

NEW TRAINING  
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UPDATES FROM OUR  
TAC APPOINTEES

MEMBER HIGHLIGHT:  
MARS OTTEN-ANDREW



# transportation TALK

Quarterly Newsletter of the CANADIAN INSTITUTE OF TRANSPORTATION ENGINEERS  
INSTITUT CANADIEN DES INGÉNIEURS EN TRANSPORTS  
(a Canadian Non-Profit Corporation)



## CITE Excellence in Transportation Awards

Watch the first-ever virtual CITE Award celebration, meet all of the outstanding 2021 CITE award recipients, and dive into articles about the Stan Teply and Student Paper Competition award winners

## 2021 Virtual Conference *Equity & Accessibility*

A feature article from *Marnie Peters* on street design for active transportation through a universal design lens plus highlights from #CITEconf plenary sessions on building more equitable and accessible cities and systems



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- Neighbourhood Traffic Management

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**Julia Salvini, P.Eng.**  
Canadian District President  
[president@cite7.org](mailto:president@cite7.org)

It has been a busy spring and summer for CITE and we have so much great information to share with you in this edition of *Transportation Talk*. First, we celebrate the success of our first virtual **CITE Annual Conference** with [highlights](#) of the many sessions that were included. As always, the conference provided an opportunity to step away from our day-to-day work and be inspired by colleagues from across Canada and around the world. Here are a few things that I took away from this event:

- I'm impressed with the breadth and depth of transportation areas practiced by our members and friends. You people are doing cool things every day!
- Consider a prioritization pyramid where accessibility and equity are at the top and cars are at the bottom (and countless hours thinking about how that will impact the project work I'm involved in right now).
- Ideas from keynote speaker **Zahra Ebrahim** to help make us, as transportation practitioners, support more equitable cities in our daily work:
  - › "Experts on tap, not on top" when it comes to neighbourhood engagement.
  - › Making change through "fierce incrementalism".

Thank you to everyone who participated in the conference from the arrangements committee to the many presenters and moderators to our sponsors and those who helped review all the abstracts and, finally, to everyone who attended and participated so fully in the online discussions. The broad participation of our transportation community is what makes our conference and our organization so valuable to be part of.

Later in this edition, you'll find an article by **Marnie Peters** highlighting some of the information she shared in our conference opening plenary with **Andy Fillmore** and Jeannette Montufar (now available [on YouTube](#)) plus articles by the 2021 CITE Stan Teply and Student Paper award winners. Our **CITE Excellence in Transportation Awards** ceremony went virtual this year with a celebration (also [on YouTube](#)) featuring many of the individuals involved in supporting and developing the awards program as well as our winners. Congratulations to all our award recipients in 2021! There is much inspiration in these articles and videos for those of you who were unable to attend the conference or want to re-live the highlights.

This newsletter also provides updates from our TAC appointees on their engagement with their Committees and Councils in spring 2021. Our Training Committee is also highlighted in this edition and we provide information on two upcoming training seminars: [Intersections for Everyone](#) coming in September and October of 2021 and *Speed Management* with dates to be confirmed. We're excited to be bringing these virtual training offerings and thank the committee and the consultants preparing the training for their ongoing work.

In the updates from our sections and student chapters, your colleagues from across the country share the tremendous work they've been doing over the spring and summer and where they are headed in the fall. We are all excited about the opportunities that the relaxing of restrictions may provide for in-person meetings, but also recognize the success of the virtual environment in engaging members in ways they were not able to participate in the past—in particular where geography is a challenge. The CITE Executive is reflecting on the opportunity to continue offering accessible virtual events in the future to reach more of our members.

Finally, I bring your attention to the ITE Fellows programs. The Fellows program is intended to recognize individuals who have made significant contributions not only to the profession but to ITE through leadership at the chapter, section, district, or international levels. Given the high level of volunteerism by our membership, there are many more candidates in Canada who would qualify. The short application requires three references who are ITE Fellows themselves. Sean Nix has provided an [article](#) outlining the program, benefits, and process and has generously offered to be a reference to anyone wanting to apply to the program. If you and I have worked together in some capacity, I would also be happy to be a reference for you. We have also provided a list of current Fellows so you can easily find the references you need to apply. Please consider whether or not this would be a fit for you.

I hope that the warm Canadian weather (finally!) brings with it the opportunity for you to find some rest and relaxation after a busy year. Cheers to hats and mitts in the closet, open patios, and second vaccines!



**Julia Salvini, P.Eng.**  
Canadian District President

## **York Region wins the Judges' Choice Award of the *ITE Transportation Transforms Communities Video Challenge***

Congratulations to the Regional Municipality of York (York Region) who won the Judges' Choice Award, one of three videos selected for recognition in this competition. ITE International challenged participants to create an original video conveying how transportation transforms and positively impacts the communities where we live and work. Check out their winning video [here](#) in the 2021 ITE Video Challenge Gallery (*ITE member login required*).





**JEN MALZER, M.Sc., P.Eng.**  
Canadian District Director  
[director@cite7.org](mailto:director@cite7.org)

Dear members,

I'm pleased to share a quick update along with my warmest summer wishes (it's quite literally cooking here in Calgary!).

It's an exciting time as ITE hosts its [Annual Meeting and Exhibit](#) this month with so much great content and speakers lined up. While I am, on the one hand, excited that future meetings will include an in-person component, I think we can all agree that the inclusive nature of virtual offerings is so important. Definitely future meetings will offer both an in-person and a virtual component as well.

Two pieces of policy I am excited to see advancing are around supporting our membership to be more empowered to design for all users. Paula Flores (ITE President, 2016) and I worked together on ITE's most recent strategic plan to include language around providing duty of care, in the sense that we as transportation professionals have a duty to make streets safe and comfortable for all users. I'm pleased to share that this work is being carried forward through a small committee under the leadership of Michael Sanderson (ITE President, 2018).

I will also be advancing some of the member feedback from ITE's recent listening sessions on equity to develop an ITE Board of Direction (IBOD) policy. This policy helps shape the running of the organization and the high standards in all of our technical products. Making equity implications-- like those often hidden in traffic calming community selection or in creating signal timing plans or value engineering sessions-- more clear will help our members deliver better value to the municipalities we serve.

The most exciting news I have to share is a Board decision to eliminate student member dues. This change is so timely to help support our student chapters as they also emerge from the pandemic and try to rebuild more regular activity. It also removes a barrier of dues increasing between undergraduate and graduate students and, overall, acknowledges that most of our membership growth is by fostering the next generation of transportation professionals. This change is also possible considering the current financial strength of ITE. Despite the concerns IBOD felt at the start of the pandemic, we are so relieved and proud that public, private, and academic membership rates have remained high.

A final update I'll provide is around conversations that Alyssa Rodriguez, ITE President, hosted with IBOD. We were invited to reflect on our sections in small groups and develop ideas on how to better support our Sections. Supporting Sections is our greatest priority, as this is where most members interact most often. This is a practice we will continue and is one our Canadian District also hosts annually. If you have other ideas of how IBOD can support your Section, please be in touch.

To close, I wish you a safe summer,

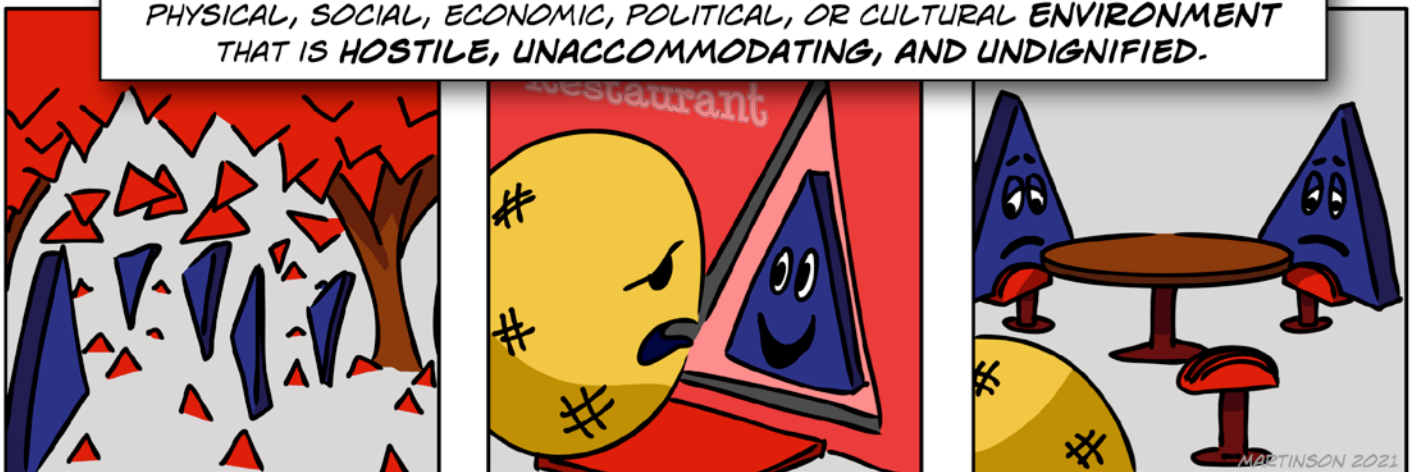


Jen Malzer, M.Sc., P.Eng.  
Canadian District Director

**IMPAIRMENTS ARE PHYSICAL, SENSORY, COGNITIVE, OR MENTAL HEALTH LIMITATIONS...**



**... WHICH ONLY BECOME DISABILITIES WHEN THEY INTERACT WITH A PHYSICAL, SOCIAL, ECONOMIC, POLITICAL, OR CULTURAL ENVIRONMENT THAT IS HOSTILE, UNACCOMMODATING, AND UNDIGNIFIED.**



BY RYAN MARTINSON

Rumble Strips



# 2021ite

June 8-10 • Virtual Conference

## THANK YOU!

On behalf of the National Arrangements Committee for CITE's first ever virtual conference, I would like to thank everyone who participated in this year's conference. We enjoyed the company of over 300 attendees and your active participation in each session made the experience so much greater. Read on for highlights from the three day event. We've heard from many of you that you appreciated how accessible and economical this virtual conference was. Planning a virtual conference was a unique experience with unique challenges, but we learned a lot. CITE will have a lot to build from for future events, no matter the format.

I'd also like to thank all of our presenters who put in the extra work to record their videos in advance, our moderators who volunteered their time in a sometimes challenging virtual format, and our sponsors who once again generously stepped up. Finally, a special shout out to Steven and Evonne – pulling together a virtual conference requires another level of behind the scenes support; this wouldn't happen without you! It was a pleasure being a part of this unique event, but I can't wait to participate in person next year in Vancouver. I'll see you there!

**James Donnelly**

*CITE 2021 Virtual Conference Chair*



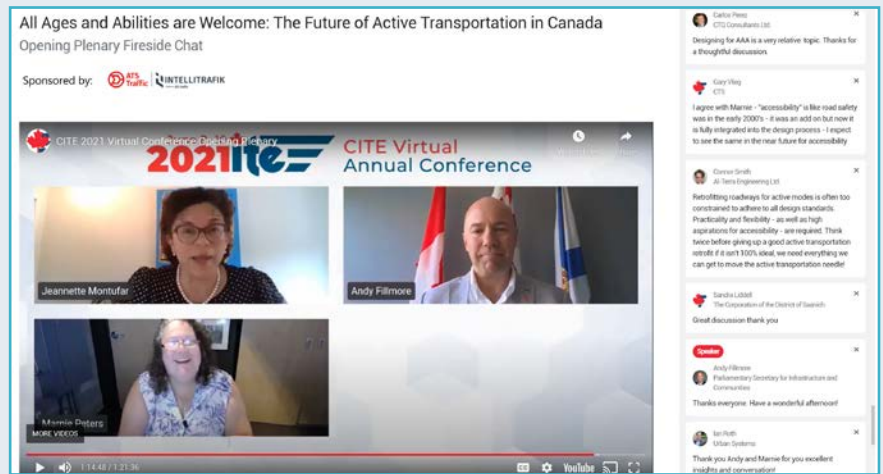
*This year's National Arrangements Committee came together from across Canada to develop a strong technical program and a valuable event. Thank you to these committed individuals who dedicated their time, effort, and expertise to a successful conference.*

- ▶ **Conference Chair:** James Donnelly, Urban Systems (Kelowna, BC)
- ▶ **Executive Liaison:** Julia Salvini, CITE President & Salvini Consulting (Kitchener, ON)
- ▶ **Technical Program:** Jeanette Montufar, MORR Transportation (Winnipeg, MB)
- ▶ **Industry Partners:** Terezinha Hignett, Transoft Solutions (Waterloo, ON)
- ▶ **CITE Support:** Steven Garner (Cowichan Bay, BC) & Evonne Winchiu Donaher (Moncton, NB)



# BUILDING MORE INCLUSIVE COMMUNITIES

**Andy Fillmore** and **Marnie Peters** kicked off CITE 2021 with a fireside chat, moderated by Jeannette Montufar, on the future of active transportation in Canada how we can better build safe and accessible streets for all ages and abilities. It was an engaging conversation with many insightful comments from the audience on the opportunities and challenges for building more inclusive communities.



**Jason Neudorf** @Jason\_Neudorf · 8 Jun  
Kicking off the #CITEconf, @marnie\_peters talking about accessibility, design & human rights, not using cost as an excuse for creating exclusionary designs and debunking some myths eg TWSIs ≠ silverbullets; straight crossings more useful for navigation w guide dogs than TWSIs

**Niki B** @nikiburk · 8 Jun  
"If you design a city for cars, you'll get a city full of cars. If you design a city for people, you'll get a city full of people." Great closing thought from @AndyFillmoreHFX! #CITEconf

**Tyler Golly** @tylergolly · 8 Jun  
As we focus on multimodal and holistic transportation safety at the @itecanada #CITEconf today, let's all remember that people in our communities experience safety differently. Here is an excerpt from @CityofEdmonton's Safe Mobility Strategy that @jesslamarre is busy implementing

Neighbourhood focus:

The Edmontonians who provided feedback during engagement told us that their feeling of safety varies depending on their identity factors and the mode of travel they are using. Identity factors can include sex and gender, race, ethnicity, religion, age, and mental and physical ability.

**Identity Factors**

- 63% said their mobility or feeling of safety is influenced by their identity
- The identity factor most frequently related to feeling unsafe is being a woman
- For all modes of transportation, women reported feeling less safe than men
- People most often mention walking or taking transit when they talk about how their mobility is impacted by their identity
- Those who use mobility aids reported feeling less safe when travelling than those who do not use mobility aids

**Jeannette Montufar** @ijmontufar · 8 Jun  
It was an honour to moderate today's opening plenary @itecanada 2021 conference with guests @marnie\_peters and @AndyFillmoreHFX. Lots of great insight to make our communities more inclusive for people of all ages and abilities. Thank you all for attending #CITEconf #accessibility

**Andy Fillmore, MP** @AndyFillmoreHFX · 8 Jun  
Thank you @itecanada, @ijmontufar & @marnie\_peters for a fantastic #activetransportation conversation at #CITEconf. Headliners were: #accessibility, #equity, and the need to prioritize humans over #carculture on our communities' streets. We've made good progress, but more to do!

**Statistics**

**Disability by Type**

Disability Type	Percentage
Physical	65%
Intellectual	12%
Other	23%

**Personal Capabilities**

Capability	Percentage
Blind	28%
Deaf	65%
Other	12%

**Transit**

**Goods Movement**

**Vehicles**

Figure 1.7 Modal priority triangle for a walking and wheelchair-priority street

Watch a free replay of the All Ages & Abilities Fireside Chat on YouTube

Didn't register for the conference? CITE has made the CITE 2021 All Ages & Abilities: The Future of Active Transportation in Canada Opening Plenary available on our YouTube page to widely share the lessons learned.

Learn more about inclusive street design & active transportation

Be sure to check out the feature article by Marnie Peters on page 11: Active Transport and Street Design through an Accessibility & Universal Design Lens for more background information and resources on more inclusive street design.

# DIVERSE SESSIONS & ENGAGED ATTENDEES

A shift to virtual didn't take away from the core of the CITE Annual Conference—a strong technical program. The conference featured **dozens of technical presentations** in a variety of topic areas, including walking and cycling, transit, safety, parking, connected and autonomous vehicles, and “big data” in transportation.

In addition to the presentations, CITE 2021 offered unique sessions to attendees. **Panel discussions** such as Speed Limit Reductions in Canadian Municipalities and the many sponsored **Thought Leader Roundtables** gave attendees a chance to connect with each other and our knowledgeable speakers on developing industry trends.

One of the most popular components of our Annual Conference, the **technical tours**, also went virtual this year with a fascinating behind-the-scenes look at projects in Nanaimo and Vernon, BC as well as the Mohawk College Centre for Aviation Technology in Hamilton, Ontario.

**A2: Speed Limit Reductions in Canadian Municipalities**  
Tuesday, June 8th, 4:50 - 5:30 PM ADT



- Michelle Sim (City of Toronto): Great presentation! What are the parameters that will be revealed after the implementation to verify the success in reducing speed limits?
- John Hefner (Atis Hanning - Design Canada, Inc.): Thanks for putting together this great panel presentation! Much appreciated!
- Ryan MacIntosh (Canadian Institute of Transportation Engineers): Thanks everyone for sharing your experiences!
- Yara Chertoff (The City of Calgary): more people walking and wheeling in communities too!
- Jill Salas (CITE Moderator and Safety Consulting): City of Kitchener recently created a Complete Streets. Built for all, with shared spaces.

**R1: Urban Systems - Building Back Better: Pivoting our Practice from COVID-19**  
Thought Leader Roundtable



**Pandemic impacts**

Walk/Run/Cycle for Recreation - More	33
Walk/Run/Cycle for Recreation - Less	27
Commute by Walk/Run/Cycle - More	8
Commute by Walk/Run/Cycle - Less	18

- Marian Mihani (City of Toronto): Thanks Nathalie. I discovered it was a VPN issues (tip for others to turn off)
- Jeremy Finkelman (Urban Systems Ltd): Fascinating Megan. Can you share the link to materials you provided? Is there a source on the BC CDC website that can be consulted?
- Sean Hill (Mohawk College): Any of these results published? Would love to read more in detail on this particular case study.
- James Donnelly (CITE Conference Chair / Urban Systems): thanks everyone! great conversation... the next round of technical tracks and virtual tours are starting now.

**B2.1 Nanaimo's Bowen Road: Constrained Corridor turned Complete Street - Virtual Tour**  
Tuesday June 8th, 4:30 - 5:15 PM ADT



- Stephen Schjins (AECOM Canada Ltd): how is snow clearing handled? You need a separate plow from the road one. And there is no storage area... or maybe it never snows in Nanaimo!
- Shanti Acharje (The City of Red Deer): Do you have collision statistics before and after installation complete street?
- Shanti Acharje (The City of Red Deer): active transportation
- Benjamin Corbett (UBC ITE Student Chapter): Did you consider using flexible bollards or paint to narrow the corners at intersections?

**314**  
attendees

**804**  
session chat  
messages

**1,782**  
private  
messages

**13,777** & counting  
presentation &  
session views

## A VIRTUAL GATHERING TO CELEBRATE

As a true reflection of our transportation community, the first-ever virtual **CITE Excellence in Transportation Awards** ceremony brought together members from across the country to celebrate our best and brightest. It kicked off with a brief montage of highlights from our District and Sections over the past year followed by award presentations from coast to coast. The chatbox was abuzz with greetings, congratulatory messages, and personal thanks from award winners.

Meet all of the 2021 CITE winners in the awards feature starting on [page 15](#).



*Missed the award show or couldn't attend?*

**Watch the entire CITE 2021 Awards Celebration on  YouTube**

## A HUMAN-CENTRED EQUITABLE RECOVERY

We were thrilled to bring Zahra Ebrahim, city builder, change-maker & CEO of Monumental to close #CITEconf with her keynote address: A Human-Centred Equitable Recovery.

She had many insights to share on a role for transportation professionals & ITE members in fostering social infrastructure, deep human-centred engagement in communities, and building fair & equitable cities. As accredited professionals, Zahra reminded us that our members at all levels have access to networks of power. With that role comes a responsibility to understand who we're serving and shift the systems to be more human-centred.



*Attendees can still access the virtual event portal and watch all presentations until Dec 2021*



# THANK YOU TO OUR **CITE 2021 SPONSORS**

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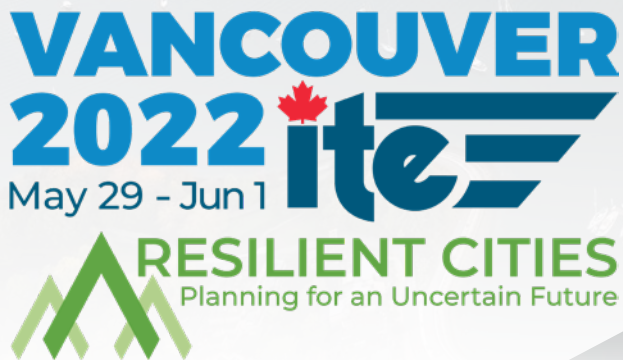
Toole Design Group  
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Sponsorship and exhibitor opportunities at CITE 2022 in Vancouver to be released this fall. Contact us to be notified.

# SAVE THE DATE!

MAY 29 – JUN 1



Watch the promo video



CITE and the Greater Vancouver Section welcome you to attend the **CITE 2022 Annual Conference** to be held May 29 to June 1, 2022 in beautiful Vancouver, BC. Save the date for CITE's first in-person conference in three years!

Our program theme is ***Resilient Cities: Planning for an Uncertain Future***. Planning the transportation system of the future can no longer consist of extrapolating current trends. Major disruptions are becoming more frequent, as we saw during the COVID-19 pandemic, and there are now a wide range of potential futures before us. This can include everything ranging from the vulnerability of transportation infrastructure to changing climate conditions to technological distributions to mobility choices. The theme of this conference will focus on how practices are changing from guessing a future and planning for it to increasingly accepting uncertainty and incorporating resilience to this uncertainty into our work. Interested presenters can look forward to a Call for Abstracts coming Fall 2021. Conference sponsor and exhibitor [inquiries](#) are also welcome in advance of the prospectus to be released in the coming months.

The CITE 2022 Annual Conference is one that you don't want to miss. Check out the [CITE 2022 promo video](#) to see what you can look forward to. The Local Arrangements Committee looks forward to welcoming you to Vancouver from May 29th to June 1st, 2022.

Jan Voss

Chair, Vancouver 2022 Local Arrangements Committee

CREDIT: MARNIE PETERS



# Active Transportation & Street Design through an Accessibility and Universal Design Lens

BY MARNIE PETERS, *ACCESSIBILITY SIMPLIFIED*

The Complete Streets approach includes the concept of designing for 'All Ages and Abilities'. But what does that mean for people with a wide range of disabilities, seniors, children, and families when it comes to both integrated active transportation facilities as well as street design and public rights of way?

## The Evolution of Design

The design and implementation of active transportation facilities are at the same stage now that built facility construction was decades ago. During the early years of accommodating the needs of people with a range of disabilities, the focus was on 'barrier-free design': the modification of existing design features to meet the needs of a specific disability group, such as depressed curbs for wheelchair users and



CREDIT: MARNIE PETERS

Person using a guide dog waiting on the staging island at a protected intersection design

detectable Tactile Walking Surface Indicators (TWSI) at the edge of depressed curbs. Transportation engineering is moving into the ‘accessible design’ phase, which recognizes the needs of distinct groups: people who use mobility devices (e.g. wheelchairs, walkers, scooters, etc.), people with low/no vision who use a long white cane or guide dog, seniors, and children. For the most part, however, people with disabilities are still seen as users of ROWs, but not of the active transportation facilities. Only once practitioners recognize the importance of Universal Design and designing all facilities for All users will there be the possibility of achieving an equitable approach and use of the facilities. Only then will active transportation facilities accommodate adapted cycles for people with disabilities (including children), tricycles for seniors, or people with varying levels of strength and stability.

### The Role of Codes and Standards

Accessibility codes and standards have traditionally focused on the ‘built environment’, meaning buildings and structures. While there have been a limited number of standards internationally that guide the development of

accessible rights of way (ROWs), there have yet to be any that comprehensively address not only the accessibility of ROWs but also the integration of active transportation facilities.

Some jurisdictions, led by Ontario, have introduced accessibility legislation to address accessibility beyond traditional building codes and standards. The *Accessibility for Ontarians with Disability Act (AODA) Integrated Accessibility Standard Regulations (IASR) Part IV – Design of Public Spaces* sets the basic requirements for ensuring accessible exterior environments. Despite being relatively new legislation, it does not address the integration of active transportation facilities with the public realm and ROWs. Other Provinces have begun following suit with accessibility acts and associated standards, yet it remains to be seen whether they will introduce technical requirements that address accessibility and safe use for everyone.

However, codes and standards alone will not create safe and accessible public realms, ROWs and active transportation facilities. Our collective experiences applying building codes and standards have demonstrated that simply adhering to and achieving minimum code compliance does not result in environments that are safe and accessible to all users. It is important that transportation engineers and designers consult with accessibility professionals who can apply the knowledge developed over decades about how people with a range of abilities and disabilities approach, navigate and use public spaces and facilities to create truly accessible spaces and facilities.

*Continued on page 13...*

## Cobble pavers used as sidewalk/cycle track delineator

While codes and standards do not provide sufficient technical guidance for practitioners, it does not mean there is no relevant legislation. In addition to the Canadian Human Rights Act, all Provinces and Territories have similar human rights legislation, and all place a consistent obligation on both private and public organizations to remove barriers to equitable access and use and to ensure that no new barriers are created during new development or reconstruction projects.

### Design Focus

Safe and accessible active transportation design means designing for the most vulnerable user. For users of the pedestrian ROW, particular care must be taken to ensure that the safety of vulnerable users is prioritized over the ease of use and convenience of other users, including cyclists and other users of active transportation facilities.

### Emerging Design Issues

Many jurisdictions are facing complex design challenges to implementing active transportation facilities within existing ROWs and infrastructure. This has resulted in situations where cycling facilities are being constructed immediately adjacent to and at the same grade as pedestrian ROWs. While easier to construct, convenient for maintenance and operations, and safe and easy to use for cyclists, it has resulted in a range of hazardous situations for people with a range of disabilities, particularly for pedestrians with low/no vision. An equally challenging situation for people with low/no vision results from applying the necessary setback of the cycle track from the road at intersections. While the

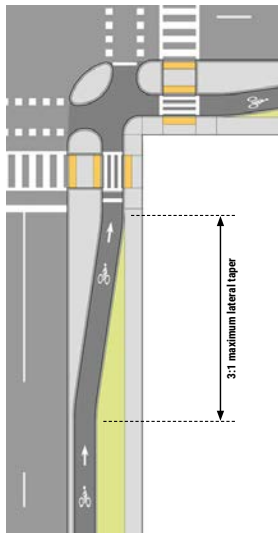


CREDIT: MARK PHIL POTTS

setback creates a safer cycling environment, the bump out of the cycle track and sidewalk on the approach to the intersection creates a deviation in the straight path of travel, resulting in a situation where pedestrians have the potential to inadvertently cross into the path of travel of cyclists while walking and maintaining a straight path of travel. The preferred option is to maintain the straight path of travel for pedestrians while requiring sighted cyclists to deviate their path on the approach to intersections and road crossings. Several jurisdictions have experimented with a variety of types and textures of delineators to separate at grade cycling and pedestrian facilities. Efficacy and preferred materials and means of delineation vary depending on several factors including but not limited to weather conditions (e.g., snow compared to rain), maintenance and operational equipment, and whether active transportation facilities are used in winter months.

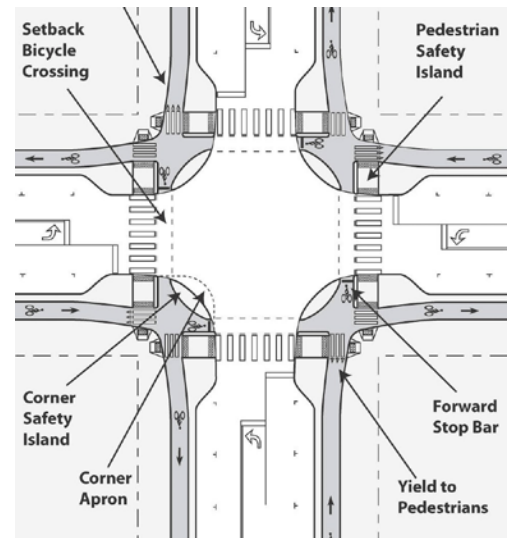
Creating safe active transportation facilities has also resulted in safety concerns for users of public transit. To separate cyclists from vehicular road traffic, cycling facilities at grade or adjacent to pedestrian ROWs have resulted in numerous designs and configurations of 'floating' bus islands. Pedestrians need to cross cycling facilities to be able to reach bus boarding and disembarking zones. This poses particular challenges for people who cannot see cyclists coming or seniors who may not be able to judge the speed and distance of approaching cyclists.





Maintaining the straight path of travel for pedestrians with a bend-out deflection

CREDIT: MASSACHUSETTS DOT (MassDOT) SEPARATED BIKE LANE PLANNING & DESIGN GUIDE, 2015, PAGE 73



A protected intersection design with straight path of travel for pedestrians.

CREDIT: ALTA PLANNING & DESIGN

While the challenges are numerous, design options exist, and project teams may need to work with accessibility professionals to find the optimal approach for each situation. Accessing and applying current knowledge and best practice will help us collaboratively provide safe and accessible environments for users of all ages and abilities, whether they are pedestrians using the ROW or cyclists using active transportation facilities.



**Marnie Peters** has 20+ years of experience offering comprehensive services related to accessibility and universal design, including the evaluation of all environments from the perspective of how persons with disabilities and the full range of human conditions use and interact with buildings, facilities and public realm and rights of way environments. Learn more about her work to create an inclusive world for everyone at [AccessibilitySimplified.com](http://AccessibilitySimplified.com).

LEARN MORE...

**GAATES Illustrated Technical Guide to the Accessibility Standard for the Design of Public Spaces**

[gaates.org/DOPS/default.php](http://gaates.org/DOPS/default.php)

A highly recommended resource for better understanding the obligations in the *Accessibility for Ontarians with Disability Act (AODA) Integrated Accessibility Standard Regulations (IASR) Part IV – Design of Public Spaces (DOPS)* is this illustrated technical guide from the Global Alliance on Accessible Technologies and Environments (GAATES).

**At the Intersection of Safety and Innovative Design**

[blog.altaplanning.com/at-the-intersection-of-safety-and-innovative-design-b3be1fce44e8](http://blog.altaplanning.com/at-the-intersection-of-safety-and-innovative-design-b3be1fce44e8)

This article by (dedicated CITE volunteer) Kate Whitfield of Alta Planning & Design highlights recent projects in Ottawa that have incorporated some of these emerging best practices for active transportation and street design through an accessibility lens.

**All Ages and Abilities are Welcome: The Future of Active Transportation in Canada**

[youtu.be/U7wRw0mR7mo](https://youtu.be/U7wRw0mR7mo)

The CITE 2021 Virtual Conference Opening Plenary featuring Marnie Peters and Andy Fillmore, Parliamentary Secretary for Infrastructure and Communities, highlighted many of these issues and more. CITE has made this session freely available on our [YouTube page](#) to more widely share the engaging conversation and lessons learned.



# CITE 2021

## Excellence in Transportation Awards & Scholarships



Canada's Community of Transportation Professionals  
La communauté des professionnels du transport au Canada

Each year, CITE presents an awards program to honour the outstanding achievements of practitioners and students in the transportation field from across Canada. In 2021, we hosted the first ever virtual awards ceremony to safely gather and celebrate all of our recipients. Read on to meet this year's winners and replay the Awards Celebration to see acceptance speeches and presenters from across the country.



Watch the CITE 2021 Awards Celebration

## H. ROBERT BURTON DISTINGUISHED SERVICE AWARD

### Bruce Belmore

Saskatchewan Section | KGS Group

*CITE's most prestigious honour, the H. Robert Burton Distinguished Service Award, is named after a man who dedicated much of his life to the transportation profession. A founder of the original Canadian Section in 1951, Bob was still attending CITE meetings right up to his death at the age of 101 years. This award is bestowed upon members who have shown these same qualities and demonstrated a notable career in the field and a record of service with CITE.*

Bruce Belmore has specialized in transportation mobility and safety for over 30 years, working on a broad range of projects, involving active modes, traffic calming, micromobility, traffic operations and safety engineering. He has been a dedicated member of ITE throughout that time, attending his first Section luncheon with the National Capital Section early in his career. Fast forward to life on the prairies, Bruce also served on the Saskatchewan Section Executive, culminating as President. In 2004, Bruce was elected to the CITE District Executive, serving eight years at the District level, plus three years representing CITE as District Director on the ITE International Board of Direction.

In 2017, Bruce was elected to the ITE International Executive, serving three years as Vice President, President and Past President. He is the fourth ITE International President from Canada in the organization's 90-year history.

Bruce has also served the engineering community as an adjunct professor at the University of Regina for six years teaching engineering law & ethics. He currently leads the transportation practice at KGS Group as the Transportation Department Head.



All four Canadians who have served as ITE International President were captured at the #ITEToronto2017 Annual Meeting (right to left): Leo Laviolette (1982), Allen Swanson (1988), Alfred Guebert (2008), Bruce Belmore (2019)

Get to know Bruce in this past [Member Highlight](#)

## OUTSTANDING VOLUNTARY CONTRIBUTION AWARD

### Kate Whitfield

National Capital Section | Alta Planning + Design

*This award celebrates the hard work and dedication of members who have made exceptional voluntary contributions to CITE or its programs and projects.*

This year's winner approached CITE in 2020 with the novel idea to host an engaging virtual networking conversation to support members entering the transportation profession. A dozen episodes later, *Career Connect with Kate* has become a resounding success with numerous participants who have landed transportation jobs and many more who have praised the opportunity to learn and grow from others in the industry. Kate has also served as the CITE Appointee on the TAC Mobility Council and the Technical Tours Lead for the CITE 2019 Annual Conference in Ottawa.



Get to know Kate in this past [Member Highlight](#)



Watch all episodes of [Career Connect](#) here

## RISING STAR AWARD

### Federico Martin Puscar

Greater Vancouver Section | Bunt & Associates



*The Rising Stars Program identifies the next generation and new faces of the transportation profession, recognizing members under the age of 35 who have already made an impact on the profession. The winner of the Canadian District Rising Star award is also nominated for the ITE International Young Member of the Year Award and recognized in ITE's [Young Leaders to Follow](#) Program.*

This year's CITE Rising Star was nominated by the Greater Vancouver section for his dedication to advancing the knowledge and experience of the profession. Federico was appointed as CITE's Private Sector Representative to TAC's Project Steering Committee to oversee the new Road Safety Webinar Series. He was also a Panel Member and Instructor for ITE's Transportation Impact Assessment Training Program and more recently appointed by ITE to support their update to the Trip Generation Manual.

## STAN TEPLY OUTSTANDING TECHNICAL PROJECT AWARD

### Halifax Rapid Transit Strategy

Halifax Regional Municipality

*The Stan Tepy Award recognizes outstanding projects that showcase excellent technical achievement in transportation planning and/or engineering in Canada. The multiple worthy submissions were evaluated using the four award criteria: technical contents & transferability, complexity and innovation, project expectations, and overall presentation.*

This year's winner, the Halifax Rapid Transit Strategy, was unanimously endorsed by Halifax Regional Council in May 2020 and represents one of the most comprehensive, ambitious, strategic and well-integrated transportation and land use plans produced in Atlantic Canada. The Rapid Transit Strategy is Halifax's plan to build a rapid transit system by 2030 which consists of a Bus Rapid Transit (BRT) network, new ferry service, and a direction for land use policy to align with rapid transit. This strategy responds to some of the most pressing issues facing Canadian municipalities by outlining a significant investment in high-quality transit service that will improve residents' mobility and build more sustainable, affordable, and equitable communities. It also reflects a "Made in Halifax" solution, building on the strongest assets in their transportation network and the opportunities provided by their unique geography.



HALIFAX

Learn more about the Halifax Rapid Transit Strategy in the [Project Profile](#) on page 25

## ITE INTERNATIONAL TRANSPORTATION ACHIEVEMENT AWARDS

### Canadian Nominees



*The ITE International Transportation Achievement Awards is awarded annually for significant and outstanding transportation achievements in the advancement of transportation. CITE is proud to present the Canadian nominees to be considered for these awards in the following categories.*

#### **Complete Streets Category**

**Nanaimo Goes Dutch: Adopting Raised Local Intersections within the City's Engineering Standards**  
ISL Engineering & City of Nanaimo

#### **Safety Category**

**Edmonton's Safe Mobility Strategy**  
City of Edmonton & Toole Design

#### **Transportation Systems Management & Operations Category**

**Ottawa's Electric Kick Scooter Strategy and Pilot Project**  
City of Ottawa

#### **Transportation Planning Category**

**Advanced Bus Detection and Signal System**  
City of Burnaby & TransLink

Learn more about Edmonton's Safe Mobility Strategy in this past [Project Profile](#)

## DR. MICHEL VAN AERDE MEMORIAL TRANSPORTATION SCHOLARSHIP

**Maged Gouda** | University of Alberta



Maged Gouda received his M.Sc. in Transportation Engineering from the University of Alberta (U of A) in Canada in 2016. He is working towards his Ph.D. degree in Civil Engineering at the U of A. His research area focuses on big sensor data analytics to develop data-driven smart urban mobility solutions, smart city and infrastructure design and studying the impacts of emerging trends/technologies on transportation infrastructure design and construction. The quantitative analyses used are utilized to address equity, resilience, and sustainability in smart infrastructure investments. His current research interests include machine learning, 3D point cloud data processing, deep learning applications for the segmentation of point cloud data, image processing, and smart infrastructure design/asset management.

## JOHN VARDON MEMORIAL TRANSPORTATION SCHOLARSHIP

**Cassidy Zrobek** | University of Manitoba



Cassidy Zrobek obtained her BSc in Civil Engineering from the University of Manitoba in 2021 with the highest standing in her faculty. As an undergraduate student, she was a member of the ITE Student Chapter for 3.5 years, including one year as the social and fundraising co-chair. Currently, Cassidy is a master's student at the University of Manitoba and the president of their ITE Student Chapter. Her research is focused on evaluating the feasibility of a video analytics solution for truck classification in the Canadian Prairie Region. Cassidy has gained transportation engineering experience through a work term in the Traffic Signals Branch at the City of Winnipeg.

## CITE UNDERGRADUATE SCHOLARSHIP

**Manpreet Singh** | University of Alberta



Manpreet Singh received his BSc in Civil Engineering at the University of Alberta in 2021. He got interested in transportation engineering during his coop term at the City of Edmonton, where he worked with the Office of Traffic Safety. His work focused on creating a transportation plan for communities in Edmonton which were undergoing neighbourhood renewal. While attending UofA, Manpreet was involved in many clubs such as the Engineering Students' Society and ITE Student Chapter. Aside from engineering, Manpreet is also a Lifeguard and a First Aid Instructor at the University of Alberta. Currently, Manpreet is working as a Designer EIT with WSP in Edmonton and hopes to be a lifelong learner in transportation engineering.

## STUDENT PAPER COMPETITION AWARD

Mingjian Wu | University of Alberta



Award generously sponsored by



Beginning in January 2020, Mingjian Wu started his PhD career at the University of Alberta under the supervision of Dr. Tae J. Kwon after successfully defending his MSc thesis. During his MSc studies, he focused on quantifying the safety effects of driver feedback sign (DFS) and its location allocation strategies under the co-supervision of Dr. Tae J. Kwon and Dr. Karim El-Basyouny. By the time the award is received, he has published a total of 7 publications including 5 journal and 2 conference papers. Mingjian's current research interests lie primarily in the areas of Artificial Intelligence (AI) and Big Data analysis in winter transportation engineering, traffic safety, and facility location-allocation optimizations.

Read a condensed version of Mingjian's winning paper on [page 31](#)



Award generously sponsored by



## CITE WATT CONSULTING GROUP "TRANSPORTATION IN A SUSTAINABLE WORLD" STUDENT AWARD

Anastasia Soukhov | McMaster University

Anastasia Soukhov is currently pursuing a M.A.Sc. in civil engineering and society at McMaster University. She is researching life-cycle environmental impacts of passenger transportation technologies and policy implications. She has completed co-op positions in the City of Burlington GIS and linear asset management groups and also spent a year-long work term at CIMA+ participating in road safety and transportation planning projects. She has been involved with the CITE community since 2016 when the ITE McMaster Student chapter formed and has served as the president/co-president for four terms. In the past, she has won the Canadian Capacity Guide (CCG) Award, the CITE Student Paper Competition Award, and the WTS International Undergraduate Women in Transportation Award, and has published and presented at the Canadian Transport Research Forum (CTRF) conference.

Read Anastasia's winning paper on the [CITE website](#)

**CITE 2021 COLLEGIATE TRAFFIC BOWL**

**University of British Columbia**



**Benjamin Corbett**  
Civil Engineering  
Bachelor's program



**Tarek Ghoul**  
Civil Engineering  
Master's program



**Gabriel Lanzaro**  
Civil Engineering  
Master's program

The CITE Collegiate Traffic Bowl student competition was held virtually for a second year in a row in 2021. Congratulations to the winning team from the **University of British Columbia (UBC)**: Benjamin Corbett, Tarek Ghoul, and Gabriel Lanzaro. Well done to all the participating teams and student chapters for your hard work: **McMaster University, Mohawk College and York University.**

Many thanks to all the CITE volunteers and ITE support who helped make this event a great success!



**STUDENT PRESENTATION COMPETITIONS | Regional Winners**

We typically award the CITE Student Presentation Competition Award based on a random draw of winners from our local and regional competitions. Due to the pandemic, and the lack of opportunity to award a travel bursary this year, we are proud to recognize all of the winners from our local student presentation competitions organized by Sections and/or Student Chapters!

**Northern Alberta Section**

- Fan Wu**, University of Alberta (Graduate)
- Manpreet Singh**, University of Alberta (Undergraduate)

**Manitoba Section**

- Sushreeta Mishra**, University of Manitoba

**Toronto, Hamilton & Southwestern Ontario Sections**

- Rajveer Ubhi**, McMaster University (Graduate)
- Natalie Farag**, Ryerson University (Undergraduate)

**Atlantic Provinces Section**

- Mike Stewart**, University of New Brunswick

Read more about these competitions on [page 23](#)



## OUTSTANDING SECTION AWARD

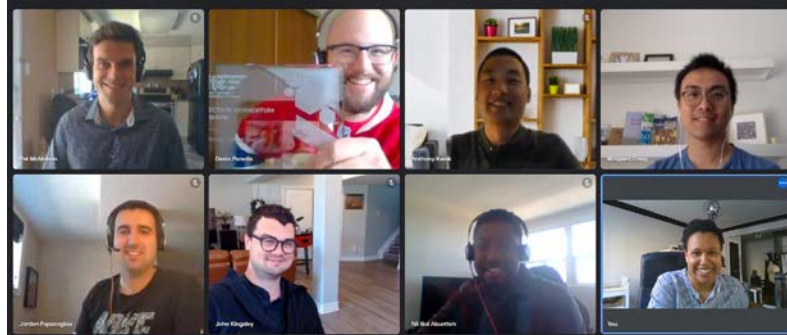
### Southern Alberta Section



- Membership: 290+, ~500 in the broader community
- Hosted well-attended professional webinars
- Supported student chapter through assisting with advertising and participating in events. Hosted virtual presentations for Students' Capstone Projects.
- Hosted a virtual year-end gala featuring project awards, a forum on diversity and inclusion and virtual greetings from the section members.

## SECTION MOMENTUM AWARD

### National Capital Section



- Membership: ~100 members
- Success built on the work of previous executive teams
- Staying Connected: bi-weekly virtual meetings both coordinate and check-in with one another.
- Strategizing: setting goals for the Section and establishing a clear vision for the future with a 3-year plan
- Innovative Events: organizing a virtual technical tour of the newly transformed Elgin Street complete street corridor in the heart of Ottawa

## OUTSTANDING STUDENT CHAPTER AWARD

### University of British Columbia



- Membership: ~30 members
- Provided spontaneous, small group networking opportunities for over 85 attendees at our first-ever Virtual Industry Night
- Hosted 5 technical sessions on broad transportation topics
- Sent a delegation of 6 student members to the 2021 Transportation Research Board Annual meeting, including student members who presented their research at the conference

## STUDENT CHAPTER MOMENTUM AWARD

### McMaster University



- ~180 individuals have attended chapter events
- pivoted to a virtual environment and increased the frequency (biweekly) of guest speaker sessions and industry software tutorials
- collaborated with the Hamilton ITE Section to establish a mentorship program
- strengthened virtual presence through social media and general meetings

# Student Presentation Competitions

## University of Alberta Student Chapter (ITEUA) | Northern Alberta Section

The third edition of the ITE University of Alberta (ITEUA) chapter Student Presentation Competition was held virtually on February 17th with seven participants and four industry professionals acting as judges.

This competition emphasizes presentation and communication skills, rather than content, and awards cash prizes. Contestants conduct a 10-minute presentation on their own work or a general transportation-related topic of their choice followed by a short Q&A and attendees participate in a minor trivia game during judge deliberations.

Our top graduate and winner of the people's choice award was **Fan Wu** who examined the structure of road networks, comparing connectivity, orientation and modal suitability of 15 Canadian cities. Our top undergraduate student, **Manpreet Singh**, outlined his vision for a neighbourhood renewal and community-level traffic management plan in Edmonton. Our second place winner was **Rucha Acharya** and our third place winner was **Jianjing Jin**. Honourable mentions go to **Aditya Shah**,

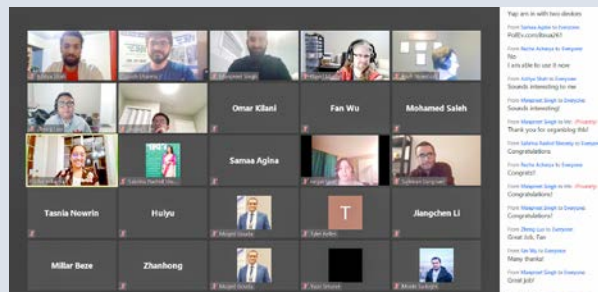
**Mohamed Saleh**, and **Omar Kilani**. Major thanks are sent to **NACITE** for their sponsorship of our top-tier awards and to the judges: **Brett Newstead** (Town of Stony Plain), **Suliman Gargoum** (Nektar 3D Consulting), **Zheng Luo** (Stantec) and **Negar Tavafzadeh Haghi** (WSP).



Fan Wu  
Graduate Winner



Manpreet Singh  
Undergraduate Winner



## Manitoba Section

In May and June, the Manitoba Section held our annual Kean Lew Student Paper and Presentation Competition. Congratulations to **Sushreeta Mishra**, a senior year Ph.D. student from the University of Manitoba, who took home the top prize of \$900 for her paper entitled *Stochastic Optimization of Semi-Flexible Transit Operations*.

Sushreeta is Secretary of the UofM ITE Student Chapter. Her work experience includes working as a part-time researcher at CUTRIC on an electric bus scheduling project. As a delegate selected from Manitoba for the Young Leaders Summit in Calgary

(2019), she got a unique opportunity to learn, showcase ideas, and network with peers and industry experts in transit and sustainable transportation. Sushreeta's primary research interest is in transit operations and planning, and her Ph.D. thesis focuses on optimizing the operation of semi-flexible transit for low-demand conditions.

Thank you to the competition's judges, **Walter Burdz**, **Diana Emerson**, and **David Patman** for their time and input. A special thank you to **Yuan Lew**, Kean Lew's sister, for contributing to the prize amount in memory of her brother.

## Toronto, Hamilton & Southwestern Ontario Sections | Joint Competition

The 13th Annual Joint CITE Section Student Presentation Competition was held virtually on May 5, jointly held by the Toronto, Hamilton, and Southwestern Ontario ITE Sections with over thirty people in attendance. The winner of the undergraduate portion of the event was **Natalie Farag** (Ryerson University) who presented on their capstone design project, titled *Design of Roundabout to Replace All-Way Stop Controlled Intersection: Case Study in Niagara-on-the-Lake*. The winner of the graduate portion of the event was **Rajveer Ubhi** (McMaster University) who presented their research titled *Using Level of Traffic Stress to Increase Cyclist Safety Using GPS Data*. We would like to extend our congratulations to all the competitors at this event, including runners-up **Karim El Khati** (McMaster University), **David Antonio Ornelas** (York University), **Artem Solovey** (York University), and **Sk. Md. Mashrur** (University of Toronto). The event was opened by CITE President **Julia Salvini** (Salvini

Consulting Inc.) and emceed by Toronto Section Secretary **Erik Nevland** (Region of Peel), who judged the abstracts and presentations alongside Southwestern Section Vice President **Dana Elfar** (Stantec) and Hamilton Section Treasurer **Omar Shams** (City of Hamilton). This annual event would not be possible without Presentation Competition Coordinator and ITE Fellow **Sean Nix** (Mohawk College), who has been involved in the competition since 2013, as well as volunteer judges like **Geoff Knapp** (WSP).



## Atlantic Provinces Section

The Atlantic Provinces Section Student Presentation Competition was held as our third Virtual Lunch & Learn (on March 22, 2021 with the help of CITE's Steve Garner. Four of our current and future colleagues presented their research projects to over 30 members: **Michael Stewart** (University of New Brunswick), **Md Asif Hasan Anik** (Dalhousie University), **Taylor Wood** (University of New Brunswick), and **Md Jahedul Alam** (Dalhousie University). If you missed it, you can catch the entire Atlantic Provinces Student Presentation Competition on CITE's YouTube page [here](#).

We are pleased to announce that Michael Stewart was selected as the winner based on a random draw of the presenters. After leaving a teaching career to pursue a degree in Civil Engineering, Michael found himself intrigued and determined to

be involved in the integration of autonomous technology both locally and globally. He is nearing the 1-year mark in an Accelerated Masters program. Michael is an active member in the rugby community, currently playing in the senior men's leagues. Other interests include working out, coaching, camping, outdoor activities, and enjoying the music scene around Fredericton.



# Halifax's Rapid Transit Strategy

Winner of the 2021 CITE *Stan Teply Outstanding Technical Project Award*

BY MIKE CONNORS, HALIFAX REGIONAL MUNICIPALITY

Halifax's *Rapid Transit Strategy* (RTS) sets a course for Halifax Regional Municipality (HRM) to plan and build a Rapid Transit system by 2030. The Strategy, which was unanimously endorsed by Halifax Regional Council in May 2020, proposes new higher order transit service including a Bus Rapid Transit (BRT) network and an expanded harbour ferry service. The proposed transit upgrades are strategically aligned to serve the areas in the municipality most suitable for Rapid Transit and to align with land use plans and other sustainable transportation priorities. The Strategy also provides direction to update existing land use policy to better respond to the Rapid Transit Network.



The *Rapid Transit Strategy (RTS)* responds to some of the most pressing issues facing Canadian municipalities by outlining a significant investment in high-quality transit service that will improve residents' mobility and build more sustainable, affordable, and equitable communities. It also reflects a "Made in Halifax" solution, building on the strongest assets in the local transportation network and the opportunities provided by the region's unique geography.

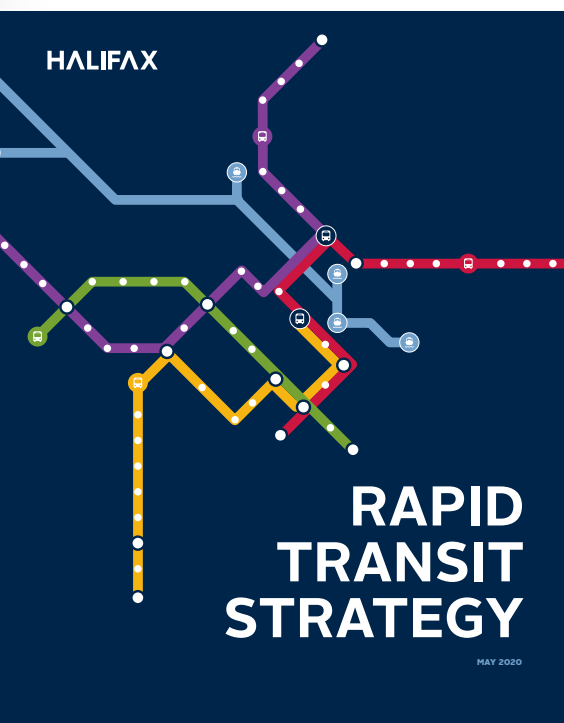
### THE NEED

Halifax, Nova Scotia's largest and most populated municipality, is in the midst of an exciting period of growth. By 2031, it is anticipated that HRM will gain more than 69,000 new residents and 46,000 jobs. The Municipality is faced with the challenge of accommodating this growth in a financially, environmentally, and socially sustainable manner. Recently established policy direction highlights HRM's commitment to facing these challenges. From a transportation perspective, HRM's *Integrated Mobility Plan* (2017) provides a bold vision to improve the multimodal nature of

the transportation network, integrate transportation and land use decisions, and influence mobility behaviors. On the environmental side, *HalifACT* (2020), HRM's climate action plan, outlines equitable policies and programs pertaining to all sectors (including transportation) that aim to reduce emissions and address the threat posed by climate change. Transit is a significant component of these municipal policy frameworks, and rapid transit service is seen as a critical part of the way forward.

With the need to accommodate the mobility needs of a growing population—and a commitment to do so in a manner consistent with the principles laid out in the *Integrated Mobility Plan* and *HalifACT*—HRM realized that significant action was required. From a transit perspective, 'big moves' were needed. Having studied potential higher order transit initiatives in the past ranging from commuter rail to fast ferries to bus rapid transit, it was time to develop a plan that would explore these ideas further and more explicitly understand their potential.

*Continued on page 27...*



Download the complete Halifax Regional Municipality *Rapid Transit Strategy* [here](#) (PDF) and learn more at [shapeyourcityhalifax.ca/rapid-transit](https://shapeyourcityhalifax.ca/rapid-transit)



# Halifax Rapid Transit Strategy



## THE APPROACH

Development of the RTS included the planning and conceptual design of two new transit services for HRM: **Bus Rapid Transit (BRT)** and **High-Speed Ferry**. The technical analysis focused on transit travel time and employment access analysis, land use capacity analysis, transportation demand modelling, GHG reduction estimates, and an assessment of the capacity within the right of way to support BRT infrastructure.

### Bus Rapid Transit

The RTS recommends a new BRT service that will significantly enhance transit in Halifax’s regional centre and the surrounding inner suburbs. The proposed service includes four BRT lines, each represented by a specific colour, covering a total distance of 50km. BRT service will run at high frequency throughout the day, seven days a

week – on weekdays, BRT service will run every ten minutes or better between 6 a.m. and 10 p.m. The BRT network is strategically laid out to optimize access and connectivity. It places more than 120,000 people and 100,000 jobs within an 800m walking / rolling distance, and the vast majority of these trips are connected by at most one transfer.

Successful BRT service must offer improved travel times and a high degree of reliability to compete with private vehicles and encourage more people to use transit. Since buses share the road network with private vehicles, the best way to improve travel time and reliability is to provide buses with the ability to bypass congestion. The strategy recommends extensive use of transit priority measures at intersections (e.g., signal phasing) and along corridors (e.g., bus lanes) to keep buses moving efficiently. While an ideal BRT system would include transit priority on 100% of the network, challenging geography



and limited street width make it nearly impossible to provide complete network priority in HRM. The proposed BRT system will benefit from transit priority lanes on approximately 60% of the 50km network.

Key features of the proposed BRT service will include enhanced stations and terminals, real-time bus arrival information, platform-level boarding, and system/route maps that are simple and user-friendly. The subway-style map that was developed as part of the project showcases the simplicity of the BRT network, which is considered a major benefit of the service.

### **Expanded Ferry Service**

HRM's modern ferry service was established in the 1970s and provides cross-harbour connections between downtown Halifax and Dartmouth, serving approximately 2 million users each year. It provides frequent, reliable service between two of HRM's most densely populated areas. The experience of riding atop the ferry's exposed upper level across the harbour is a unique Halifax experience and is high on the to-do list for many a visitor to the city.

The Municipality has considered the potential to expand the ferry service to other communities

several times in the past. Previous investigations revealed operational limitations including an inability to compete with driving times over longer distances while maintaining safe operations and minimizing wake impacts. However, recent advances in vessel design and technology have mitigated these limitations: smaller catamaran-type vessels, which can operate efficiently and safely at higher speeds, improve the feasibility of longer distance ferry routes and provide a promising service option.

The proposed ferry service offers rapid end-to-end travel for commuters and other travellers between origin terminals around the harbour and downtown Halifax. The frequency of service on the new ferry routes will be highest at peak, sailing every 15 minutes during weekday morning and afternoon peak hours. Between those times, the routes would likely run every 30 to 60 minutes depending on travel demand.

Expansion of the ferry service is expected to transform the way commuters from rapidly growing suburban communities (such as Bedford and Sackville) get to and from the downtown core, reducing pressure on congested roadways and providing thousands of residents with a fast, comfortable, and sustainable way to get to their destination.

*Continued on page 29...*

## Land Use

The RTS recognizes the need to align transit and land use planning to build transit-oriented complete communities and make transportation in HRM more sustainable. The proposed Rapid Transit Network serves a high proportion of the municipality's existing population and employment centres. The Strategy's recommendations for land use aim to accommodate growth in a way that is more compact and less car-oriented, and ultimately more affordable and sustainable. The RTS outlines four key policy directions for the municipality: (i) plan for higher-density mixed-use development around rapid transit, (ii) work to ensure that affordable housing and amenities are available near rapid transit, (iii) improve the connectivity of local streets and the quality of active transportation infrastructure near stations and terminals, and (iv) pursue a long-term vision for Rapid Transit together with a long-term vision for land use.

## NEXT STEP: IMPLEMENTATION

The *Rapid Transit Strategy* maps out an implementation plan that targets a completed network by 2030. It identifies timelines for the planning and design work necessary to implement the system including corridor studies, BRT infrastructure design, vehicle/vessel procurement, and terminal design.

In June 2021, one year after the adoption of the strategy, the first steps to implementation are already underway. All three levels of government are funding a \$3.3 million study for the proposed ferry service expansion that will explore options for an electric ferry as well as a concept design for new terminal buildings, site access, and site design. At a recent funding announcement for the study, Halifax Member of Parliament Andy Fillmore (and Parliamentary Secretary to the Minister of Infrastructure and Communities)

praised the project saying, "This is exactly in the sweet spot of what the federal infrastructure plan is trying to achieve: stronger communities, better health and livability outcomes, reducing emissions, and creating more inclusive communities where you don't have to have the choice to own a car thrust upon you."

## CLOSING

The *Rapid Transit Strategy* has been praised for its vision and scope: it addresses complex and interconnected issues such as climate change, congestion, access to employment, unsustainable development patterns, and housing affordability. Its development included a comprehensive mixed-methods approach that successfully integrated quantitative and qualitative data and analysis to produce a rigorous and evidence-based planning document. It also included an intensive community and stakeholder engagement program that played a key role in the strategy's development and engendered a high level of public support for the project. Importantly, it is a concise, elegant, and visually appealing document, which has made it accessible and engaging to a wide audience.

The Rapid Transit Strategy represents an important step for Halifax. With strong public and political support, work is well underway and HRM is excited to continue to move this exciting project forward over the coming years.



**Mike Connors, MScE, P. Eng.** was the Co-Project Manager and transportation lead for the Halifax *Rapid Transit Strategy*. Mike is a Transportation Engineer with Halifax Regional Municipality's Transportation Planning team. He has 13 years of experience, which has been split between the public and private sectors in Halifax. Mike has been an ITE member since 2014 and is the current Past President for the CITE Atlantic Provinces Section. He also currently serves on the CITE Board of Directors.



# TRAINING OPPORTUNITY

## INTERSECTIONS FOR EVERYONE

Learn how to plan, design and balance the needs of all transportation modes at intersections



### WORKSHOP FORMAT

Online course

This course will be delivered over two half-day (three hour) workshops using online instructional tools including video conferencing and whiteboard collaboration platforms.



### FACILITATORS

Toole Design

This workshop is offered by the CITE Training Committee and will be facilitated by Tyler Golly, P.Eng., RSP, and Ryan Martinson, P.Eng., RSP,



### DATES & TIMES

1-4 p.m. Eastern Time

- Tuesday and Wednesday, **September 14 and 15**
- Thursday and Friday, **October 21 and 22**



### REGISTRATION FEES

- \$175 per individual student registration
- \$200 per individual CITE member
- \$250 per individual non-member

### WORKSHOP SUMMARY

Intersections are the location where the highest number of conflicts occur, making them uncomfortable places for people walking, biking, and driving. Communities across Canada and North America have been transforming streets to achieve broader objectives and increase multimodal safety. Many designers have found challenges with how to design the intersections. This training workshop will cover intersection design approaches for different contexts: urban, suburban, cities, towns.

### LEARNING OUTCOMES

- ✓ Better understanding of the goals for intersection design to achieve safety and mode share objectives
- ✓ Knowledge of the evidence-based research that underpins these goals and selecting design elements
- ✓ Hands-on experience designing intersections with innovative design elements

### REGISTER HERE

- **PURCHASE REGISTRATION ON THE CITE WEBSITE**  
[cite7.org/about-cite/training/training-opportunities](http://cite7.org/about-cite/training/training-opportunities)
- **QUESTIONS ABOUT THE TRAINING PROGRAM?**  
Please contact the [CITE Training Committee](#)
- **QUESTIONS ABOUT REGISTRATION?**  
Please contact the [CITE Administrator](#)

# A Citywide Location-Allocation Framework for Driver Feedback Signs

## Optimizing Safety and Coverage of Vulnerable Road Users

BY MINGJIAN WU, M.SC.  
UNIVERSITY OF ALBERTA

### Background

To help motorists travel a safe speed to minimize traffic fatalities and major injuries, road authorities have launched speed management programs and introduced various tools. One of them is Driver Feedback Sign (DFS), which consists of a radar for detecting the speed of an approaching driver, and an LED screen board for displaying the driver's speed. Paired with a speed limit sign for the road, the driver receives instant feedback to encourage voluntary speed reduction. A typical DFS is shown here in Figure 1.

Our recent work evaluated the safety impact of the DFSs, via before-and-after study using Empirical Bayes (EB) method, in urban areas and the results indicate that they can reduce collision frequencies by 31.0% to 44.9% for different collision severities (e.g., fatality), collision types (e.g., lane-changing), road types (i.e., collector vs. arterial) and intervention types (i.e., combining DFS with/without automated enforcement). The economic analysis found that the benefit-cost ratios if combining severe and Property-Damage-Only collisions, ranged from 8.2 to 20.2 indicating that the DFS can be an extremely economical countermeasure.



Figure 1. A driver feedback sign (DFS)

The public’s opinion of this countermeasure is generally positive thus encouraging municipalities with an existing system to relocate some units to optimal positions or to expand their network. This has also convinced agencies who currently do not have any DFS installed to start considering them as a low-cost yet highly effective countermeasure. However, only a few past efforts were dedicated to the problem of locating optimal sites for DFS installation. Although these studies provided preliminary insights into locating DFSs, their findings can be inconclusive owing to the fact that the safety benefits of DFSs were not taken into consideration in their location models. In particular, what are the most important location factors that need to be considered when deploying a DFS? How can we quantitatively assess the goodness of solutions generated for benchmarking the current DFS network? How can we assist cities and municipalities with planning for future expansion of their existing DFS program? These questions represent the main concern of our study.

Therefore, the objectives of this study are to examine and capture the key DFS-location factors and to develop a formal mathematical programming approach for optimizing DFS sites that tailored specially for urban settings. Likewise, our location model will incorporate both the safety effectiveness

and other practical factors; namely, vulnerable road users and facilities, thereby generating most comprehensive yet unique solutions to promote the safety of traveling public.

### Methodology

To find the optimal installation sites for DFSs, two factors are considered within the framework. The first and top priority is the safety effectiveness (collision frequency reductions or  $\Delta_{EPDO}$ ) that can be obtained from a certain implementation strategy. The coverage of vulnerable road users and facilities ( $C_{vg}$ ) is the second factor that needs to be included in the DFS site selection process.

Since there are two factors considered in the criteria, there would be no exclusive optimal implementation strategy overall. To integrate these two factors into the site selection process, the level of importance between the two factors needs to be adjusted by using a trade-off criterion. The criterion is determined by applying weights, where the greater the weight is applied, the more importance is placed on that factor. For each of the different criteria, both all-new and expansion scenarios are considered. Figure 2 shows the ideas of the whole process.

*Continued on page 33...*

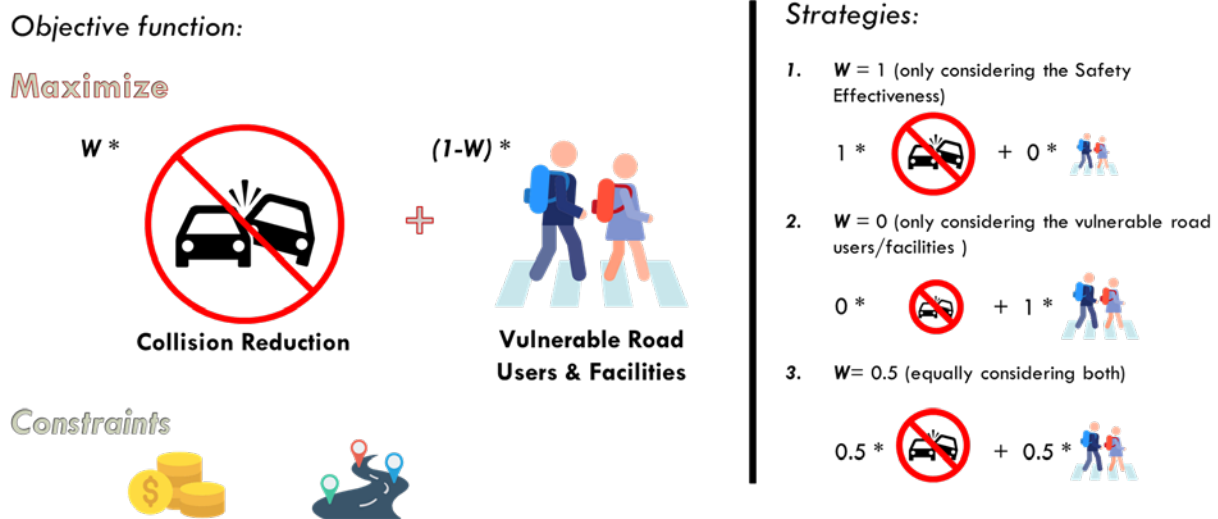


Figure 2. Study objectives and implementation strategies

## Case Study

### Study Area

The study area focused primarily on arterial and collector road segments in the City of Edmonton. To date, there are 212 DFSs installed throughout the city in various areas (displayed in Figure 3), and 142 of them are installed in the study area (i.e., arterial and collector roads). Historical collision data observed and collected between 2009 and 2018 were geocoded and assigned to each corresponding segment. By following the procedures of the proposed framework, the follow section demonstrates the results for each part in detail.

### City-Wide DFS Implementation Strategy

To solve this multi-objective optimization problem, the greedy algorithm was employed. As previously described, there are two scenarios involved in this study.

#### a) All-New Scenario

The all-new scenario is a hypothetical simulation of relocating all existing DFSs in the study area to compare the objective value of the existing deployment with that of the theoretical optimal deployment strategy. The results can be used to assess the current deployment strategy of DFSs and benchmark an optimal criterion.

In this study, three different weights were used to generate strategies by placing different importance on safety effectiveness ( $\Delta_{EPDO}$ ) and coverage of vulnerable road users/facilities ( $C_{vg}$ ). The total budget constraint was assumed to be equivalent to the number of existing DFSs currently in place in the City of Edmonton. The optimization formulated earlier was implemented to locate DFSs such that traffic safety and coverage of vulnerable facilities and users can be maximized. The optimal sites

locations generated via the greedy algorithm are shown in Figure 4, with three selected sites street view of the 0.5-weight value displayed to portray how well the proposed optimizer has delineated locations that are prone to accidents (e.g., sites 1 and 2) and vulnerable facilities (e.g., sites 3).

It can be observed that the distribution of the selected DFS sites changes based on the weightings applied to each of the factors. As the weight applied to the safety effectiveness ( $\Delta_{EPDO}$ ) increases, so does the preference for locating DFSs at high collision sites. By contrast, as the weighting value is reduced, then the preference shifts to cover more sites identified as vulnerable facilities or zones with vulnerable users.

Using the existing deployment as a point of reference, Table 1 shows how the level of improvements in percentage (negative value

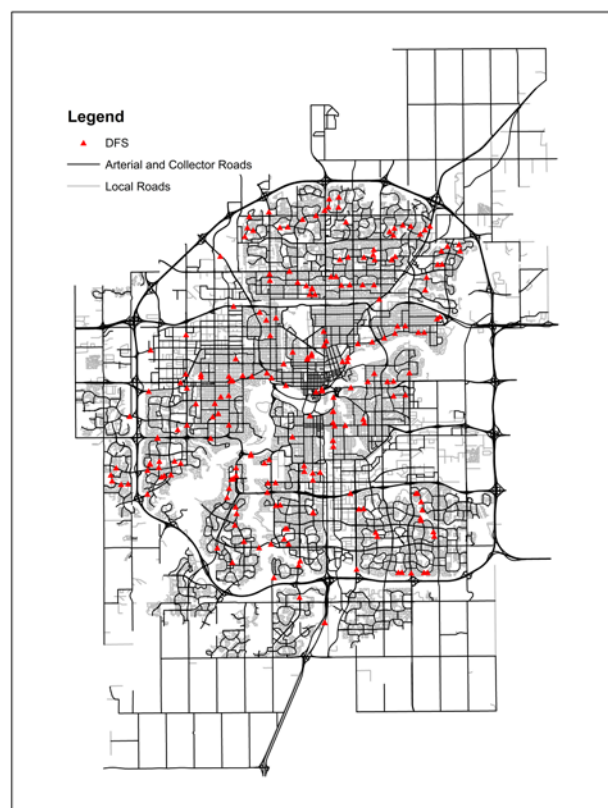


Figure 3. Study Area - DFS locations in the City of Edmonton

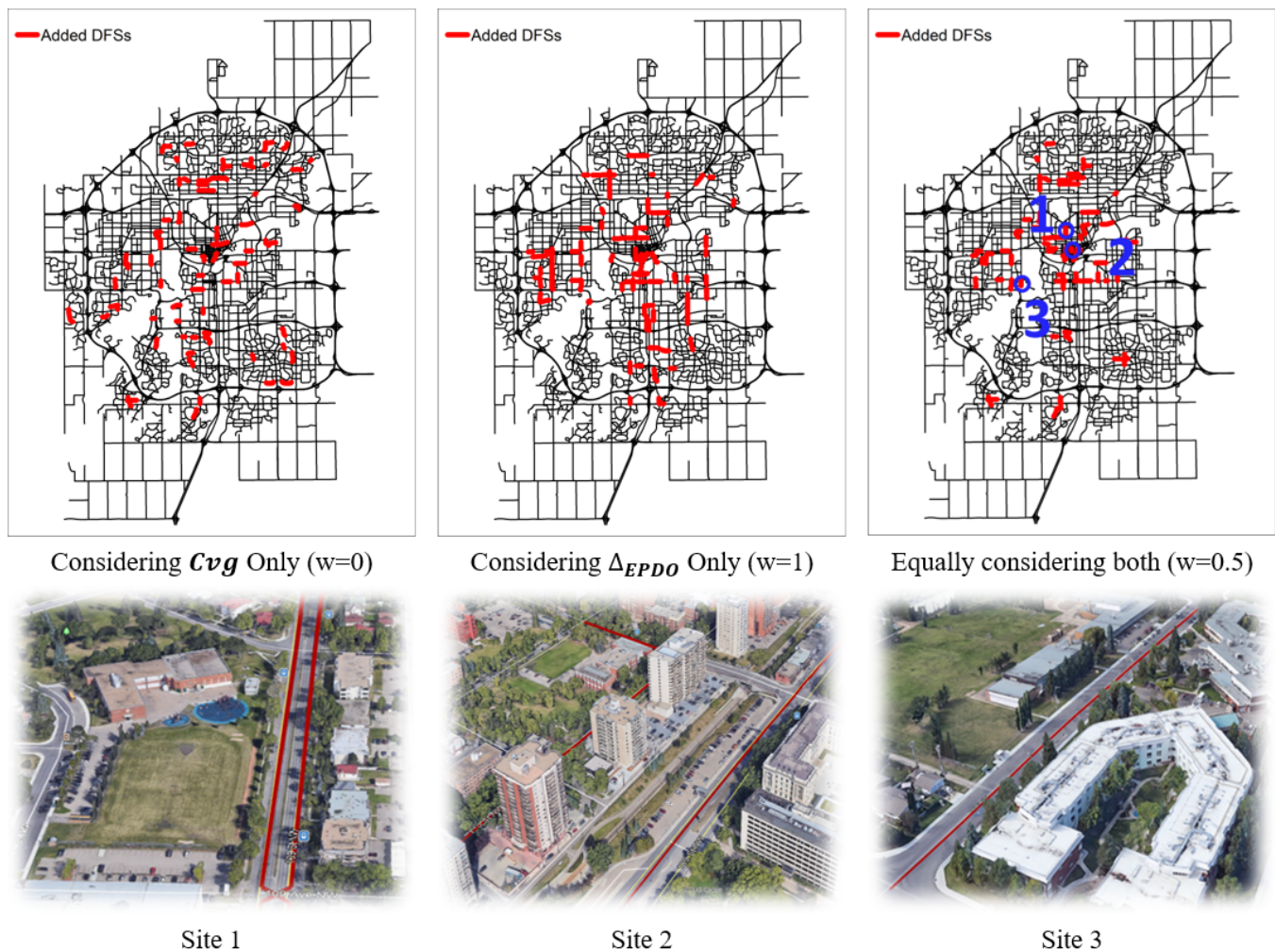
means decrease) on the reduction of collisions and coverage of vulnerable road users/facilities change as the weights change. As expected, as the weight value increases (i.e., more importance is placed on collision reduction), the level of improvement for collision reduction increases while the coverage of

vulnerable road users/facilities decreases, and vice versa. The results of this comparison show that the current DFS deployment strategy focuses more on zones with high collision rates but still has room for improvement if the optimal deployment strategy is adopted.

*Continued on page 36...*

**Table 1** Improvements (%) based on All-new Scenario

Criterion	Considering $C_{vg}$ only ( $w=0$ )	Considering $C_{vg}$ only ( $w=0.5$ )	Considering $\Delta_{EPDO}$ only ( $w=1$ )
Collision Reduction ( $\Delta_{EPDO}$ )	-38.1	37.7	149.4
Coverage of Vulnerable Road Users/Facilities ( $C_{vg}$ )	69.27	64.88	-32.2

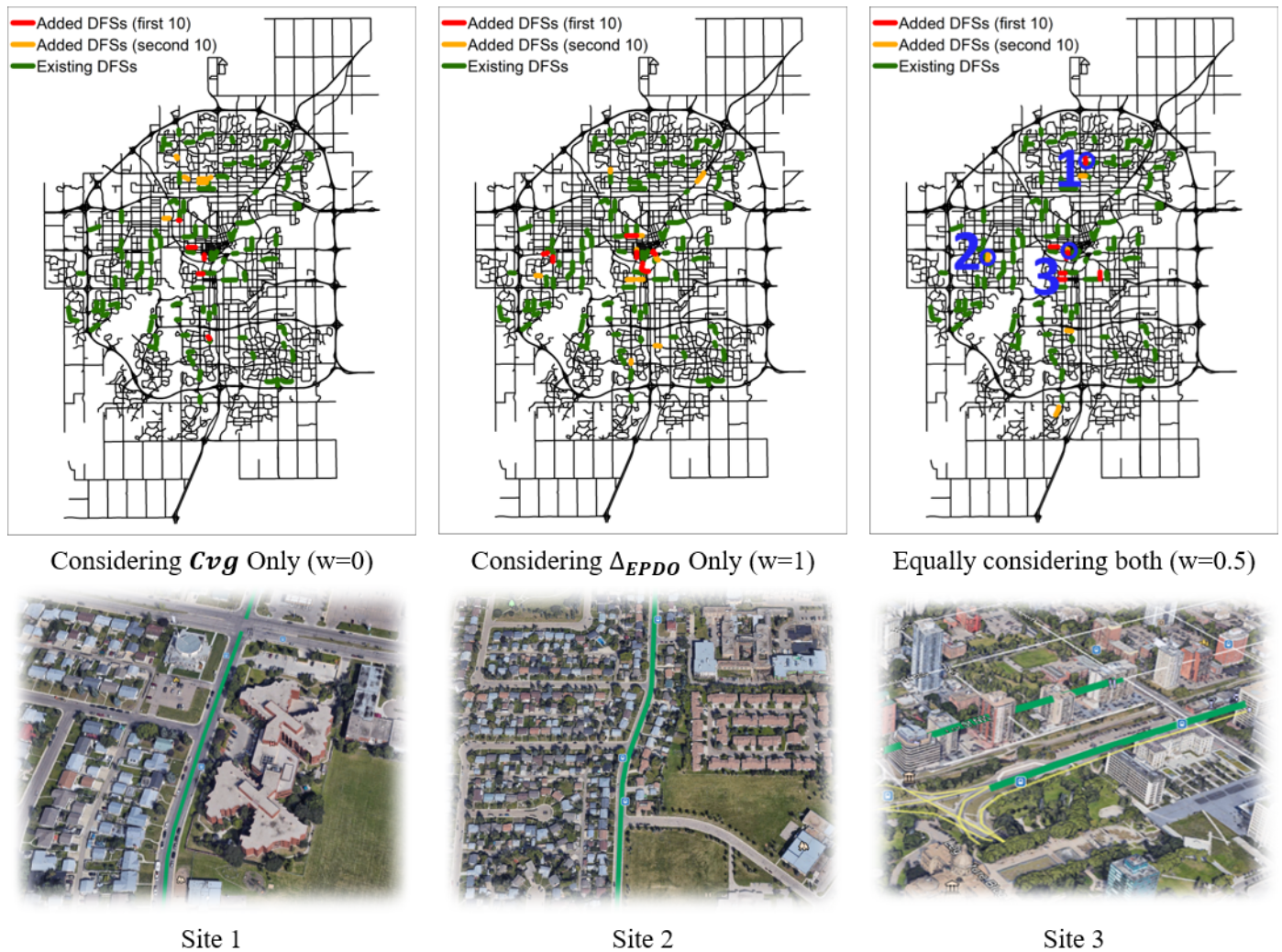


**Figure 4.** Selected sites distribution of all-new scenario

# driver feedback signs

**Table 2** Improvements (%) based on Expansion Scenario

Criterion	Considering $C_{vg}$ only (w=0)		Considering $C_{vg}$ only (w=0.5)		Considering $\Delta_{EPDO}$ only (w=1)	
	adding 10	adding 20	adding 10	adding 20	adding 10	adding 20
Collision Reduction ( $\Delta_{EPDO}$ )	4.8	7.32	13.01	18.63	30.22	51.61
Coverage of Vulnerable Road Users/Facilities ( $C_{vg}$ )	14.63	29.27	13.17	27.32	3.41	8.29



**Figure 5.** Sites selected for 10/20 future DFSs

**b) Expansion Scenario**

This section details a way to expand the system by adding more DFSs to the existing deployment scheme. The optimization procedure introduced earlier has been modified to reflect the changes in the base condition. The objective function was evaluated at each iteration by considering the fixed DFSs throughout the entire optimization process. Identical optimization parameters and weighting schemes were used to generate optimal locations solutions. The location of the selected sites for an additional 10 and 20 DFSs are shown in Figure 5 with some of the street views of the selected sites of the expansion scenarios using the weight value of 0.5. As before, the level of improvements based on weightings are shown in Table 2. These further confirm that the results generated from this framework meet expectations as some of the sites are near schools, playgrounds, and senior residences while others were placed in areas with a high collision frequency.

*This is a condensed version of the winning paper submitted by Mingjian for the CITE 2021 Student Paper Competition Award. His winning paper will be entered into the competition for the ITE International Daniel B. Fambro Student Paper Award.*

**Conclusions**

This study expanded the discussion on a location-allocation framework for a citywide DFS implementation. For the first time in literature, this study developed a formal mathematical programming approach that aims at designing city-wide optimal DFS implementation strategies by considering its effects on traffic safety and vulnerable road users. This framework can be easily duplicated and utilized in other cities for similar traffic safety countermeasures. The findings were supported by the results from the improvement comparisons and the sites that were selected based on which factor was deemed more important.

Overall, the findings of this study suggest that the proposed DFS location-allocation framework is simple and convenient to implement as it provides decision-makers with the freedom to simulate and optimize their DFS network by balancing the needs of the road users, vulnerable facilities, and traffic safety in locating DFS over an urban road network.



Beginning in January 2020, **Mingjian Wu, M.Sc.** started his PhD career at the University of Alberta under the supervision of Dr. Tae J. Kwon. During his MSc studies, he focused on various investigations of driver feedback sign under the co-supervision of Dr. Tae J. Kwon and Dr. Karim El-Basyouny. Mingjian’s research interests are Artificial Intelligence and Big Data analysis of transportation engineering.

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## MARIYA (MARS) OTTEN-ANDREW

P.Eng., PTOE, MIEAust CPEng.



**Family:** Longsuffering husband of 19 years, Taco Otten (Taco is his real name! Traditional Dutch name from the 1400's!)

**Things I like to do:** Kiteboarding, mountain biking, skiing, ski touring, cross country skiing, hiking, running, paddle boarding – anything that keeps me moving in the great outdoors

### Current Employment

WSP, Principal Consultant

City of Residence: Vancouver, BC

### Education

B.Eng., Civil Engineering with Honors, 1997  
Griffith University, Gold Coast (Queensland, Australia)

### First job in transportation

Graduate Engineer, Queensland Department of Main Roads, Gympie, Australia

### What positions have you taken on as a member of ITE?

- CITE Technical Liaison Committee (TLC)  
*Member (2017/18), Vice-Chair (2019/20), Chair (present)*
- ITE Coordinating Council (CoCo)  
*Member (2019–present)*
- ITE Pedestrian and Bicycle Standing Committee  
*Member (2020–present)*

## CITE INVOLVEMENT

### What was the first ITE event you attended?

A Southern Alberta Section luncheon in Calgary in 2014. I was new to Canada and missed being involved in a professional transportation engineering organization. I was very active in Australia with the Australian Institute of Traffic Planning & Management (AITPM) and wanted to find something similar. ITE and CITE were just what I needed. I started to attend regularly and get to know the local transportation engineering crew.

### What is your ITE involvement (past and present)?

Being a member of the TLC has been my primary focus since joining ITE. It is super rewarding. I've had the opportunity to work alongside Irini Akhnoukh on improving integration for CITE members with ITE which has been very positive. I have also presented at local section and ITE International Annual Meetings.

In 2019, I was privileged to be selected for *LeadershipITE*. This was an utterly amazing experience. I can highly recommend this program.

### What do you value most about ITE membership?

The network of professionals who love transportation as much as me—a wealth of knowledge, experience and enthusiasm.

## GETTING TO KNOW YOU

### What attracted you to the transportation profession?

I stumbled into it and haven't looked back. I studied engineering because I liked maths and science and was a degree available at my local university. I loved it immediately but had visions of building sky scrapers and dams. Massive infrastructure. There was only one transportation subject in my degree and it didn't excite me, but then I spent a summer



work term at the Queensland Department of Main Roads, building a bridge in a rainforest... and I was hooked. The next year, I scored a highly sought after position in the Department's Graduate Development Program and the rest is history.

## What is the most daring thing you've done in your lifetime?

Hitchhiking through the Sahara with my hubby. We went south through Morocco until the pavement ran out. A friendly local connected us with a couple of French guys who needed ballast to get their cars across the sands into Western Sahara; between us and our bags, we added enough weight to keep moving forward. We crossed into Mauritania and decided to take the train, which was free if you travelled in the empty iron ore carriages. We had a stop in mind, only we fell asleep and woke up at the end of the line (and covered in ore dust). We jumped off the train and dragged our bags through the sand, quizzically looking at the other passengers who were jumping carriage to carriage to get to the end of the train. That's when we discovered we had just walked through a mine field. There was a military checkpoint at the end of the field and a heavily armed soldier asked for our passports and then refused to give them back. Now is the most daring/stupid thing I've done. I was exhausted and cranky and in no mood to have my passport confiscated in the middle of the desert, so I got increasingly vocal and demanded he return our passports. My hubby was trying to calm me down because he thought I was going to get shot and I was still yelling. Communication wasn't brilliant seeing as I don't speak much French. Eventually, the soldier gave in and returned the passports but we had to work out how to get out of there. We stumbled into a friendly expat who helped 'negotiate' our way onto an oversold Air Mauritania flight to the capital, Nouakchott. The runway was sand... but somehow it worked. We kept trying to hitchhike south but traffic thinned and vehicles full of people and livestock had no room for random travellers. By the time we got through Senegal and into The Gambia, we were ready to head home. I have travelled the world in unconventional ways, but that trip was by far my craziest.

## What is the last book that you read?

*Anna Karenina* and *Atomic Habits* by James Clear

## PROFESSIONAL ACHIEVEMENTS & PERSPECTIVES

### How would you describe your job at a party?

Working out the most efficient way to move – everything, everywhere

### What are one or two projects that you're most proud to have worked on?

2019–present: Kicking Horse Canyon Phase 4 for BC Ministry of Transportation and Infrastructure, improving safety on a stretch of the Trans Canada that has terrified me as long as I've driven it. Such a complex project it has gained notoriety as the most expensive highway improvement, per km, in the history of BC - \$120M/km!

2001/02: London Bus Initiative (LBI) for Transport for London. My first UK project, where I found my passion for transit and improving the efficiency of moving people, not cars. We implemented bus lanes and queue jumps and improved bus stops to make transit more convenient, efficient and appealing.

### What is one aspect of your work that you particularly enjoy?

Problem solving and optimizing. OK that's two :)

### Who has had the greatest influence on your career?

Three mentors I adopted as a new graduate in Queensland: Jon Douglas (all round awesome engineer provided career advice and support and encouraged involvement in AITPM), Lloyd Davis (road safety especially roadside barriers), and David Stewart (traffic modelling in infinite detail). I'm still in touch with these three amazing people. I'll be always grateful for the time and energy they put into mentoring a bright eyed young engineering gal when engineering gals were few and far between.

### What will you hope to have accomplished at the end of your career?

Planned and designed for safe efficient ways to move people and goods without turning the world into a highway.

### If you could change one thing about the transportation practice, what would it be?

Obsession with Level of Service and moving cars. This is changing, slowly, and we are trending in the right direction.



## Meet the Committee

With recent changes to its membership, the CITE Training Committee would like to introduce the team working hard to coordinate the development and delivery of new training opportunities for Canadian transportation professionals such as [Intersections for Everyone](#) (next session offered *September 14 & 15*) and the forthcoming [Speed Management](#) workshop.



### **Anna Snook, P.Eng., PTOE (Chair)**

Anna is a Transportation System Engineer for the City of St. John's, Newfoundland. With experience working both in the private and public sector, she is excited by how much the industry has evolved in recent years. She feels that improving design practice and the need for innovative solutions to non-standard challenges reinforce the importance of continued learning and professional growth. With an interest in lifelong learning, she helped establish CITE's Training Committee and is committed to its work to foster education opportunities for transportation professionals. Anna has lived in both western and eastern Canada and visited many places in between. You're likely to find her out with her family hiking in the summer or skiing in the winter.



### **Maryam Tabeshian, M.Sc., P.Eng., PTOE (Vice-Chair)**

Maryam is a Transportation Engineer at WSP. She is a registered Professional Engineer in AB and BC and is a certified Professional Traffic Operations Engineer with ten years of experience in the field of traffic engineering and operations, traffic modelling and traffic simulation. Maryam has been a member of CITE since 2013 and is actively involved in the transportation engineering community, joining the CITE Training Committee in 2017. Maryam and her husband have recently moved from Calgary to Vancouver pursuing their next chapter of life. They both love hiking, skiing and travelling.



### **Mehemed Delibasic, M.Sc., P.Eng. (Past Chair)**

Mehemed is the Assistant VP of Transportation Planning and Traffic Engineering at McIntosh Perry Consulting Engineers. He has over 22 years of comprehensive experience in the fields of transportation planning, transportation/traffic engineering, project and program management, and business development in the public and private sectors. Mehemed is a long-time advocate and volunteer in the engineering community and professional associations. He is past president of ITE Toronto Section and a founding member of the CITE Training Committee. Other/current professional service includes involvement with the TAC, OTC, ACEC Ontario, and OSPE. Mehemed's significant volunteer contribution is providing mentorship and guidance to the new engineering graduates and internationally trained engineers through their professional licensure application and looking for the job opportunities in the engineering field.



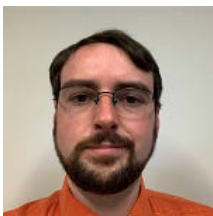
## Ian Roth, P.Eng

Ian is a Transportation Engineer and Project Manager at Urban Systems, based in Kelowna, BC and has worked in consulting for the past ten years with a focus on providing multi-modal transportation planning, design, community engagement and interdisciplinary services. He has been a member of CITE since 2010, has filled all the roles on the BC Interior Section Executive and currently serves on the CITE Board of Directors. Ian was also a key member of Local Arrangements Committee for the 2016 CITE Annual Conference in Kelowna. In his downtime, he and his husband both find happiness riding their bikes through the summer, skiing the mountain slopes in the winter, and being over-doting fathers of their two cute Mexican hairless dog siblings!



## Samira Farahani, M.Sc., P.Eng

Samira Farahani is a Senior Traffic Engineer in the Highway Operation Management Branch, Ministry of Transportation. She has ten years of experience developing, managing, and coordinating numerous traffic engineering and transportation planning studies. Samira holds a master's degree from the University of Waterloo. Her research was used as one of the fundamental documents to expand the higher-order transit service in the Region of Waterloo. She is an active member of WTS and ITE and collaborates with other organizations to advocate advancing women in transportation. She lives in Toronto, Canada, with her husband and two daughters and is a fan of cycling, running, and reading in her free time.



## Adam St. Amant, P.Eng., PTOE

Adam St. Amant is a Transportation Engineer at the City of Lethbridge and is involved in transportation planning, project management, and traffic engineering activities. He reviews various development plans from the transportation perspective, was the project manager for the City's Cycling Master Plan, is the project manager for the City's upcoming Transportation Master Plan, and participates in various processes for transportation infrastructure improvement and design. When away from work, Adam enjoys camping with his family and tinkering with electronics.

# SPEED MANAGEMENT Training Workshop

## WORKSHOP SUMMARY

Speed Management and addressing speed is fundamental to making streets safer. This workshop intends to provide practitioners with a hands-on approach to speed management. It goes beyond traditional speed data collection and includes speed management procedures considering road design, adjacent land use, and human factors.

## LEARNING OUTCOMES

- ✓ Knowledge of fundamental components of speed management
- ✓ Systematic deployment and development of speed management plans based on consideration of situational context
- ✓ Understand data collection, and the importance of data validity
- ✓ Learn the importance and difference of traffic calming vs. speed management

## WORKSHOP DETAILS

- **Format:** to be delivered virtually over a two half-days (6.5 hrs total)
- **Facilitators:** CIMA+ Consulting
- **Presented by:** CITE Training Committee
- **Dates:** to be announced
- **Fees:** to be announced

CITE has a strong partnership with the Transportation Association of Canada (TAC). One of our key contributions to TAC's technical projects is participation on a number of TAC councils and committees through CITE Appointees. In this edition of TAC Tidbits, our appointees share updates about their committees from the Spring 2021 TAC Technical Meetings held virtually.

## CHIEF ENGINEERS PANEL

**Julia Salvini, P.Eng., FITE**

President, Salvini Consulting & President, CITE



As usual, the Chief Engineers Panel provided a great opportunity to connect with Provincial and Municipal leadership across the country as well and leaders from other partner organizations. A few key highlights:

- TAC plans to continue with virtual spring Council and Committee meetings and in-person meetings at their fall conference going forward after the virtual 2021 conference
- Other partner organizations are proceeding much like CITE, looking at how we carry virtual event offerings into the future when in-person events are possible
- A new edition of the MUTCDC is imminent (now available for purchase through the [TAC bookstore](#))
- Discussion around the need for “shovel worthy” versus “shovel ready” projects to attract infrastructure spending

## WORKFORCE DEVELOPMENT COUNCIL

**Carlos Pérez, PMP, M.Sc., P.Eng**

Municipal Transportation Lead, CTQ Consultants Ltd.



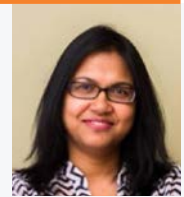
The Workforce Development Council guides TAC to develop a skilled, diverse and inclusive interdisciplinary workforce for Canada's transportation sector. At the Spring Technical Meeting, the Council discussed a few emerging topics and hosted a presentation on diversity and inclusiveness in transportation organizations. Over the next few months, the various Council committees will concentrate on the following key, exciting areas:

- **Education:** transportation-related programs and curricula, student awareness of transportation careers and involvement in TAC,
- **Professional Development:** young professional awareness and continuing education for technical and knowledge transfer skills, and
- **Human resources:** employee recruitment and hiring and employee retention and engagement.

## TECHNOLOGY COUNCIL

### Bidoura Khondaker, PhD. P.Eng. PTOE

Transit Priority Engineer, Calgary Transit, City of Calgary



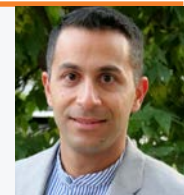
TAC's Technology Council was created in 2020 as a national forum for information exchange and problem-solving related to Intelligent transportation systems, connected and automated vehicles, vehicle electrification, data management, cyber security and smart cities. The Council met virtually on May 6, 2021 and discussed its commitment to the innovative, efficient, and effective integration of technology across the transportation sector. Key recent highlights are:

- A Strategic Framework has been established to support a strong relationship between the council and its committees as a key to their success.
- The key themes of the Technology Council's technical work have been identified: 1) Intelligent transportation systems, 2) Connected and automated vehicles, 3) Digital twinning, and 4) Data and analytics.
- In order to share knowledge among committee members of emerging and critical issues, the Council created the **Digital Applications Committee** and the **Intelligent Transportation Systems (ITS) Committee**. A **call for volunteers** has been issued to join these committees.
- A number of technical projects were presented such as City of Toronto's data and analytics program, Choosing Canada's Automotive Future by the Council of Canadian Academies, British Columbia's ITS program and Digital twins and planless projects by IBI Group.

## Road Safety Committee

### Farhad Shahla, P.Eng.

Construction Project Manager, Hurontario LRT Project, City of Mississauga



TAC's Road Safety Committee met on May 10, 2021 and provided updates for a number of its key subcommittees. Updates were also provided for two key projects currently being undertaken by the committee: Online Road Safety Training and Road Safety Guide of Canada. Most milestones have been completed for the Online Road Safety Training project with submission of training recordings for the 1st module complete end of May 2021 and that for the other modules by Aug 2021. Capitalizing on the existing resources, the Road Safety Guide of Canada project is intended to develop a national guideline and reference document on road safety that will serve as TAC's third 'flagship' document, alongside the GDG and MUTCD. Once complete, the project will deliver an engineering-focused reference that will provide an appropriate level of knowledge to the industry practitioners.

## Geometric Design Committee

**Marcia Eng, P.Eng.**

Senior Transportation Engineer, Urban Systems Ltd.



Key topics of discussion during Geometric Design Committee (GDC) meeting held May 12, 2021 focused on:

- Accessibility standards and what considerations are used across Canada in different municipalities. City of Ottawa presented on accessibility standards that were used at various protected intersections, and how they have been evolving the design.
- Climate change considerations in road design interests is increasing with some agencies bringing on Climate Change Engineer and creating Climate Resilience Strategy. Discussions also on impact of climate change on roadway crossfall and cross-section.

The GDC also currently has four working groups meeting regularly to discuss updates to Chapters 4, 8 and 10, and on climate change and how it would impact the Geometric Design Guide.

The 2021 Fall TAC Conference will again be held online occur over two-weeks at the end of September to beginning of October. The GDC has thirteen submissions over three sessions.

## Connected and Automated Vehicles Task Force

**Steven D. Kemp, P. Eng.**

Manager - Traffic Engineering and Operations, Regional Municipality of Durham



The TAC Connected and Automated Vehicle Task Force continues to meet virtually with our Spring meeting held on May 3rd, 2021. The Committee welcomed Kenedee Ludwar from the British Columbia Ministry of Transportation and Infrastructure as our new Chair and Sabbir Saiyed from the Regional Municipality of Peel as Vice-Chair.

The Spring meeting agenda featured three presentations with Ryan Lanyon from City of Toronto discussing their CAV initiatives, Paul Carlson from Road Infrastructure presenting his work with Transport Canada on potential CAV impacts on traffic control devices and an international viewpoint brought to us from Paul Davies at Austroads. Virtual meetings seem to be making it easier to access viewpoints from afar.

The roundtable discussion continues to highlight several CAV shuttle deployments in various stages across the country with Toronto, Ottawa, Montreal, Calgary, Edmonton, Waterloo, and the Regional Municipality of Durham all with projects in the works.

Much of the committee's work to date—including a CAV Primer for Canadian Municipalities, a CAV discussion paper, a CAV lexicon and an inventory of CAV initiatives in Canada—is now available online through the [TAC CAV Publications & Resources webpage](#). ITE also has a number of excellent CAV resources available online at the [ITE CAV Technical Resources webpage](#).

## MOBILITY COUNCIL

**Ryan Martinson, M.Eng., P.Eng., RSP<sub>1</sub>**

Senior Engineer, Toole Design



The Mobility Council is focused on integrated, multimodal mobility for people and goods. At the Spring Meetings, we received updates from the four committees that support the Council (Active Transportation Integrated Committee, Mobility Management Committee, Transportation Finance Committee, and Transportation Planning Committee) and were reminded of the February 2021 release of *Understanding Goods Movement in Canada: Trends and Best Practices*. Of interest to CITE members, the Council is considering updating past TAC documents, such as *Changing Practices in Data Collection on the Movement of People* (2014), *Transportation Funding and Governance in Canada's Large Metropolitan Areas: An Inventory of Current Practice* (2014), *Truck Lanes in Canadian Urban Areas* (2014), *Effective Strategies to Influence Travel Behaviour: Practical Guide* (2012), *Synthesis of Practice for Implementing Public-Private Partnerships in Transportation Related Projects* (2012), *Active Transportation - Making it Work in Canadian Communities* (2010), and *Framework for High Quality Data Collection of Urban Goods Movement In Canada* (2010).

## Active Transportation Integrated Committee

**Marian Mithani, P.Eng.**

Project Manager, Area Transportation Planning, City of Toronto



ATIC aims to raise awareness and identify emerging active transportation (AT) issues through information sharing and collaboration on AT initiatives across TAC councils and committees.

The *Active Transportation Snapshot*, its first volunteer project, is intended to highlight nationwide innovations and successes; a jurisdictional survey is pending. The committee also encourages AT-related issues to be addressed in updates to TAC design guidance. There are 5 working groups for the topics: continuous sidewalks, accessible sidewalk design, protected intersections, smart channels and AT-friendly roundabouts. Requests are pending for updates to relevant guidance managed by committees such as GDC, TOMC, SC and the Roundabouts Subcommittee. For the Fall conference, three AT sessions are underway related to innovative bikeway design, AT during COVID-19 and equity planning.

## Mobility Management Committee

**Justin Bak**

Senior Project Manager, Vision Zero Projects, City of Toronto



The Mobility Management Committee is a national forum for information exchange and problem solving related to the delivery of multimodal mobility services. The committee has identified the priority focus areas of curbside management, goods movement, mobility data, multimodal service pricing and information, shared mobility services, and transportation demand management. Next steps will involve identifying key issues within the priority focus areas for the committee to advance.

The committee has recently published two volunteer project reports titled [Regulatory Approaches to Enabling Implementation of Bicycle Treatments: Survey of Canadian Jurisdictions](#) and [Public Engagement in Sustainable Mobility Projects](#). Both reports are available in the TAC Library Catalogue at the links above.

## Traffic Operations and Management Committee



**Russell Brownlee, M.A. Sc., FITE, RSP1, P. Eng.**

President and Transportation Safety Engineer, True North Safety



**Luis Escobar, P.Eng., PTOE**

Senior Associate & Discipline Lead, Stantec



**Jim Mallett, P.Eng., PTOE**

President & CEO, Paradigm Transportation Solutions Ltd



**Greg O'Brien, P.Eng.**

Atlantic Practice Manager, Traffic Engineering & Transportation Planning, WSP

At the spring meeting of the Traffic Operations and Management Committee (TOMC), changes to TOMC Executive were announced. Winston Chou will become the Chair this coming fall. Greg O'Brien, Alan Aitkin and Daniel Beaulieu will remain in the Executive. James Donnelly and Jeannette Montufar completed their terms CITE Appointees to TOMC and Russell Brownlee has joined.

Scott Wainwright provided an update on the most recent meeting of the NCUTCD this past January 2021. There are substantial changes to the MUTCD: nearly 650 changes, ranging from CAV rediness to pedestrian safety devices to bicycle signal phasing.

The Upcoming TAC conferences will be in Edmonton 2022, Ottawa 2023 and Vancouver 2024 and Quebec City 2025. The theme for Edmonton's Virtual conference will be *Recover and Resilience: Transportation After COVID-19*.

There was one final report presented (Report 276 Transport Canada on Passing Sight Distance).

There were updates on current projects. The reports ranged in issues primarily dealing with traffic signals phasing, spacing, warrants and displays.

There were updates on devices, including the redesign of a number of traffic signs, U-Turn signal display, Anti-whistling, roundabout signs, active modes, automated enforcement, and electric vehicle signs.

Presentations were made by the Vision Zero & Safe Systems Subcommittee, the Safety, Design and Operations Council and various task forces presented as well.

The meeting ended with a roundtable including a discussion on scramble phases, elevated train in montreal, photo enforcement, and dimensions of roadway markings.



CITE extends a warm welcome to all new Canadian District ITE members who recently joined our community!

*Dena Al Rubaye, Carleton University, Ottawa, ON*

*Nael Alsaleh, Ryerson University, Toronto, ON*

*Gabriel Andrade Lanzaro, University of British Columbia, Vancouver, BC*

*Celine Asurza, Ryerson University, Toronto, ON*

*Joshua Chong, University of British Columbia, Vancouver, BC*

*Patricia Deer, McGill University, Montreal, QC*

*Matthew Di Maria, Parsons Inc., St. Catharines, ON*

*Ehab Diab, University of Saskatchewan, Saskatoon, SK*

*Jordan Fahey, University of British Columbia, Burnaby, BC*

*Jasna Filipovic, City Of Toronto, Toronto, ON*

*Archie Gillies, P. Eng., Saskatchewan Ministry Of Highways And Infrastructure, Saskatoon, SK*

*Daniel Hall, City Of London, London, ON*

*Christine Hay, E.I.T., Saskatchewan Ministry Of Highways And Infrastructure, Saskatoon, SK*

*Frederick Heere, University of British Columbia, Vancouver, BC*

*Azadeh Heydari, P.Eng., M.ASc, HDR, North York, ON*

*Prateek Jain, York University, Toronto, ON*

*Matthew Timothy Keleher, Tetra Tech Canada Inc., Vancouver, BC*

*Rick Allen Kester, United Counties of Leeds and Grenville, Brockville, ON*

*ANAGHA Chethalamana Krishnan, AECOM, Vancouver, BC*

*Jocelyn Lee, LEA Consulting, Markham, ON*

*Beenish Lodhi, University of Waterloo, Waterloo, ON*

*Stephen Michael Martin, IBI Group, Vancouver, BC*

*Lina Mollazadeh, University of Toronto, Richmond Hill, ON*

*Grace Nzainga, City Of Toronto, Toronto, ON*

*Owen Plamenco, City Of Toronto, Toronto, ON*

*Rachael Rajendram, McMaster University, Hamilton, ON*

*Jacqueline Savoie, IBI Group, North Vancouver, BC*

*Ahmad Subhani, Regional Municipality of York, Newmarket, ON*

*Tak Takeda, P.Eng., Tetra Tech Canada, Burnaby, BC*

*Dana Nicole Usaty, University of Waterloo, Waterloo, ON*

*Bilqeas Yousuf, York University, Toronto, ON*

*Attila Zenozi, University of Manitoba, Winnipeg, MB*

*Rachel Zou, McMaster University, Hamilton, ON*

## Transportation & Road Safety Professional Certifications

CITE congratulates the following Canadian members who successfully passed certification exams in February 2021 and received their PTOE, PTP, RSP<sub>1</sub> or RSP<sub>2</sub> professional designations:



### Road Safety Professional® (Level 1)

Rosemarie Draskovic  
Mohamed Ahmed Essa  
Alan Fournier  
Tyler Golly  
Anoosh Hafezi  
Nora Hallett  
James J. Lao  
Max Chun Yin Leung  
Ryan J. Martinson  
Sheyda Saneinejad  
James Schofield



### Road Safety Professional Infrastructure® (Level 2)

Vikas Ravada



### Professional Traffic Operations Engineer®

Peter Ayindongo Apasnore  
Amy Kathryn Hunter  
Behzad Rouhieh



### Professional Transportation Planner®

Andrew Steinsky

### Want to set yourself apart?

The Transportation Professional Certification Board (TPCB) is now accepting applications for the October 2021 certification exams.

**APPLY BY AUGUST 4, 2021  
FOR THE OCTOBER 2021  
EXAM PERIOD**

For more information and applications, visit [tpcb.org](http://tpcb.org)

Have you been a member of ITE in good standing for at least five years? Do you have 10 years of professional experience? Do you have a P.Eng., RPP, CET, CTech, or an equivalent designation, including from the Transportation Professional Certification Board (TPCB)? Have you had at least five years' responsible charge of important transportation engineering or transportation-related work, including scientific, educational and managerial activities? Most importantly, have you demonstrated an active commitment and contribution to the work of ITE and the transportation profession?

If all of these describe you, I would highly encourage you to apply to become a Fellow of ITE. While Fellows do not see any membership discounts (there was a time when Fellows actually paid *more* for their annual membership), being a Fellow of ITE affords personal recognition of your individual contribution to the organization and the transportation profession overall. Experienced transportation professionals should be proud of their contributions to the profession, and this is one more form of recognition for regular due-paying members who may not be in a position to seek other certifications at additional cost.

It was reported at the 2021 CITE AGM that of the 2073 ITE members in the Canadian District, only 110 of those members were Fellows – that's just over 5% of the national membership! I know that we have many, many more eligible members for Fellow status all across Canada based on the qualifying description in the opening set of questions.

Attaining Fellow status with ITE is very easy – simply [apply to become a Fellow on the ITE website](#) and solicit references from three (3) ITE Fellows who are willing to support your candidacy. As a Fellow myself, I will make this easy for you by serving as one of those references, and will personally help you find two other Fellows who can attest to your experience. Don't wait – become a Fellow of ITE today!

*Contributed by Sean Nix, RPP, FITE*

## Canadian ITE Fellows

Frank Ahlin, P.Eng.  
Doug Allingham, P.Eng.  
John Ashwood  
David Banks, P.Eng.  
Suzanne Beale, P.Eng., PTOE  
Kevin Bebenek, P.Eng.  
Jim Becking, P.Eng.  
Bruce Belmore, P.Eng., PTOE  
Frank Berry, P.Eng.  
Bruce Biglow, P.Eng.  
Dan Bolger, P.Eng.  
Dan Braund, P.Eng.  
Russell Brownlee, P.Eng., RSP1  
Milton Carrasco, P.Eng.  
Borg Chan, P.Eng., PTOE, RSP1  
Gene Chartier, P.Eng.  
Lijun Chen, P.Eng.  
Anthony Churchill, P.Eng.  
Carl Clayton, P.Eng., PE, PTOE  
William Copeland, P.Eng.  
Sundar Damodaran, P.Eng.  
Matthew Davis, P.Eng. PE, PTOE  
Thomas Denes, P.Eng.  
Raheem Dilgir, P.Eng., RSP<sub>2</sub>  
Manoj Dilwaria, RPP  
Allan Duff, P.Eng.  
David Durant, P.Eng.  
Philip Edens, P.Eng.  
Jane Farquharson, P.Eng., PTOE  
Allan Fiander, P.Eng.  
Nick Finn, P.Eng.  
Gerry Forbes, M.Eng., P.Eng.  
Tyrone Gan, P.Eng.  
Kenneth Gosselin, P.Eng.  
Jim Gough, P.Eng.  
Michel Gravel, P.E.  
Daju Gu, P.Eng.  
Alf Guebert, P.Eng., PTOE  
William Harding, P.Eng.  
David Hatton, P.Eng.  
Imants Hausmanis, P.Eng.  
Brian Helm, P.Eng.  
Don Henderson, P.Eng.  
Paul Hill, P.Eng.  
Geoffrey K. Ho, P.Eng.  
Glen Holland, P.Eng., PTOE  
George Horning, P.Eng.  
Neal Irwin, P.Eng.  
Dave Kaufman, P.Eng.  
Steven Kemp, P.Eng.  
Joanna Kervin, P.Eng.  
Ata Khan, P.Eng.  
Steven Kodama, P.Eng.  
David Kozak, P.Eng.  
Mike Lai, P.Eng.  
Leo Laviolette, P.Eng.  
Albert Law, P.Eng.  
Clark Lim, P.Eng.  
Russell Loukes, P.Eng.  
Gordon Lovegrove, P.Eng.  
Jen Malzer, P.Eng.  
Jeff Mark, P.Eng.  
Paul May, P.Eng.  
Robert McBride, P.Eng.  
John McGill, P.Eng., PTOE, RSP1  
Kelly McGillivray, P.Eng.  
Valerie McGirr, P.Eng.  
Jeannette Montufar, P.Eng., PTOE, RSP<sub>1</sub>  
Francis Navin, P.Eng.  
Sean Nix, RPP  
Peter Noehammer, P.Eng.  
William O'Brien, P.Eng.  
Harvey Olsen, P.Eng.  
Robert Orchin, P.Eng.  
Jose Pinto, P.Eng., PTOE  
Phillip Poichuk, P.Eng.  
Al Popoff, P.Eng.  
W. Porter, P.Eng.  
Nick Poulos, P.Eng.  
Roy Pritchard, P.Eng.  
Parmdial Rajput, P.Eng.  
Stuart Ramsey, P.Eng.  
Dave Roberts, P.Eng.  
Oulton Rogers, P.Eng.  
Kenneth Rosin, P.Eng.  
Julian Rozental, P.E.  
Julia Salvini, P.Eng.  
Robert Savage, P.Eng.  
Marinus Scheffer, P.Eng.  
Steve Shaw, P.Eng.  
J. Derek Sims, P.Eng.  
Edward Soldo, P.Eng.  
Hart Solomon, P.Eng.  
Richard Spencer, P.Eng.  
John Stewart, P.Eng.  
Ron Stewart, P.Eng.  
Yannis Stogios, P.Eng.  
Michael G. Stringam, P.Eng.  
Edward Tahmazian, P.Eng.  
Steven Taylor, P.Eng.  
Richard Tebinka, P.Eng.  
John Tofflemire, P.Eng.  
Peter Truch, P.Eng, PTOE, IAP2 Tr  
Ryan Vanderputten, P.Eng.  
Andy Vandertol, P.Eng.  
Gary Vlieg, P.Eng.  
Jan Voss, P.Eng., PTOE  
J. Richard Walshaw,  
Gary Wang, P.Eng.  
Trevor Ward, P.Eng.  
C. Derek Wild, P.Eng.  
Alison Wong, P.Eng., PTOE  
Benny Woo, P.E., PTOE  
Wayne Wood, P.Eng.  
Kenneth Zondervan, P.Eng.



## Greater Vancouver Section

The Greater Vancouver Section (GVITE) hosted a two-day workshop in May ran by Russell Brownlee, David A. Petrucci, Alexandre Nolet and Josee Dumont from the ITE Transportation Safety Council and True North Safety Group.

This workshop introduced the 1st Edition of the Highway Safety Manual (HSM) and how it assists transportation professionals in making more-informed decisions in planning and project development and presents methodologies for quantifying safety performance. Over eight modules, the workshop gave an overview of the

HSM, introduced the crash prediction methods for urban and rural roadways and intersections, practical applications of HSM methods, and provided resources to software-based solutions.

GVITE would like to thank all the presenters from the ITE Transportation Safety Council and True North Safety Group on their contributions and knowledge to the transportation industry. There will be upcoming GVITE events for the remainder of 2021 and will be detailed in our newsletters. Visit our website at [citevancouver.carrd.co](http://citevancouver.carrd.co).

## Saskatchewan Section

The Saskatchewan Section hosted their annual Spring Session on May 18, 2021. The virtual event was well attended with 63 participants logging in for the half day session. The session featured several presenters showcasing recent projects, including:

- Dale Strawford, City of Regina - *Smart Cities*
- Julian Petras/Ian Williamson, City of Saskatoon - *University Section Plan*
- David Thatcher, Stantec - *City of Calgary Bus Rapid Transitways*
- Gloria Bansah, City of Regina - *Streetlight Data*
- Jeffrey Holland, Saskatchewan Ministry of Highways - *Types of Interchanges*

Following the presentations, we hosted a virtual World Cafe Event on the Wonder.Me platform that allowed our participants to join conversations in different “rooms”. Members of the Saskatchewan Section helped facilitate conversations about hot topics in the transportation industry, such as: the future of transportation, transportation pet peeves, and politics at play. The Saskatchewan Section would like to thank all the presenters and

participants for making the session a success and for all of your support for our section activities.

This past year has dramatically changed how our section connects with our members. It has been the perfect time to reflect on how we operate and what we could change moving forward. We are pleased to announce that the Saskatchewan Section is actively preparing a Strategic Plan that will guide our section forward over the next four years.

We have created a Strategic Planning Committee with a diverse range of individuals with representatives from the public and private sector, and junior and senior professionals. The role of the committee is to ensure that the Section’s Strategic Plan reflects the vision and goals of our membership and potential membership. We expect that the Strategic Plan will be distributed to section members later this fall.

We are actively planning the remaining events for 2021 so watch your emails for details about upcoming events and activities.

## Northern Alberta Section

Between February and June in 2021, due to the COVID-19, The CITE Northern Alberta Section held five interesting webinars in place of our traditional in-person luncheons.

In February, Laura Contini (City of Edmonton) and Laura Cabral (Toole Design) presented on the topic of The City of Edmonton's recently adopted Safe Mobility Strategy (2021-2025) with the purpose to achieve Vision Zero through safe and livable streets in Edmonton. This presentation included the principles and analytics to develop innovative strategy and a discussion of the steps required for implementation. In March, Nat Alampi (Stantec) presented on the planning, design, and construction management details of Edmonton's Metro Line LRT project between NAIT to Blatchford. In April, by partnering with Alberta Professional Planners Institute (APPI), our section invited Dr. Karen Lee, an Associate Professor in the Division of Preventive Medicine at the University of Alberta to present the topic on community and street designs to support active transportation modes that are associated with health and wellbeing and discussed case studies to illustrate global best practices and opportunities for collaboration between transportation and health professional. In May, our section had David Cooper (Leading Mobility Consulting) to present on the Canadian Urban Transit Association (CUTA)'s National Transit Recovery strategy from COVID-19. In June, Carole Cej (City of Edmonton) introduced

us to the technical and engagement process of the concept plan development for Yellowhead Trail between St. Albert Trail and 97 Street, the single largest and most technically complex project of the City's Yellowhead Trail Freeway Conversion Project. Before each presentation session, we held a 15-min social for attendees to facilitate networking among all attendees.

On June 7, 2021, NACITE and APPI partnered with Rapid Fire Theatre, Edmonton's most esteemed improv comedy company for an evening of improv-based networking and learning. The event provided a great platform for attendees to discover how improv can make you better at your job.

During the first half of 2021, NACITE kept supporting our local ITE University of Alberta Student Chapter (ITEUA) to organize two of their annual flagship events: The Student Presentation Competition in February and The Student-Industry Mixer in April. Currently, we are working with them to help find mentors for their ongoing 2021 mentoring program.



## Manitoba Section

The Manitoba Section continued to connect virtually over the Spring. In May and June, we held our annual Kean Lew Student Paper and Presentation Competition. Congratulations to Sushreeta Mishra, a senior year Ph.D. student from the University of Manitoba, who took home the top prize of \$900 for her paper entitled Stochastic Optimization of Semi-Flexible Transit Operations.

Sushreeta is Secretary of the UofM ITE Student Chapter. Her work experience includes working as a part-time researcher at CUTRIC on an electric bus scheduling project. As a delegate selected from Manitoba for the Young Leaders Summit in Calgary (2019), she got a unique opportunity to learn, showcase ideas, and network with peers and industry experts in transit and sustainable transportation. Sushreeta's primary research interest is in transit operations and planning, and her Ph.D. thesis focuses on optimizing the operation of semi-flexible transit for low-demand conditions.

Thank you to the competition's judges, Walter Burdz, Diana Emerson, and David Patman for their time and input. A special thank you to Yuan Lew, Kean Lew's sister, for contributing to the prize amount in memory of her brother.

Sushreeta presented her paper to the ITE Manitoba Section during a webinar on June 24, 2021. Prior to starting presentations, participants enjoyed some

virtual networking in breakout rooms. We heard from Richard Tebinka and Don McRitchie from WSP, about the South Perimeter Highway Design Study and Functional Design for the Future St. Norbert Bypass. Richard is the Manager of WSP – Manitoba Transportation and was the consultant project manager for this assignment. Don is a Senior Project Manager with WSP Canada. Prior to joining WSP, Don was the inaugural head of the Capital Projects Branch at Manitoba Infrastructure, which included managing the South Perimeter Highway Design Study.

Their presentation provided an overview of the project and discussed plans construction of the first interchange. The South Perimeter forms the south link of the Perimeter Highway around the City of Winnipeg. The Province of Manitoba has committed to examining the South Perimeter to bring it up to freeway standards, with 22 grade separations, including interchanges, river crossings, and rail grade separations. Richard and Don discussed a number of challenges along the corridor that needed to be addressed in development of the recommended plan. Since completion of the study in 2020, the Province announced the construction of the first new interchange at PTH 100 and PR 200 (St. Mary's Road) as a design-build project.



[community.ite.org](http://community.ite.org)

## Hamilton Section

ITE Hamilton Section (ITEHS) introduced a new format this year for hosting Virtual Events, providing a platform for students from the ITE Student Chapters at Mohawk College and McMaster University to showcase their talents with 10–15 minute presentations, followed by a Q&A session.

The ITEHS Virtual Speaker Event on March 24, 2021, included presentations by four students from Mohawk College concerning the impact of the COVID-19 pandemic on traffic modes and patterns based on the analysis of Miovision data:

- **Anna Davey & Huzefa Ansari** - Mohawk College: *COVID-19 impacts on Bicycle Traffic in the Town of Milton*
- **Maggen Louisius & Li Huang** - Mohawk College: *Daily and Monthly Variation of Traffic Data during Various Stages of the Pandemic*

This was followed by an interactive discussion on active transportation work in Ontario by **Kate Whitfield** of CITE's Career Connect initiative.

In April 2021, ITEHS supported the McMaster Student Chapter by advertising and coordinating the enrolment of industry professionals in a Virtual Mentorship Coffee Chat program initiated by the McMaster University. Eighteen seasoned transportation professionals registered as mentors for transportation students at McMaster University.

April also included support for Mohawk College by confirming our first contribution to the Mohawk College Bursary Endowment Fund this year, with a commitment to contribute the remaining balance next year to maintain the total Endowment Amount, to support an award program for 2nd or 3rd year students from the Civil Engineering Technology – Transportation program.

On May 5th, 2021, ITEHS and the Toronto and Southwestern Ontario ITE sections organized the

virtual 13th Annual Joint CITE Section Student Presentation Competition for 2021. Learn more about this event on page [23](#).

ITEHS undertook a member survey in October 2020 to assess the interest in event topics. More than 60% of respondents were “Very Satisfied” with the topics being presented, and several indicated interest in a future presentation on roundabouts. Addressing this request, on June 1st, 2021, two students from McMaster University presented on their research topics, followed by an in-depth presentation on current trends and practices in active transportation design considerations for roundabouts by Phil Weber of CIMA+. The event received strong positive feedback from the membership and had an audience of 70+ attendees to see the following presentations:

- **Anastasia Soukhov** - McMaster University: *Evaluation of Ontario Transportation Electrification Policies using Interpretable Optimization Approaches*
- **Moe Mirza** - McMaster University: *Security and Data Privacy Issues of Integrating Vehicles into Network Systems*
- **Phil Weber** – Associate Partner, CIMA+: *Pedestrians and Cyclists at Roundabouts - Design Treatments, Safety and Security Issues, Accessibility, and Experience from Netherland*

In June 2021, ITEHS also initiated a discussion with Dr. Moataz Mohamed of McMaster University regarding a future Scholarship Program or Student Presentation Competition to support students from the Transportation Engineering program. ITEHS is exploring avenues with the McMaster University student representative to take this to the next step.

ITEHS thanks the contributions of the presenters and continues to support interest of its membership and Student Chapters. All past presentations can be found on our [ITEHS webpage](#).

## National Capital Section

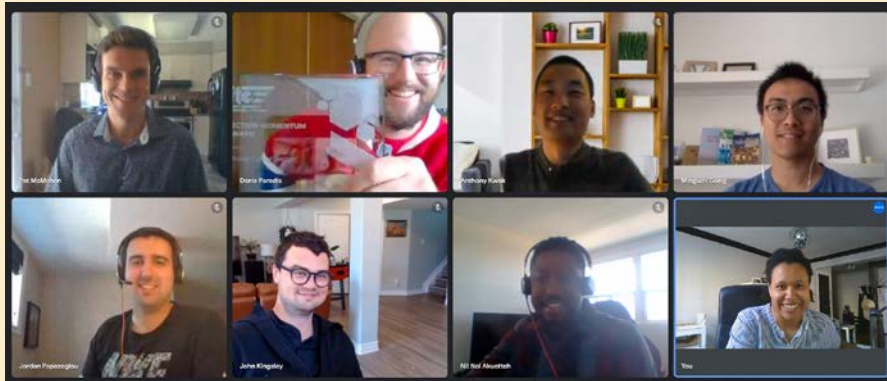
The National Capital Section (NCS) is honoured and humbled to have been recognized as this year's CITE Section Momentum Award recipient at the CITE Virtual Conference in June! We are very grateful to all of the hardworking volunteers, both current (pictured below) and past, who have served on our Section's Executive and to our members for their support in helping make this happen.

Building on our momentum from last year and from the first months of 2021, we hosted two more exciting events over the last quarter. In May, Bruce Devine from the National Capital Commission (NCC) [presented on the planning and implementation of the closures of NCC urban parkways](#) to cars during the COVID-19 pandemic. These closures have helped make active transportation more accessible to local residents and visitors throughout the pandemic and have been very well received,

especially by residents of Ottawa's inner urban neighbourhoods (which include some current members of the NCS Executive).

In June, we hosted a very important [panel discussion on transportation equity](#) featuring Inge Roosendaal from the City of Ottawa, Jessica Lamarre and Shewkar Ibrahim from the City of Edmonton, and Matthew Davis from the City of Toronto. The panelists spoke about the importance of equity in transportation planning and engineering, some negative impacts of historical transportation infrastructure and service decisions that did not consider equity, and the importance of diverse representation on technical teams. The panelists also shared some projects and initiatives in their respective municipalities that are helping improve transportation equity in their communities.

And now, as we welcome a summer that feels a little more like "normal," we are looking forward to taking a small break over the next two months to allow the Executive to strategize and plan more quality initiatives and events for our members in the second half of the year.



Transportation Equity Panel, from top left: Inge Roosendaal (City of Ottawa), Shewkar Ibrahim (City of Edmonton), Mariam Bello (NCS President), Jessica Lamarre (City of Edmonton) and Matthew Davis (City of Toronto)

## University of Alberta

### Industry Mixer

The ITEUA was thrilled to reprise their annual spring “Student-Industry Mixer” event on April 28th, 2021 after needing to cancel in 2020. The Mixer aims to inform undergraduate and graduate students about the local transportation industry and to encourage them to interact with local professionals. Further, the event provides an opportunity to showcase different organizations’ current projects, talk with students, and learn more about ITE. The 2021 event was sponsored by 9 companies/organizations; the City of Edmonton, APEGA, AECOM, Watt Consulting Group, Stantec, Dialog Design, Associated Engineering, Toole Design, and ISL Engineering. We created a private Discord server to provide a centralized platform for the event; each company sponsor was provided with a dedicated space for small social conversations while permitting attendees to easily drop-in and drop-out. We’ve received great feedback from both sponsors and student attendees that this structure greatly improved the atmosphere over using typical video conferencing software.

### Departing Instructor Thank you event

At the University of Alberta, Dr. Amy Kim has instructed transportation engineering students for nearly 10 years and has recently transferred to work at the UBC. On behalf of the current student body, and alumni of the program at UofA, the ITEUA organized a small thank you event on June 18th. We collected more than 20 messages of appreciation and gratitude that were then delivered in a small gift package. Dr. Kim joined us for a quick video chat that included alumni across the country. Our colleagues at UBC ITE are lucky to have her join their program.

### Summer Mentorship Program

At the start of July, we kicked off 5 pairs of industry mentors and student mentees in our annual summer program. Our program consists of a sign-up and matching process, a program handbook with guidelines and suggested monthly meeting frequency with discussion prompts. ITEUA hopes that our mentees can use this one-on-one process to foster local connections and learn more about what a practicing transportation professional does post graduation.

*Also check out a recap of the University of Alberta Student Presentation Competition held in February on [page 23](#).*



## University of Manitoba

After a lull in the U of M ITE Student Chapter's activity due to COVID-19 and a delayed election, an enthusiastic new executive team was elected virtually on February 11th, 2021, with some new and old faces. Thanks to the support of our new faculty advisor, Dr. Babak Mehran, we were able to plan and attend multiple events during the rest of the winter term.

### Virtual Student Leadership Summits

The student chapter participated in the ITE International Virtual Student Leadership Summit from February 19th to 20th. Through this event, attendees connected with students from other chapters and participated in interactive and technical sessions about career development, leadership, and technical topics. Members of the student chapter also attended the Mountain District Virtual Student Leadership Summit from April 9th to 11th. Our participants enjoyed taking part in various technical presentations, workshops, and panel discussions.

### Technical Speaker Session

Dr. Sharath MN, a Postdoctoral Fellow from the Department of Civil Engineering at the University of Manitoba, gave an insightful virtual presentation to our chapter on March 23rd. His presentation focused on localization and motion planning for vehicle automation with a critical discussion of trends, opportunities, and challenges. We would like to thank Dr. Sharath for volunteering his time and sharing his knowledge with our students.

### Virtual Social Event

To celebrate the end of exams, we held a virtual social event on April 29th using Zoom. During this event, we played all the games in JackBox Party Pack 6, talked about how the year of online learning went, and discussed our plans for the summer.

### CITE Virtual Annual Conference

Our Student Chapter President, Cassidy Zrobek, was recognized at the CITE 2021 Virtual Conference with the John Vardon Memorial Transportation Scholarship. She also attended the conference and learned about various transportation topics in the technical sessions.



## 2021/22 Executive Team



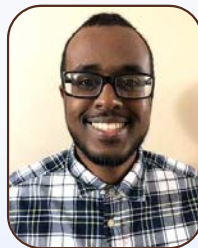
#### Advisor

Babak Mehran, Ph.D., P.Eng.  
Associate Professor



#### President

Cassidy Zrobek  
Master's Student



#### Vice-President

Omar Warsame  
Undergraduate Student



#### Treasurer

Vishvam Thaker  
Undergraduate Student



#### Secretary

Sushreeta Mishra  
Ph.D. Student



#### Technical Chair

Vidhi Modha  
Undergraduate Student



#### Community Chair

Jenna Duke  
Master's Student



#### Social Fundraising Chair

Katie Wiebe  
Undergraduate Student

## York University

### Wrapping up the Term

The ITE York University Student Chapter has been very active during the summer months of 2021.

On Saturday, May 1st, we held our ITE YorkU Elections & End of Year Social event. After the elections were completed, our chapter members socialized using the virtual conference platform, GatherTown. The platform allowed participants to roam around a virtual meeting space to connect with each other.

On Tuesday June 8th, ITE YorkU Student Chapter participated in the annual CITE Collegiate Traffic Bowl. Four of our members including Prateek, Ariel, Tricia, and Ginelle competed in the jeopardy-style student competition. Our gratitude goes to the Traffic Bowl team for their hard work and perseverance.

Lastly, the ITE YorkU community would like to extend our appreciation and gratitude to our past president Timothy Young and all executive members who worked tirelessly over the past year to provide impactful events during these challenging and online times.

### Meet the New Exec Team

For the upcoming 2020-2021 school year we have made some changes to our executive team.

Artem Solovey, our new chapter president, is an MASc student and entrepreneur who is taking his passion in sustainable transportation and innovative approaches to bring new and exciting changes ITE YorkU Chapter.



Participants of the CITE Traffic Bowl including four members of the York Student Chapter

Ariel Yerushalmi, our new vice-president, is a civil engineering undergraduate student entering her final year in Transportation studies. Her areas of interest are autonomous vehicles, smart cities, and other topics relating to emerging automation technologies. Upon graduation, Ariel hopes to work in the transportation industry on the development of efficient and advanced transport systems.

Prateek Jain, who will be joining us as the treasurer of our chapter, is a MASc student at York University and has a passion for transport planning and modelling. His research interests include GIS spatial analysis, freight transportation and traffic simulation. Prateek aspires to use his experience and skills to take the ITE student chapter forward and bring about a positive impact.

Elham Heydari, who will be joining as the secretary of the chapter, is a second-year Ph.D. student. She is interested in the application of optimization techniques in transportation. Currently, she is working on projects related to community-based parking and parking occupancy calculation.



Artem Solovey  
*President*



Ariel Yerushalmi  
*Vice-President*



Prateek Jain  
*Treasurer*



Elham Heydari  
*Secretary*

## Onwards and Upwards

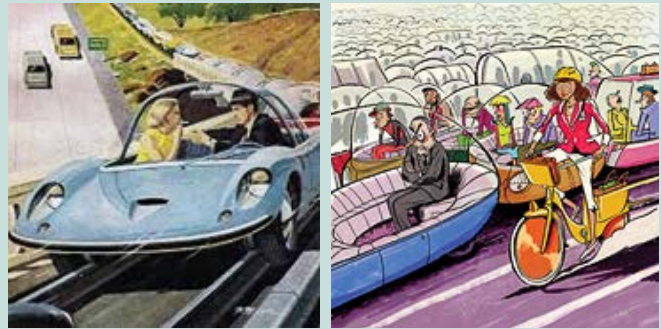
The team has new exciting and innovative ideas lined up for the upcoming academic year. We will start off by welcoming new and returning civil engineering students to our club home at York University. We will be participating in the upcoming York University Club Fair to invite new members to our chapter. We are delighted to once again be hosting monthly seminars where both undergraduate and graduate students will get to listen, connect and socialize with industry professionals. In addition, we are planning to increase our social media team to deploy a marketing campaign via external and internal social media platforms to enhance student engagement.

Our theme for this year will suit up our members with time travel gear! ITE YorkU will be taking its members back in time to the roots of transportation, starting in the year 3500 B.C. when fixed wheel carts and boats populated cities.

## Theme: Journey of Transportation

Throughout this journey, students will get a chance to learn about key innovations/events that have shaped transportation as we know it, via social media, seminars, and networking events. This includes the invention of paved roads (312 B.C.), horse drawn public buses (1662), steam powered trains (1814), supersonic flight (1947), the space shuttle (1981), and the rise of shared mobility (2009).

In addition to the above theme, we plan to hold other events including a transportation innovation hackathon. The hackathon will allow students to gain practical experience by creatively working as a team to solve technical problems.



## More Information

For information about our student chapter or to view our latest annual report, visit our website at [ite.club.yorku.ca](http://ite.club.yorku.ca). Please let us know if you are interested in speaking at one of our seminars/events or sponsoring us. You can email us at [ite@yorku.ca](mailto:ite@yorku.ca) or visit us on one of our social media pages. We also encourage you to watch our latest informational video on [YouTube](https://www.youtube.com).

## Carleton University

### Transportation Industry Night Winter 2021

On March 18, 2021, Carleton University ITE Student Chapter hosted its annual Transportation Industry Night virtually through Zoom to accommodate for campus closures due to COVID-19. Despite the unusual circumstances, our event saw great success and turnout. We had the honour of hosting 40 student attendees and 8 guest speakers from SNC–Lavalin, GHD, City of Ottawa contractors for Ottawa’s LRT trillium line extension project and other local transportation professionals, pictured below.

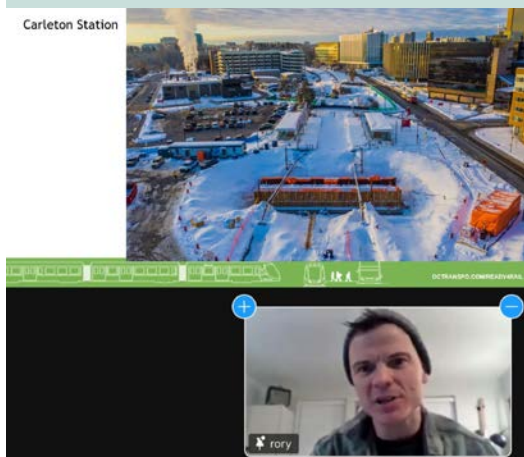
The night started by introducing first the chapter and executive members then our guest speakers. Afterwards, Rory Martin, Program Manager at the City of Ottawa, gave the audience a presentation that highlighted the construction process of the LRT Trillium Line in Ottawa. The presentation was then followed by a Q&A session where students directed questions to guest speakers. The Q&A helped the audience learn about the transportation industry, skills required for succeeding in the field and how our guest speakers manage their day-to-day activities on the job. To help students further connect with the speakers more effectively, attendees were divided into breakout rooms. Inside each breakout room were two guest speakers and up to 5 students. This format helped students and professionals communicate effectively, making Transportation Industry Night a great success.

### Design Competition

The Carleton University ITE Student Chapter took the initiative to conduct a design project competition among students. This competition presented a great and exciting opportunity for students interested in transportation engineering and engaged them with the chapter. Through this activity, we led the students to develop interests and skills as well as gain engineering-related experience in transportation engineering that will help them in their careers. The project was designed in a way that students could complete it from their homes, eliminating the need for field observation. The project involved three parts, namely research, design, and documentation. Participants had to research how streets are classified and had to select and redesign a local street to a complete street to serve multiple users. They were directed to use the Streetmix website to develop cross-sections of the street and google street view to gather pictures and data. Then, they were required to document their lessons learned and challenges, also how they overcame those challenges into a technical report and submit it to be chosen for a prize of \$200. We had many students who participated and among them, we chose three winners:

- First Place: Miaohe Huang and Zhiqing Zhao
- Second Place: Erika Poirier
- Third Place: Elise Wunder

Carleton’s ITE Chapter would like to thank all students who participated and congratulate the winners of the Design Competition.





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