no excavation, and allow for storm water drainage. STEELGREEN™ Planters are protective, portable, and aesthetically pleasing.

booth 11



eco-counter.com

Olivia White

olivia.white@eco-counter.com

For over 15 years, Eco-Counter has specialized in providing quality automated pedestrian and cyclist counting systems. Eco-Counter is trusted worldwide – more than 18,000 systems in 53 countries – from bike counters deployed on the busiest cycle tracks of New York City to trail counters in remote regions of the Rockies.

booth 18





econolite.ca

Bill Greenham

WGreenham@econolite.ca

Since 1985, Econolite Canada is a leading provider of comprehensive traffic management solutions and Intelligent Transportation Systems. Committed to the advancement of connected vehicles and other leading-edge technologies, Econolite's solutions ease traffic congestion, enhance transit operations, provide safer mobility, and improve quality of life.

exhibitor directory

booth 12

Electromega

electromega.com Svlvain Mazerolle



smazerolle@electromega.com

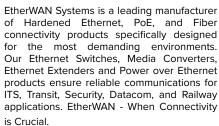
Electromega is a Canadian leader in innovative and high-performance technological solutions for the transportation sector as well as in the traffic, parking and intelligent transportation systems industry. We offer SOLUTIONS that include leading-edge professional services and control systems, as well as innovative applied management and mobility technologies. We work with local authorities to deliver a vast line of products and solutions that improve ground-level operations.

booth 13

FtherWan

etherwan.com Paul Langworthy





booth 3

Fortran Traffic Systems Limited

fortrantraffic.com Dino Falco



dino.falco@fortrantraffic.com

Fortran Traffic Systems Limited began as a way to leverage Guild Electric's decades of experience into the traffic industry, providing exceptional traffic products at the same outstanding level of service. Fortran has grown into the number one manufacturer and distributor of traffic signals in Canada and a top leader in the North American Intelligent transportation Systems Industry.

booth 4

GGI Road & Traffic





GGI Road & Traffic has been providing innovative road safety and efficient traffic management solutions for more than two decades. We are the premier supplier for leading-edge traffic detection, congestion management and analytic solutions; road weather information systems(RWIS); hardened network communication equipment; traffic preemption systems; and proprietary safety/efficiency

booth 17

products.

Miovision

miovision.com Wade Tucker



wtucker@miovision.com

Miovision's mission is to provide foundation for tomorrow's smart cities by transforming the way traffic networks are managed today. Backed by the world's most advanced traffic AI, Miovision's innovations in traffic signal planning and operations have made it possible for cities to improve the transportation experience for drivers, cyclists and pedestrians since 2005. With offices in Kitchener, Canada and Cologne, Germany, Miovision serves over 17,000 municipalities worldwide

booth 19

North Line



northlinecanada.com Jim Sheehan

sales@northlinecanada.com

North Line is an international innovator, manufacturer, and distributor of intelligent traffic solutions. With more than 40 years of experience and a continuous investment in research and development, we set industry standards in detection, asset management, and more. From solutions to in-shop service to on-site support, we're here for you, here in Canada.

booth 7

Orange Traffic

orangetraffic.com **Philippe Fugère**

Orange traffict

philippe.fugere@orangetraffic.com

Orange Traffic's goal is to optimize fluidity and safety on the road in an innovative way. The company is specialized in designing, manufacturing and distributing an array of high-quality ISO 9001 and CSA certified products for the traffic signage and signal industry. Founded in 1988, Orange Traffic continues to deploy technological solutions under the management of Roger and Philippe Fugère and Patrick Lauzière with a team of highly qualified experts.

booth 10

PTV Group



ptvgroup.com
Arjan van Andel

the mind of movement

arjan.vanandel@ptvgroup.com

PTV Group takes a holistic approach that integrates all aspects of traffic, transport and logistics to create and promote sustainable mobility. Recognized as global market leader, PTV develops intelligent software solutions for transport logistics, traffic planning and management. Thus cities, companies and people save time and money, enhance road safety and minimize the impact on the environment.

booth 14

SMATS Traffic Solutions

smatstraffic.com **Steve Brown** steve@smats.ca



SMATS Traffic Solutions pioneering use of crowd-sourcing data and Bluetooth and Wi-Fi sensors to measure travel time and origin-destination patterns. We deliver solutions to effectively monitor and manage delays on roadways. Our integrated analytics and sensory tools allow cities and municipalities the means to better monitor the state of their traffic and make informed decisions on more efficient use of their roads capacity.

booth 15

Stinson ITS



stinsonits.ca
Michael McGuire

michael@stinson.ca

Stinson ITS is a proud manufacturer, distributor and system integrator of Intelligent

Transportation Systems (ITS) with a primary focus on providing turnkey solutions. Built on the foundation of Stinson Owl-Lite's market leadership in the traffic safety industry, Stinson ITS continues to build upon its existing framework to accelerate and build-out intelligent transportation systems across Canada.

booth 16

Tacel Ltd



tacel.ca

Jeffrey Smart

jeffrey.smart@tacel.ca

Incorporated in 1979, Tacel Ltd. is a diverse and dynamic company that has become one of Canada's leading suppliers of Intelligent Transportation Systems (ITS) and Traffic Control Devices. We have successfully served many of the major provincial and municipal authorities across Canada for more than forty years. We manufacture our own Traffic Control Cabinets and supply many of the industry leading ITS Solutions such as Intelight, Sensys Networks, Flir, Polara and Alpha amongst others.

booth 1

Trans-Plan



trans-plan.com **Shadi Hagag**

shadihagag@trans-plan.com

Trans-Plan is a Canadian, Toronto-based traffic planning and transportation engineering consultant company. We create innovative, efficient and smart plans for movement in urban environments. We solve traffic planning problems for the private sector, public sector and non-governmental agencies while valuing all stakeholders: pedestrians, bicycle riders, transit users and vehicle drivers.

booth 8

Tulloch Engineering





scott.paterson@tulloch.ca

Tulloch Engineering is a multi-disciplinary engineering firm with services in LiDAR and mapping services, civil engineering, environmental studies, geomatics engineering, geotechnical engineering, structural engineering and forestry engineering. Founded over 25 years ago, Tulloch has grown to employ over 350 staff with 12 offices across Ontario.

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6:00 - 8:00 WELCOME RECEPTION ► Exhibitor Hall, Confederation II, The Westin

Morning Run: 6:30 – 7:30 monday, june 3 **Registration**: 7:30 - 5:00 Grab & Go Breakfast: 7:30 - 8:30

KICKOFF KEYNOTE ► Mariana Brussoni ► Plenary Hall, Confed I & Provinces 8:30 - 10:00

BREAK ► Confederation Foyer 10:00 - 10:30 **TOUR 1A Cycling** TOUR 3

Facilities Sampler ITS & AV **TECHNICAL SESSION 1** 10:30 - 12:00

LUNCH & SPEAKERS ► Scott Streiner & Bruce Belmore ► Plenary Hall 12:00 - 1:30

1:30 - 3:00 **TECHNICAL SESSION 2 TOUR 2** Cycling **TOUR 4 Downtown Loop LRT West**

BREAK ▶ Exhibitor Hall 3:00 - 3:30

3:30 - 5:00 TRAFFIC BOWL ▶ Plenary Hall

STREET HOCKEY CHALLENGE ► Jules Morin Park, 340 York Street (20 min walk) 5:30 - 7:00

7:00 - LATE STUDENT MIXER ▶ Lowertown Brewery, 78 York Street (8 min walk)

Morning Run: 6:30 - 7:30 tuesday, june 4 **Registration**: 7:30 - 5:00 Grab & Go Breakfast: 7:30 - 8:30

8:30 - 10:00 TECHNICAL SESSION 3 TOUR 1B Cycling **TOUR 6 Facilities Sampler** Complete 10:00 - 10:30 **BREAK** ▶ Exhibitor Hall

TECHNICAL SESSION 4 10:30 - 12:00▶ Plenary Hall

12:00 - 1:30 LUNCH & KEYNOTE ▶ Willa Ng ▶ Plenary Hall

1:30 - 3:00 TECHNICAL SESSION 5 **TOUR 5 TOUR 7 LRT East Bridges BREAK** ▶ Exhibitor Hall 3:00 - 3:301:30 - 4:00

TECHNICAL SESSION 6 STUDENT 3:30 - 5:00CHAPTER **ROUNDTABLE**

ANNUAL BANQUET ► Canadian Museum of History, Gatineau, Quebec (25 min walk) 5:30 - LATE

Saskatchewan Room on the Third Floor

Morning Run: 6:30 - 7:30 wednesday, june 4 Info Desk: 7:30 - NOON Grab & Go Breakfast: 7:30 - 8:30

8:30 - 10:00 **TECHNICAL SESSION 7 TOUR 8** Transformative Corridors: Transforming "Main Street" Corridors 10:00 - 10:30 BREAK ▶ Confederation Fover

TECHNICAL SESSION 8 TOUR 9 Cycling Facilities by Foot 10:30 - 12:00 Note Session 8C will take place in the

12:00 - 1:30 LUNCH ▶ CITE 2019 Excellence in Transportation Awards ▶ Plenary Hall

TOURS start on the fourth floor, across from the Registration Desk, and leave promptly. Please be on time.

POSTER SESSION

8:00-5:

Streets

EXHIBITOR HALL OPEN 7:30-5:00