

Transportation



Talk

CANADIAN INSTITUTE OF TRANSPORTATION ENGINEERS MEMBER NEWSLETTER
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Vancouver and the Protected Intersection

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IN THIS EDITION

Feature - Vancouver and the Protected Intersection

President's Message	4
Director's Message	6
Member Highlight	10
Peter's Picks	12
TLC Update	13
Project Fact Sheet	14
Kelowna 2016	16
Section News	18
Student Chapter News	21
Coming Events	23
Advertising Directory	24
CITE Contacts	26

Across North America, cities are focusing on improvements to their transportation systems to enhance safety and mobility. Investments in walking and cycling infrastructure make it increasingly easy for people to choose active modes of transportation – which have positive benefits on people's health and well-being.

In Vancouver, both health and climate considerations are outlined in policies known as the *Healthy City Strategy* and the *Greenest City Action Plan*. To support these policies the City has a long-range transportation plan known as Transportation 2040, which recognizes the challenges and opportunities for rethinking our transportation system to consider the highest level of long term health and safety of residents and the environment. The plan emphasizes the importance of accommodating population growth by enhancing facilities for walking, cycling and transit. The plan also aims for the city to have zero transportation-related fatalities.

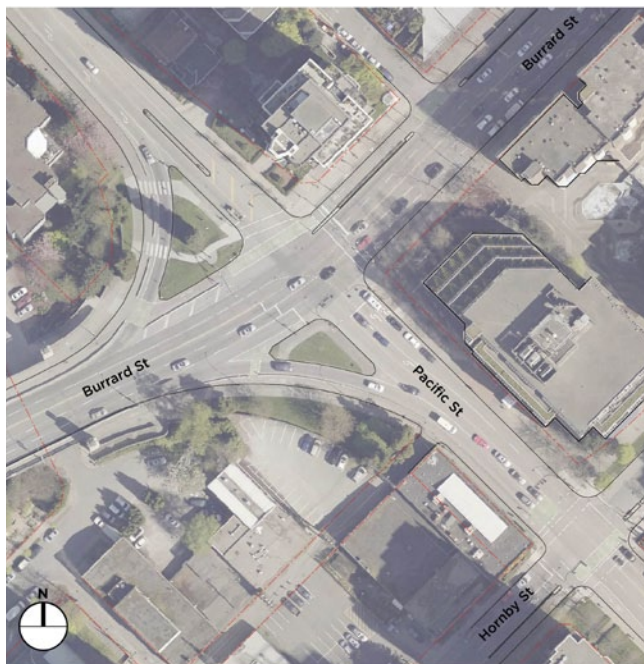
Ultimately, the goal of Transportation 2040 is to make it easier and safer to choose modes of transportation other than a personal use vehicle.

Protected bike lanes (or cycle tracks) have been shown to not only be safer for those choosing to travel by bicycle, but also attract a more diverse cross-section of people including children and seniors to cycling. Protected bike lanes help to prevent collisions mid-block, but don't necessarily address conflicts at intersections. A Cycling Safety Study recently completed in Vancouver found that 50% of all collisions between vehicles and bicycles occur at intersections.

When intersections only have to accommodate motor vehicles, they can be relatively simple. When people travelling on foot and by bike are added to the mix, the intersection can become extremely complex.

Continued on next page

WALK THE WALK cont'd



Burrard Pacific Intersection - Existing Conditions



Burrard Pacific Intersection - Proposals

With multiple modes engaged in crossings, the driver workload and the risk of collisions both increase.

In Vancouver, the answer we are pioneering to the problem of a highly multi-modal intersection is the protected intersection. In 2014, the City constructed the first "protected intersection" in North America at the intersection of Burrard Street and Cornwall Avenue, at the south end of the Burrard Bridge.

The protected intersection eliminates or minimizes conflicts between vehicles and people walking or cycling by separating movements in time and space. To be truly effective, a protected intersection must be clearly thought out and carefully designed using geometric layout, separated traffic signal phases, and well placed signs and pavement markings.

Prior to the protected intersection at Burrard Street and Cornwall Avenue (Burrard / Cornwall), the intersection was designed to allow for high-speed vehicular turns onto both Cornwall and Burrard. The intersection was very uncomfortable for both people walking and cycling.

The redesign simplified the intersection to a more typical T-intersection and reduced the pedestrian crossings from five to two. Protected bike lanes and vehicle turn lanes were constructed on all legs of the intersection and traffic signals were used to separate the turning vehicle phases from the

crosswalks and bicycle crossings. Space was also provided behind the curb to accommodate turning bicycles. The reconstruction of the intersection and surrounding streets cost \$6M and was fully designed and constructed by City of Vancouver staff.

The intersection redesign was highly successful, with the intersection continuing to function well following construction. For these works the City won the **2015 Public Agency Council Achievement Award of Excellence** from the Institute of Transportation Engineers and the 2015 Transportation Association of Canada's (TAC) **Sustainable Urban Transportation Award**. Vehicle volumes over the bridge have remained steady at over 50,000 vehicles per day, while people cycling over the bridge has increased significantly with over 7,000 trips per day this past summer.

Following this success, the Burrard Street and Pacific Boulevard (Burrard/Pacific) intersection at the north end of the bridge was selected to become the City's next protected intersection as part of a larger Burrard Bridge rehabilitation project. This intersection has the second-highest collision rate in the city and some of the highest cycling volumes of any intersection in Vancouver. The intersection also sees high usage for those choosing to walk for leisure or commute.



Photo Credit: Kathleen Corey & Brian Gould

The overall project includes the reconstruction of five city blocks with protected bike lanes, the reallocation of a vehicle lane on the Burrard Bridge for walking, and a 150 meter long widening at the north end of the bridge. Free flow vehicle slip lanes on and off of the bridge, where the majority of vehicle collisions currently occur, will be replaced with dual right turn lanes controlled with protected traffic signal phases. Almost all movements at the intersection are proposed to be conflict free. The intersection has also been designed with some flexibility so that as volumes change in future years, the City has the ability to make adjustments in the design.

The project experienced very little push-back from the public or business groups, despite the decades-long debate around improving active transportation connections across the Burrard Bridge. There were several reasons for this, but key among them was the previous successes of introducing protected bike lanes on the bridge in 2009, and the subsequent intersection redesign at Cornwall, which did not lead to the vehicle congestion that some had predicted. Even with a reallocation of lanes at the mid span of the bridge and removal of the free-flow slip lanes at the north end, staff are confident that this project will be as successful as the modifications to the Burrard / Cornwall intersection in 2014.

Vancouver City Council approved \$35M for the intersection upgrades and needed structural rehabilitation work on the 83 year old bridge in July 2015. The project is being funded by the City of Vancouver with cost sharing from TransLink, Metro Vancouver's regional transportation authority.

The intersections at each end of the Burrard Bridge have been an uncomfortable place to walk, cycle, or drive through for

many years. We are looking forward to completing the safety and comfort improvements at the north end, scheduled to begin in early 2016. As active transportation becomes increasingly popular method of travel in Vancouver, and as we build out a network that creates a safe environment so that we can achieve our zero traffic fatalities goal, we anticipate that protected intersections like these will become the expected treatment at intersections throughout the City.

We look forward to hosting professionals from across the continent and showcasing our recent work at the upcoming Pro Walk / Pro Bike / Pro Place conference in Vancouver in September 2016.

Burrard Bridge Quick Facts

- Opened on Canada Day in 1932 with six general purpose vehicle lanes
- Protected bike lanes constructed in 2009 with 1,000,000 riders the first year
- Over 1,300,000 bicycle trips in 2014
- On a typical sunny weekday you can expect:
 - 55,000 motor vehicles
 - 13,000 on transit
 - 10,000 people walking or biking
- Over 700 reported vehicle collisions at Burrard and Pacific between 2009 and 2013
- Construction scheduled to begin in 2016 and take up to 15 months

PRESIDENT'S P O N D E R I N G S



Jen Malzer, PEng.
Canadian District President
president@cite7.org

communications. I'm looking forward to great conversations and welcome you to be in touch with members of the executive or your Section president with any ideas. I would also like to thank the City of Calgary and partners who are contributing to our event. We will be spoiled with tours of Calgary's newest development and West LRT line. I have no doubt this will help inspire our actions, as an organization so key to creating active, sustainable communities across Canada.

Hello to all! I hope you had a great summer and are enjoying the last few snow-free days.

I'm happy to share that these are exciting times for CITE. In about ten days we will be having our fall meetings. In addition to our regular executive and Technical Liaison Committee meetings we have two other important events taking place. First, we will be gathering with our Board (your Section presidents) in Calgary to review our strategic plan. And second, for the first time we are gathering together ten Young Members (under 35) who have expressed an interest in organizing a stronger voice for this important group – the creation of a Young Member Committee.

CITE's Strategic Plan was last updated in Toronto in 2009. The plan still very much reads true and speaks to the values of CITE. In six years though, many of the actions have been completed or need updating. As an example, social media was not so much a thing in 2009 but today it is our direction for

Our new Young Member Committee (YMC) was established at our Board meeting in June with the goal of strengthening our CITE community. At our upcoming meetings in November, the YMC will be asked to develop a vision and goals and to start to plan activities and/or research projects. The goal is to foster a transportation community that provides networking and learning opportunities to our young professionals and students through activities like tours, social gatherings, technical presentations and inspiring talks.

In other news, we have made some important steps towards launching our new website. With the help of Steven Garner, our still new Administrator, we hosted an international design competition. We received 17 excellent submissions and asked the Board to help vote on the winning design. We are currently in the process of moving content over for a smooth transition and expect to launch in Q1 of 2016. The benefits of this new website are that it will allow us to provide more timely news and

updates. It will also be clean and easy to navigate, have a completely redesigned job board including ability to manage job postings, and have a central library of CITE documents.

Just a reminder that CITE is active on LinkedIn, Twitter, and Facebook. We are experiencing steady growth on LinkedIn with over 750 followers now. It's a great way to keep up on CITE news, job postings and interesting links. Follow us at:

- [@itecanada](#)
- www.facebook.com/itecanada
- www.linkedin.com/company/canadian-institute-of-transportation-engineers

Finally, I'd like to thank our writers for Transportation Talk, including those who are behind the scenes. This edition features two pieces on new cycling infrastructure; including Vancouver's second protected intersection (Ross Kenny and Paul Storer) and Calgary's newest cycle tracks (Katherine Glowacz and Thomas Thivener). I personally think this is a great way to share the exciting projects that are defining transportation in Canada and invite more members to suggest topics. Calgary's cycle tracks were hugely political, divisive and required a huge team to deliver. I am grateful for the persistence of my colleagues and think that sharing these stories will help other jurisdictions innovate with less resistance and with the benefit of some collective lessons learned.

I also want to thank our Sections and Chapters for sharing your activities and to our editors who bring it all together.

There were a couple people I missed thanking in the last edition... Dave Twaddle managed our website updates and job postings for many years and worked hard to keep these up-to-date even on evenings and weekends; and Don Cook was our *Transportation Talk* managing editor since the 2007 redesign, his contributions and commitment to CITE have been numerous, and culminated in receiving our Voluntary Award this past June. Thank you both!

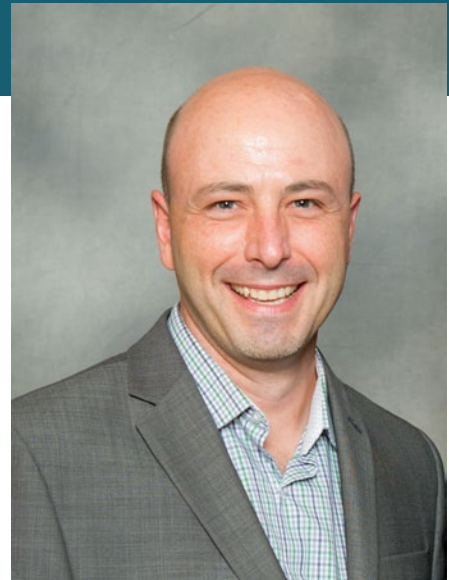


Changing ITE

By District Director Bruce Belmore

I decided to close off my last District Director article (Article #12) with some thoughts on ITE and things I would like to see change in the Canadian District. A word of caution, these are my thoughts alone and may / may not be shared by others.

- **Do a better job at reaching out to university students:** we should start a national committee that coordinates outreach with students and promotes ITE to new members.
- **Develop a training purpose:** we should either partner with an organization like Ontario Traffic Council to deliver technical training or establish a training arm of CITE. Why do training? Our members desire it and there is a huge industry need.
- **Host webinars:** ITE International has all of the technology in place, and a recording room, to seamlessly prepare and deliver webinars to members internationally. We should partner with them.



"ITE provides the ultimate stage to become a leader in transportation. Bring your ideas and ITE will bring the connections and opportunities to help you make a real difference in the organization and in the transportation field."

Matthew Davis, City of Toronto
Toronto Section President

"The networking and professional development opportunities make ITE an organization of choice. Plus the people who belong, are pretty great."

Gene Chartier, Paradigm Transportation Solutions
Incoming CITE District Director

"ITE allows individuals the opportunity to contribute and learn within a large international organization. No other transportation organization is as open to supporting new ideas, research and initiatives. There are no barriers to entry. Get involved, express your thoughts at a meeting, or share your experiences through an on-line post. Your efforts will be returned in spades and will yield some good friends within the ITE community along the way. Without exception, this has been my experience being involved at the Section, District and International levels for that past 15 years."

Russell Brownlee, Giffin Koerth
Vice-Chair, ITE Coordinating Council

- **Embrace social media:** we should communicate more with our members using Twitter, Facebook, Instagram, and LinkedIn. Newspapers have learned the hard way that communication has changed.
- **Partner more on technical projects:** we have done a reasonably good job at partnering on technical projects with organizations like TAC. We need to seek out these opportunities, have mechanisms to quickly engage projects and then support them vigorously. This would allow us to produce technical documents at less cost, in less time, and still get the recognition as an industry-leading technical organization.
- **Reinvigorate the work of the Technical Liaison Committee:** the TLC is the cornerstone of CITE in my mind. We need to figure out the best ways to facilitate and promote the work that they do.

"Over the years, I have consistently benefited professionally and personally from CITE, and so I continue to volunteer in different capacities. It started nearly 10 years ago when I expressed my first interest in volunteering with CITE as a member of the Atlantic Provinces Section executive, sitting next to Mike Skene while having lunch in a restaurant in Fredericton with other CITE members. Prior to that cold day in November and being quite green in my career, I enjoyed attending the local section meetings, learning about interesting projects in the region, and seeing the professional relationships and comraderies amongst the veteran members. I had also attended a couple of national conferences prior to this time. I wanted to be more a part of it.

CITE is an organization of volunteers led by volunteers. It is driven by quality and value for its members, not for profit. A membership around 2,000 members and conferences hosting 100-300 people are manageable sizes that allow for close interactions and knowledge sharing across the board, absent of silos, and inclusive of all members."

*Dwayne Cross, Province of Nova Scotia
CITE Technical Liaison Committee Chair*

- **Promote LeadershipITE:** this program is going into its third year. Fifty individuals have graduated and many have already moved on to leadership positions within the transportation industry. All of the graduates I have talked to speak fondly of the experiences and relationships gained through the program. This program is firmly embedded in ITE now and I expect it to exist as long as ITE remains around. We need to promote this program to our members and find mechanisms to facilitate attendance.
- **Consider web-hosting technical sessions from the annual conference:** are there people who cannot attend the annual meeting willing to pay to attend technical sessions via the web? You bet. This may seem counter-intuitive but when many internet companies were built on the premise of giving away free apps, anything is possible. AutoCad University already does this successfully.
- **Share Section annual reports:** each Section has its own unique methods for engaging membership. The Section annual reports submitted to CITE provide outstanding examples of what Sections have done over the past year to offset the cost of meetings, hosting student presentation nights, having social events, etc. Why not share these reports so that other Sections can pick up on these ideas? We will build a stronger, more robust organization.

"CITE, strike that, ITE anywhere that I have visited, makes me feel like I am part of the family. There is a sense of community imbued in the people and the culture of ITE that not only makes me feel welcome, but valued. Where what I have to offer can and does make a difference. I really think that value of openness and inclusiveness was best driven home to me when I read through ITE's strategic plan, as it promotes collaboration with the many other transportation organizations out there. It is about working together, where more is better, and teamwork is the only effective response to our complex transportation challenges today."

*Dr Gord Lovegrove, Associate Professor of Engineering
CITE Student Chapter Advisor, UBC Okanagan*

"Fun ! Is what comes to mind... Where else can you be involved with great people Friends Working on interesting projects, learning interesting things ... And having fun. I look back and think of all the friends I have made through CITE ... Many! Through these friends I've been able to share information and discuss professional and technical challenges which helped me in my career."

*Michael Skene, Boulevard Transportation Group
Past President of CITE, Past TLC Chair*

INTERNATIONAL UPDATE

- **Pass along knowledge:** one thing that each of us can do is to pass along what we have learned. As an organization, we should have a formal mentorship program to match learned, senior members of our organization with less experienced members. The program would involve a regular check-in process to provide career advice and coaching. Further, each of us should figure out how to give back to the industry that keeps us all gainfully employed, whether it is giving a presentation at a Section meeting or teaching a University class or at a technical college. You would be surprised at how many engineers around you give back to the industry without you even knowing.

I know it is easy to throw around ideas but much harder to see them through to implementation. I also know that our Canadian Executive is working very hard right now to make changes that will improve our organization. We are hosting a strategic planning session in early November in Calgary with a wide range of members from Section presidents, TLC reps through to reps on a newly-minted Young Members Committee in attendance. The challenge is to make a difference through this organization.

One of the things that strikes me most about ITE is that it is a unique organization that continues to evolve. At the same time other transportation organizations are popping up and we need to understand our focus. As an interesting exercise, I threw out a hypothetical scenario to some notable CITE members. The scenario is that you meet a recent engineering grad in the bar (maybe not that hypothetical after all) and are asked "With so many transportation organizations to choose from, why should I make ITE my organization of choice?" As you can see, there are a lot of good reasons.

In closing, I would just like to say that it has been a pleasure serving you as the Canadian District Director for the past three years. I would like to wish all the best to the current CITE

"You can find an ITE member involved in most transportation projects in Canada, so it's a great network to be part of. Excuse my bias, but especially our own CITE members are so happy to share their experiences and make introductions. Such a good way to learn about the best in transportation and also get to know some great colleagues."

Jen Malzer, City of Calgary
CITE President

"I would say to this young professional, that you have more bang for the buck if I can say it that way. For the price, at all levels, you have more information to pick upon to carry your everyday duties as an engineer. Many organizations work on standards on geometric design with their own optics but not much on other subjects as ITE does. I would say that ITE as more preoccupation on balancing needs of network users."

Jean-Philippe Desmarais, City of Montréal
Québec Section, Chair

Executive. A special thanks to Sandy Rempel for all that she has done for CITE as Communication Coordinator. I would also like to offer a huge welcome to Gene Chartier, who will be taking over for me in the District Director position.

Best regards,

Bruce

"ITE is the best way - perhaps only way - to build a network of local transportation professionals."

Jonathan D. Regehr, Assistant Professor
University of Manitoba
Manitoba Section, Past President

1 – "As the president and founder of a successful traffic engineering company with over 30 employees, I credit ITE for being a big part of my company's success as my volunteer time for ITE has opened so many doors during the course of my career."

2 – "When I needed a mentor, an ITE member was always willing to share with me their knowledge and help guide me on my career path."

3 – "ITE members have always been quick to provide me with tips on where to find a new job during or my career, or to help create new opportunities for me."

4 – "When I was fortunate enough to become an elected member of ITE, it created incredible new opportunities for my career path due to the networking and which has resulted in lifelong friendships."

Jan Voss, Creative Transportation Solutions
Past President of CITE (ITE member since 1986)

"I've always found that ITE is that critical link between innovative ideas and implementable practice. ITE and its members have been innovators in the past and continue to be the "doers" that take progressive and thoughtful transportation planning, design, and operational ideas, and outline the steps to make these ideas happen in our communities."

Tyler Golly, Stantec
LeadershipITE, Class of 2015

"While there may be a number of transportation related organizations, ITE is the only "learned society" whose members are solely transportation engineering professionals. ITE is not a trade organization whose membership is based on industry organizations. One of the key advantages of ITE is its technical program that entails conferences, Webinars, and a book store comprised of pertinent reference books, handbooks, technical papers, and equipment standards."

Al Swanson, Swanson Transportation Consultants
Past ITE International President
(and all around transportation guru)

"When I think of ITE, I think of it as family. Granted, a large one, with quirks and the occasional dysfunction, but one that always pulls people together in a bond for the common good of advancing the profession and building better communities."

Peter Truch, Stantec
CITE Past President

MEMBER HIGHLIGHT



BIANCA POPESCU

First job after college / university

My first job after undergrad was a Research Analyst for an urban planning consulting firm that specializes in airport city planning and mixed-use development. The position was interesting, however it also allowed me to recognize my desire to work in the transportation field. After a year, I decided to go back to school and do my masters in transportation engineering.

Current employment: include position title

Masters' Student and Research Assistant, The University of British Columbia

Current city / prov of residence

Vancouver, BC

Personal hobbies

Hiking, skiing, travel and reading

What roles / positions have you taken on as a member of CITE?

Student CITE member
Executive ITE member UBC student chapter

When did you join CITE? (year)

2015 – this year!

Professional designations.

- Candidate for Masters of Applied Science in Civil Engineering (Transportation), University of British Columbia (Expected 2016)
- Bachelor of Environmental Studies in Urban Planning, University of Waterloo (2014)

Please describe what attracted you to transportation engineering?

While studying urban planning for my undergraduate degree, I recognized that all my self-directed school projects were about transportation. For example, I endeavoured to redesign an intersection for a fourth-year project without having any previous civil engineering training! Nevertheless, I didn't choose transportation engineering until I started looking into masters programs. I decided to study in the civil engineering field because I wanted to learn something new and exciting. In terms of career development, it's been very valuable to understand both transportation planning and engineering concepts, and my goal is to have an interdisciplinary career.

If asked to speak to a class of engineering students, how would you recommend it as a profession?

I would recommend this profession to those who have diverse interests in various disciplines such as sociology, psychology, and the environment. Transportation engineering is unique in the civil engineering field, because it is concerned with animate objects instead of materials. The complex yet interrelated urban environment makes transportation a multi-faceted science, in which there may be various solutions, and our job is to determine the best one. The rewarding part of this career comes from the knowledge that you are trying your best to improve society.

BIANCA POPESCU

During your career to date, have you pursued any professional designations through ITE (such as PTOE), and describe why? If no, do you plan to in the future (and why)?

Once I finish school and begin my career I will look into transportation planning professional designations such as RPP and PTP.

Who has had the greatest influence on your life and career?

My partner, Amadeusz, who is a software engineer, was the first to show me how creative and fun the engineering profession can be, and always encourages me to take on new challenges.

If you did not pursue engineering as a career choice, did you have another career in mind (a fallback)?

That's a difficult question because I feel like the transportation field is quite broad and there are a lot of options. If I had to choose a career outside of transportation, I would choose to do something creative such as writing, designing and/or developing cool projects.

What is the first thing people most commonly ask or say when they find out you are a traffic engineer?

The only thing I can think of that people seem to often ask is "Can you fix TransLink or (insert transit service issue / traffic issue here)?"

What is the most daring thing you've done in your lifetime (that you're willing to see in print)?

Climbing Mount Pico (a volcano with 2,351 m elevation), in the Azores islands last year. We were on a time crunch, as we were staying on a different island and had to catch the last ferry back. The day was unfortunately very cloudy with the fog making it difficult to see the trailheads, and the terrain was difficult and rocky. We were one of the only groups to climb the mountain on that hazy day, and the volcano landscape felt surreal and barren. The poor visibility made the trek difficult but the entire experience was amazing, and the clouds cleared briefly due to high winds so we had views at the top. I would definitely do it again, and I am looking forward to many more hikes and adventures to come!

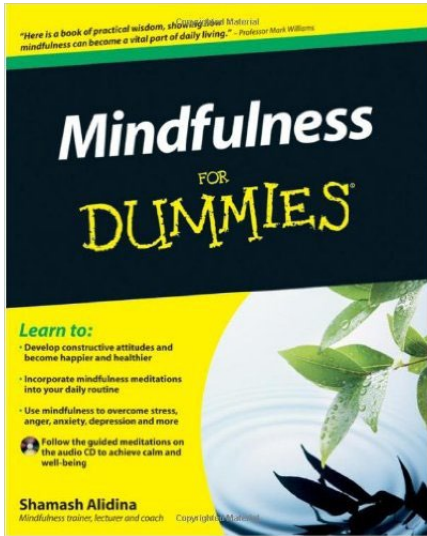
What is the last book that you read, or are currently reading?

I am currently enrolled in a transportation economics class at UBC and find myself increasingly reading about economics. Currently I am reading Dollars and Sex: How Economics Influences Sex and Love – a fun and interesting book by a UBC economics professor, Marina Adshade.

What is the single greatest satisfaction you take from your job as an engineer?

Solving complex interesting transportation issues while being a part of improving communities and cities for years to come.

PETER'S PICKS



Mindfulness For Dummies Paperback

by Shamash Alidina and Juliet Adams

How to reduce stress, anxiety, high blood pressure, and even chronic pain-by refocusing your mind

A cutting-edge meditation therapy that uses self-control techniques, mindfulness has taken off across the

globe as a way of overcoming negative thoughts and emotions and achieving a calmer, more focused state of mind. Written by a professional mindfulness trainer, this practical guide covers the key self-control techniques designed to help you achieve a more focused and contented state of mind, while maximizing the health benefits of mindfulness—from reducing stress, anxiety, and high blood pressure to overcoming depression and low self-esteem, and battling chronic pain and insomnia.

- Includes self-control techniques (such as body posture, sitting practice and breathing exercises) and routines
- Includes an audio CD featuring narrated meditations and exercises

Introducing you to a new and powerful form of meditation therapy, *Mindfulness For Dummies* outlines how to use it in your everyday life to achieve a new level of self-awareness and self-understanding and reap the long-term rewards of better health.

Peter's thoughts... *Although I'm generally loathe to the "For Dummies" series, I for some reason picked this one up: Mindfulness for Dummies by Shamash Alidina and Juliet Adams. If you've never heard of, or have limited knowledge of what "mindfulness" is, why it's effective, or the types of exercises that are mindful, I'd recommend this book. Simplified to the "for dummies" reader (that's me), it offers a good introduction to mindfulness focused on the work setting. Despite the focus, the techniques can be applied outside of the workplace, with benefits extending beyond the office. Give it a read, practice, and then drop me a line and let me know how you feel. Good luck!*



On a personal note, I'd also like to take this opportunity to thank those of you in the CITE family who were mindful of my family and I during our very difficult time after the birth of our son Sasha. I'm happy to report that he's doing awesome, Kai loves being a big brother, and Katrina is doing well, albeit slower than hoped, in her recovery. I'd also like to publicly express my personal gratitude for Sandy Rempel and Bruce Belmore for their many years of dedicated service to CITE. Thank you so very much!

The Technical Liaison Committee solicited for projects and volunteers at the beginning of the year and we had a number of people step forward who wanted to be involved, people who looked forward to working on a technical project with national scope. The TLC used the evaluation criteria (available here: www.cite7.org/tlc/documents/TLC_Application_Checklist.doc) to short-list projects and match volunteers with projects. The information was then submitted to the Executive and the Board for approval, which was granted for two projects in August. Here are the two of the projects that have just begun:

Robust Multi-Modal Trip Generation in Canada

This project outlines the need for, benefits of, and provides technical details on robust multi-modal trip generation data across Canada, and includes some or all of the following elements:

- Survey of practitioners regarding needs and areas for improvement in current data / methods
- Investigate the difference (if any) between Canadian and American trip generation rates for common land uses.
- Investigation of links to ITE international and/or Canadian data availability within the Trip Generation Manual data
 - Could this project result in a "Canadian Supplement" to trip generation manual?
 - Project should be careful not to discredit ITE Trip Generation Manual as a valuable source of information in Canada.
- Specifying methodologies for data collection (supplement to ITE Trip Generation Manual process)
- Specifying data elements to be included in surveys (modes, environmental conditions, site characteristics)
- Developing a survey template for use by professionals to contribute to the database as is done with the ITE Trip Generation Manual (template should also satisfy ITE requirements so that data can be submitted there as well)
- Identifying high priority land use types for initial surveys (for example, single family homes, apartments, Tim Hortons)
- Conducting initial trip generation surveys (perhaps using student chapters)
- Documenting above for use by professionals in Canada
- Specifying and constructing an open trip generation database for use by practitioners across Canada. (Including identifying an ongoing custodian of the database.)

Guidelines for the Installation of Turn Lanes at Driveways

The project will establish recommended warrants / justifications for installation of left- and right-turn auxiliary lanes, channelization, and tapers at development driveways.

Phase 1: Investigation - Research and synthesize current practice across Canada (using student members). The tasks in Phase 1 are to conduct an online survey and with targeted outreach, research the best and current practices, and to summarize the current Canadian documents.

Phase 2: Development Prepare and secure approval of Guideline. The content of the guideline would include:

- Introduction, Background and Use
- Rationale, Elements / Definitions, Typical Inputs
- Warrants / Guidelines
- Special Considerations (if any)
- Use of Warrant Tool (if appropriate)
- Appendices

With these two projects underway the TLC is working on starting up two additional projects: "A Review of Accessibility Experiences" and "Information Tool for Connected Vehicle Pilot Deployments" in the near future.



bunt
& associates

Our focus is
Transportation
Planning and
Engineering.

Our reputation
is everything.

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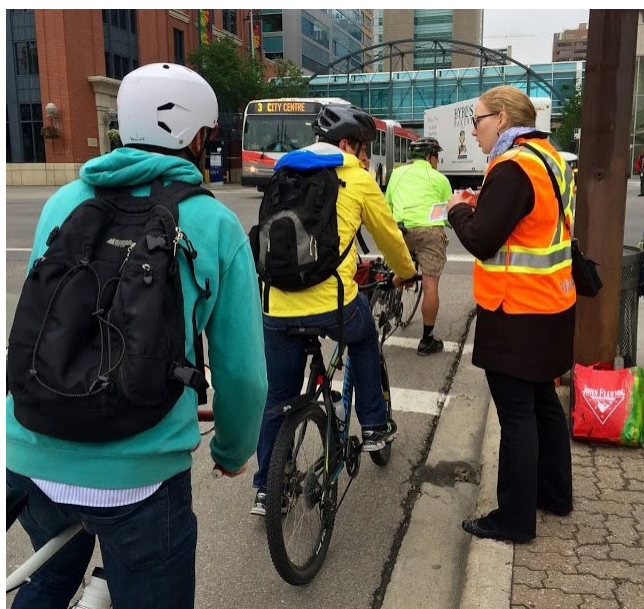
Project Fact Sheet...

Calgary Cycle Tracks

Contributors: Katherine Glowacz and Thomas Thivener

In June 2015, The City of Calgary launched a pilot cycle track project including new cycling routes on: 5 Street, 12 Avenue, and 8 Avenue / 9 Avenue.

www.calgary.ca/Transportation/TP/Pages/Cycling/Cycling-Route-Improvements/City-Centre-cycle-track-network.aspx?redirect=/cycletracks



Quick Facts

- Total new separated bike lanes is 5.5 km
- 28 intersections were impacted
- The budget for the pilot project is \$7.1M or about half of one per cent of the 2012-2014 Transportation budget.
- Over 100 staff were involved to plan, design and build the new lanes
- Number of bands who performed at the opening party: 4

Usage Stats

- Record daily cycling volume is 2214 on Thursday, June 25 on 5 St SW.
- 5 Street at the CPR underpass
 - 150,124 total trips
 - 1,482 weekday average (24 hour)
- 8 Ave West of 3 St SW
 - 72,857 total trips
 - 901 weekday average (24 hour)
- 12 Ave West of 2 St SW
 - 94,468 total trips
 - 895 weekday average (24 hour)

Why a Pilot Cycle Track Network?

- Same function and safety as permanent
- Less cost than installation of permanent, then removal
- Benefits of a connected network earlier
- Allows time to measure, analyze and report impacts
 - Motorists, transit users, pedestrians
 - Residents, merchants, offices workers
 - Parking, loading zones, access...
- Flexibility to remove or adjust cycle tracks based on actual operations

Lessons Learned

- Opening at the start of cycling season helps build usage and support
- Business and citizen advocacy group support was essential for project approval
- Cycle track ambassadors helped educate the changes to both cyclists and motorists with over 20,000 touchpoints with the public
- Daily counts (www.eco-public.com/ParcPublic/?id=4190) from ten new counters were made available online and will help with evaluating the project and gaining approval once the pilot period is over
- Finding new on-street parking spaces and creating angled parking opportunities helped offset the loss associated with the cycle tracks
- Adjust the project based on user feedback helped, including changing end treatments and re-introducing parking

The evaluation program will look at 80 different criteria under five themes and is 16 months long:

- Satisfaction
- Safety
- Walking, cycling, and auto activities
- Economic vitality
- Demographics



Walk, cycle or drive – we all move together.

Cycle Track Network



New road signs

- This sign indicates an on-street travel lane for the exclusive use of people on bicycles.
- When driving, you may turn across these lanes to access a laneway or parkade entrance or exit, after yielding to bicycles.

- This sign indicates which turn movements are allowed when cycling. In this example, right turns are prohibited.

- When driving, you must yield to people on bicycles before turning across a cycle track.

- This warning sign is placed at some alleys and side streets on roads with one-way vehicle traffic, reminding people there is two-way bicycle traffic.

- This sign indicates that only one-way vehicle traffic is allowed excepting bicycles, which may travel in the designated lanes in both directions.

- New bicycle signals have been installed at some intersections.
- When cycling, only go on a green signal. Going on red can result in a fine.



Come and meet a **Bicycle Ambassador**

calgary.ca | contact 311

THE CITY OF CALGARY

Forward / Providing more travel choices to improve overall mobility in Calgary's transportation system.

Cycle Track Safety Tips

have TWO options to turn left:

- A.** On 8 Ave red, enter the bicycle box
- B.** On 8 Ave green make a left turn, yielding to oncoming traffic and pedestrians
- C.** On 8 Ave green pull into the bicycle turn box, yielding to pedestrians
- On 5 St green, proceed through the intersection

Cars must stop behind the bicycle box

Find more safety tips at calgary.ca/cycletracks

calgary.ca | contact 311

THE CITY OF CALGARY



UPDATE

CITE invites all interested transportation professionals, including: planners, managers, educators, non-engineers and engineers, to participate in our annual meeting on **June 5-8, 2016 in Kelowna, BC**. Our 2016 Conference also coincides with the 20th anniversary of our host BC Interior Chapter, and we are using the opportunity to celebrate in grand fashion!

Our theme *Connecting Lifestyles* focuses on how we help to build resilient and sustainable communities, through connections and collaborations. To thrive, our communities must be connected – socially, economically, environmentally – with each other and globally. But this 'connectedness' must go beyond only physical (e.g. infrastructure) connections. Transportation professions must help re-establish a 'sense of community' in the minds of our residents and businesses, which is a critical first step to unleashing the power of collaboration to promote economic prosperity, environmental enhancement, and vibrant quality of life, for generations to come and sustainable communities.

There are many exciting successful initiatives underway by our colleagues that promote these connections and collaborations, and **CITE Kelowna 2016: Connecting Lifestyles** will provide a unique forum to share your successes and discover others for the benefit of all. Kelowna is one of Canada's key economic, political, educational, innovation, and vacation centers. We are also presented with growth and sustainability issues that will require further efforts in the transportation industry, with active sustainability, climate change, tourism, and economic community strategies. We welcome you to share your success stories on how your transportation initiatives are *Connecting Lifestyles*.

For more information, visit:
www.cite7.org/Kelowna2016/index.php



Important Dates

Tentative Abstract Approvals:	December 15, 2015
Full paper submission for conditional acceptance:	March 15, 2016
Grant of Copyright License:	March 15, 2016
Presentation Release:	March 15, 2016
Conditional Acceptance:	April 10, 2016
Submission of final paper for the Compendium:	April 24, 2016
Proof of Conference Registration:	May 8, 2016
Notification of presentation audio requirements (if any):	May 8, 2016
CITE Annual Meeting:	June 5-8, 2016



Save *the*
DATE!

Connecting Lifestyles



#CITE2016

www.facebook.com/CITE2016



www.cite7.org/Kelowna2016

All images courtesy of Tourism Kelowna

SECTION News

GREATER VANCOUVER

The previously postponed GVITE golf tournament took place on later in the summer this year.



The 14th Annual GVITE Golf tournament was held on Thursday, August 27, 2015 at the Burnaby Mountain Golf Course. The weather was great with over 20 golfers participating in the tournament and dinner, with many prizes given out. To add a bit of spin to the traditional golf tournament, a new trivia section was added with transportation-related questions asked at the end of every hole.

Aside from the golf tournament, there was one section meeting after the end of the summer term. On October 16th, Adrian Bell, the Manager of Transportation Demand Management at TransLink gave a breakfast presentation about "Contrasting perceptions and facts about safety in promoting active transportation". His



presentation primarily highlighted the roles of modal identities, antipathy, and fear as barriers to behaviour change in transportation. He also discussed his research on potential partnership proposals to develop a more respectful and equitable relationship between road users.

NORTHERN ALBERTA

Fall 2015 Luncheons

Our Northern Alberta ITE luncheon series starts in September and runs through to May, with luncheons scheduled on the first Wednesday of each month at the University of Alberta Faculty Club. In September we heard from Kieran Ryan, the founder of Edmonton's Pogo CarShare. He spoke about unique issues around setting up a carshare in Edmonton and gave us a preview of upcoming Pogo expansion plans. In October Shewkar Ibrahim from the City of Edmonton's Office of Traffic Safety presented to the group. Her interactive presentation focused on the City's Five-E approach to traffic safety. For November, we look forward to hearing from Antonio Loro, a Toronto-based consultant with expertise in autonomous vehicle technology and policy issues.



Photo Credit: Tim Lutic

Vibrant Communities Speaker Series

On September 21, the Northern Alberta ITE Section partnered with Urban Systems Ltd to host a Vibrant Communities Speaker Series presentation at the Yellowhead Brewery in downtown Edmonton. The presentation featured Darren Davis, a principal transportation planner from Auckland Transport in New Zealand. Darren explained Auckland's strategies for transit and cycling and offered a thoughtful comparison of the contexts Edmonton and Auckland. Following Darren's presentation, guests lingered to network and enjoy Yellowhead Brewery's great space.



Photo Credit: Tim Lutic

MANITOBA

After a summer break, the Manitoba section held its 6th Annual Golf Tournament on September 14th at the Pine Ridge Golf Club. Pine Ridge is one of the top 100 Canadian Golf Courses, although thankfully you don't have to be an elite player to enjoy the course, as many of us can attest! Thank you to all our sponsors and golfers for a successful fundraiser for our section.



Teeing off. Yes this is Winnipeg in September!



Celebrations after sinking another put.

We also had our first luncheon of the year at our usual haunt, the Roundtable in Winnipeg in mid-October. Scott Suderman, the City of Winnipeg's Transportation Facilities Planning Engineer presented on their Pedestrian and Cycling Strategy. The strategy maps out the vision for walking and cycling facilities over the next 20 years, which is sure to change the face of Winnipeg. The event was standing room only, attesting to the need and interest in growth of active transportation.

Going forward, the Manitoba section has luncheons planned monthly with more interesting topics brought forward by members of the section.

HAMILTON

On Oct 8 the Hamilton and area chapter held a luncheon which was followed by a presentation by Kamal Banger of the Ministry of Transportation, Ontario (MTO), and Chris Philp P. Eng. of CIMA+ regarding the MTO's Video Analytics Project. The project was undertaken in support of the Toronto Pan Am Games transportation management plan. Well over 40 members attended the event.



The presentation centered on product evaluation and the design / implementation of a video camera based incident detection system. The end use operation of the system by the MTO Unified Traffic Control Centre with respect to incident response and incident logging was also discussed.

Kamal Banger is a graduate of the University of Toronto in Urban Planning and has been with the MTO Traffic Office since 2011. Kamal is responsible for coordinating all roadwork closures within Central Region and is involved in a variety of data collection projects with a main focus of collecting highly accurate vehicle volume, speed, and vehicle length data. Kamal has evaluated various data collection technologies for their accuracies and implementation in Central Region.

Chris Philp, P.Eng., is an Associate Partner and Director of Transportation with CIMA+ and has over 25 years of experience in the private and public sectors, augmented by some well-rounded project management experience overseeing and directing multi-disciplinary project teams. Chris is an active Director on the Board for ITS Canada and is now their past Treasurer. Chris has undertaken a number of assignments involving the application and evaluation of ITS Technologies including smart work zones, queue warning systems, and the use of cameras systems to generate traffic data.



The members in the photo from left to right are: Past President Ed Switenky; Treasurer Brian Applebee; President David Wong; Vice President Manoj Dilwaria; Technical Liaison Rob Merritt; Secretary Sheeba Vasudevan. Absent from the photo is Student Liaison Sean Nix.

UNIVERSITY OF BRITISH COLUMBIA

YPT Event: Joe Di Placito on South Fraser Perimeter Road Project

In late September, several students from the ITE Student Chapter attended a guest lecture hosted by the Young Professionals in Transportation (YPT) Vancouver Chapter. The guest speaker was Joe Di Placito, PEng. Project Manager and Partner at Ram Engineering Ltd. and he shared his experiences of working on the newly completed South Fraser Perimeter Road, one of the largest recent transportation infrastructure projects in the Lower Mainland. Students gained a deeper understanding of public consultation after Mr. Di Placito touched upon challenges faced during the construction period. The UBC ITE Student Chapter is very grateful to YPT for hosting such an interesting and interactive event.



YPT Executive Member Alvin Tse, shaking hands with Joe Di Placito

UBC ITE Event: Geoffrey Ho on Road Safety and Tips on Beoming a Transportation Engineer

On Tuesday, October 6th, 2015, the UBC ITE chapter had the honour of having Mr. Geoffrey Ho, M.Eng., PEng. speak as a guest lecturer with an attendance of over 30 students. Drawing from his 25 years of experience in road safety and traffic engineering, Mr. Ho's informative lecture ranged from sharing some of his unique experiences in the field of road safety to basic job acquisition tips in civil engineering. He kept attendees engaged through discussions in various domains of transportation engineering and his honest suggestions and genuine remarks were appreciated by everyone. Moreover, interest in his lecture was evident when Mr. Ho was swamped with students, even after the lecture had ended.



Geoffrey Ho presenting at UBC

UNIVERSITY OF MANITOBA

The University of Manitoba ITE Student Chapter took a trip down south to Hollywood, FL for the ITE 2015 International Annual Meeting and Exhibits. Three students attended this event: Morgan Glasgow, Giuseppe Grande, and Steven Wood. These three young men took advantage of the outstanding opportunity to learn from and interact with some leading transportation professionals, and had a great time enjoying the wonderful sights and weather of summertime in Florida.

Morgan, Giuseppe, and Steve won the CITE Traffic Bowl in June, and had their sights set on bringing home international glory from the conference in Hollywood. In their first round bout they took on annual favourites Penn State University and University of Texas at Austin. A narrow victory saw them move on to the final wherein they met California Polytechnic State University San Luis Obispo and Purdue University. U of M put up a good fight, but fell short and finished second in the final. Congratulations to Cal Poly on their big win, and thanks to the



organizing committee for putting together a fun event for students and "fans" alike.

Once summer wound down and students made their way back to school, the U of M student chapter got back to work planning our own events. We started by co-hosting our annual ITE MB Golf Tournament on September 14th. The tournament took place at Pine Ridge Golf course for the second straight year on a beautiful afternoon. The tournament was a great success, with 28 golfers from industry all interacting and having a great day. The course is among the most well-kept in Canada and has many pretty sights, as well as many places



to lose a golf ball! The night was capped off with a delicious prime rib dinner. ITE is looking forward to continuing to hold this tournament in future years.

September is also the time of year where old makes way for new, and a new executive party is elected for the U of M ITE Student Chapter. This year saw a small tweak in the committee chairs as we combined our past social events and fundraising coordinators into one role, with community involvement and technical activities rounding out our group of three committees. After an exciting round of elections the results were in and the following members were appointed as the 2015-2016 executive and chairs: Giuseppe Grande (President), Jared Vanderwees (Vice President), Auja Ominski (Treasurer), Joel Penner (Secretary), Amanda Pushka (Social /



Fundraising Chair), Abby Scaletta (Community Involvement Chair), and Caleb Olfert (Technical Activities Chair).

Once our new core was established they quickly turned to creating their first few events. Last year, our student chapter took responsibility for the cleanliness of an 8 km stretch of highway through the Adopt-A-Highway program in Manitoba. This segment happens to be right next to Brady Landfill on the Southwest edge of the city, so luckily there's always a bunch of debris to pick up! Sunday, October 4th saw a group of eleven brave students march out to the south perimeter highway of Winnipeg for an afternoon of cleaning up the area surrounding the road. We managed to clean the entire south side of our 8 km segment. Our next event was a visit from



former student chapter member Rebecca Peteriak. Rebecca is currently working at Fireseeds North in Winnipeg and came to give our student members a talk about her pilot project using different technologies for in service site investigations.

While planning out the first handful of events, our executive and chairs got together one evening for our annual planning meeting to sort out the year of events to come. Many ideas were bounced around the group, with some highlights including a technical tour in Amsterdam, a potential bike share plan on campus, and using social media to reach out to more undergrad students. We're all really excited about the year to come, and you should be too! Check out what we're up to at our website: www.iteumanitoba.ca

UNIVERSITY OF WATERLOO

A message from President Sina Varamini:

As the new president, it is my honour to serve the chapter and work with a great team of students who help run this chapter with their outstanding volunteering work of organizing social events to gather our members in a fun environment outside the formal atmosphere of the university. We also hold seminars and ask professionals from different transportation related fields to introduce their projects and ongoing research to our members. These events provide students opportunities to expand their knowledge and also help us achieve our chapter goal which is to provide our chapter members the opportunity of balancing academic life and social interaction.

The University of Waterloo chapter had an excellent term which included some interesting presentations and some new

faces. UW-CITE first elected its new executive board, which includes some previous members in new positions as well as some newcomers. The transition from the previous board has gone smoothly due to the efforts of the returning members as well as the input of faculty advisor Professor Bruce Hellinga.

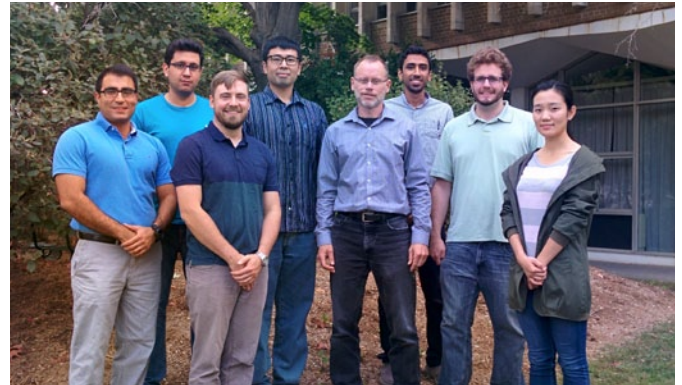
A representative of UW-CITE teamed with students from the University of British Columbia and from Ryerson University to compete in this year's Traffic Bowl Competition. Despite the obvious difficulties in arranging practice time, the group acquitted themselves well at the competition.

The first academic event of the term featured Bob Henderson from the Region of Waterloo to speak about Road Safety in the Region. Bob's presentation outlined the Region's philosophy for evidence-based decision making, when prioritizing potential projects within the Region. The presentation provided an interesting perspective on how municipalities approach the challenge which projects to invest in, and what their safety impact may be.

On behalf of the chapter, I would like to welcome Dr. Chris Bachmann who is the University of Waterloo's new Assistant Professor in Transportation. UW-CITE hosted a seminar by Dr. Bachmann which served as an introduction and showcased his research to our students. His seminar on Modelling Changing Global Trade Patterns and Their Local Transportation Impacts focused on how trade agreements such as Canada-Korea Free Trade Agreement (CKFTA), can have a significant impact on our transportation systems due to their impact on freight flows. Dr. Bachmann's research focuses on the intersection of the economy and transportation.



Dr. Chris Bachmann presenting an academic seminar to UW students



Executive board members 2015-2016 pictured with chapter advisor, Professor Bruce Hellinga



Matthew Harvey (Ryerson University), Bianca Popescu (University of British Columbia), and Jordan Hart-Bishop (University of Waterloo), competitors at Traffic Bowl

COMING EVENTS

NOVEMBER

20-25 CUTA Fall Conference – Montréal, QC
www.cutaactu.ca

2016

MAY

14-18 CUTA Annual Conference – Halifax, NS
www.cutaactu.ca

JUNE

5-8 Canadian Institute of Transportation Engineers – Kelowna, BC
www.cite7.org

OCTOBER

22-26 Canadian Parking Association Annual Conference & Trade Show – Ottawa, ON
www.canadianparking.ca

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Issue	Deadline	Distribution
Winter 2015/16	January 15, 2016	January 25, 2016

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