

JULY
2018

FORUMation

juillet
2018

Annual Conference 2018 Conférence annuelle June 3-6 juin Gatineau, Québec



Well! All good things must end.

The 53rd CTRF Annual Conference is now “chose du passé”. The participants, those that presented their research and those that attended to learn, came away with the satisfaction that the two and a half days of the conference was time well spent.

Pour ceux et celles qui ont travaillé à l'organisation de cette conférence, on peut dire “mission accomplie.” Tous les astres se sont alignés pour faire de la conférence un événement qui a permis de constater l'importance d'un tel Forum.

Since its inception more than 53 years ago, the CTRF has brought together transportation specialists wishing to submit their research to the scrutiny of their peers. It remains true today that discussing, questioning, and challenging at the Forum allows researchers to learn and improve their own work.

Parlons du travail du comité organisateur: à la fin de l'été 2016, ceux et celles qui ont formé cet comité ont accepté de se joindre au groupe, et de travailler à faire de cette conférence. Tous ceux et celles qui ont relevé le défi peuvent avoir la terre haute et se dire fier d'avoir contribué. Le travail d'équipe permet de déplacer des montagnes.

As usual at the final lunch we heard from the team established and ready to create the next conference, to be held in Vancouver next May. Just as those of us organizing the 2018 conference benefitted from advice from the 2017 organizing committee, the Vancouver team can rest assured that they can call on us to share the lessons learned.

It's not too early to think about registering for the 2019 conference! Think of how disappointed you would be to miss the annual professional interaction and camaraderie. Put it in your agenda.

Roger Roy,
Organizing Committee Chair, 2018 Annual Conference

Editor's Note:

Roger's report above compliments the other members of the organizing committee for their contributions, but they'd like it made clear that Roger's own effort was by far the most extensive and his leadership crucial. Thank you Roger!



Toute bonne chose a une fin!

La 53e conférence annuelle du GRTC est maintenant chose du passé. Les participants, autant ceux qui ont présenté leurs recherches que ceux qui ont assisté aux conférences, sont repartis avec la satisfaction que le temps passé durant les deux jours et demi de la conférence a été bien investi.

Pour ceux et celles qui ont travaillé à l'organisation de cette conférence, on peut dire "mission accomplie." Tous les astres se sont alignés pour faire de la conférence un événement qui a permis de constater l'importance d'un tel Forum.

Depuis sa création il y a plus de 53 ans, le GRTC a réuni des spécialistes en transport qui souhaitent soumettre leur recherche à l'appréciation de leurs pairs. C'est toujours vrai aujourd'hui que discuter et questionner au Forum permet aux chercheurs d'apprendre et d'améliorer leur propre travail.

Comme d'habitude lors du dernier déjeuner, l'équipe responsable d'organiser la prochaine conférence qui aura lieu à Vancouver en mai prochain a pu s'exprimer. Tout comme le comité organisateur de la conférence actuelle, qui a pu bénéficier des conseils du comité organisateur de 2017, l'équipe de Vancouver peut être certaine de pouvoir faire appel à nous pour partager les leçons apprises.

Il n'est pas trop tôt pour penser à s'inscrire à la conférence de 2019! Pensez à quel point vous seriez déçu de manquer cette chance de socialiser avec d'autres professionnels dans un esprit de camaraderie. Mettez-la à votre calendrier.

Roger Roy,
Responsable du comité organisateur de la conférence annuelle 2018

Note de l'éditeur:

Le rapport de Roger ci-dessus complimente les autres membres du comité organisateur pour leurs contributions, mais ces derniers aimeraient qu'il soit clair que les efforts de Roger étaient de loin les plus importants et que son leadership a été déterminant. Merci Roger!

The Future of Canada's Transportation System

Following last year's conference theme, which looked back at "150 Years of Canadian Transportation Progress", this year we looked ahead at "The Future of Canada's Transportation System". Each day started with a plenary session to examine a different facet of this theme. Monday's panel identified emerging trends and disruptive technologies across transportation. Tuesday's panel tackled infrastructure needs given these trends and technologies, while on Wednesday, another panel examined the data and analytics required to inform transport business and policy decisions.

Conference papers were delivered in 15 sessions on topics including E-Commerce, Autonomous Vehicles, Environment, and Methods & Models as well as some with a modal focus on Air, Ports & Marine, Rail, and Roads & Vehicles. Luncheon speakers also addressed the conference theme. On Monday, Ms. Thao Pham, Associate Deputy Minister at Transport Canada, presented the department's 2030 vision. And on Tuesday, the Honourable Dennis Dawson spoke about some of the legislative and regulatory considerations for autonomous and connected vehicles.

By all accounts, Monday's technical tours of Carleton University's Visualization and Simulation Centre and of the National Research Council's Testing Facilities were both interesting and informative. Following the tours, conference participants gathered at the historic Mill St. Brew Pub, nestled along the Ottawa River, for the Bison Transport Debate. In keeping with the conference theme, Adrian Lightstone and Trevor Hanson challenged three-time champions Mario Iacobacci and Bill Anderson on whether "the growing trend towards online shopping with home delivery will increase urban traffic congestion".

Despite some threatening weather, the companion program included forays into the Ottawa market area, the Governor General's grounds, and the historic village of Perth. The conference dinner was on a boat cruise, which set out from just behind Parliament Hill and then followed a former trading route down the Ottawa River ("Ottawa" is derived from the Algonquin word adawe, which means "to trade"). On behalf of the local organizing committee, I wish to recognize the assistance of many others with this year's program, including session chairs, panel moderators and speakers as well as volunteers. See you next year on the west coast!

Lawrence McKeown
Program Coordinator, 2018 Annual Conference

Le future du système de transport du Canada

À la suite du thème de la conférence de l'année dernière, qui portait sur les «150 ans de progrès dans le secteur des transports au Canada», cette année, nous nous sommes penchés sur «L'avenir du système de transport du Canada». Chaque journée a commencé par une séance plénière pour examiner une facette différente de ce thème. Le panel du lundi a identifié les tendances émergentes et les technologies perturbatrices dans les transports. Le panel du mardi a abordé les besoins en infrastructures compte tenu de ces tendances et des technologies tandis que mercredi, le panel a examiné les données et les analyses nécessaires pour documenter les décisions d'affaires et de politiques en transport.

Les sujets ont été présentés lors de 15 séances sur des thèmes tels que le commerce électronique, les véhicules autonomes, l'environnement et les méthodes et modèles. Certaines séances ont abordé le transport aérien, les ports et le transport maritime, le ferroviaire et les routes et véhicules. Les conférenciers durant les déjeuners ont également abordé le thème de la conférence. Lundi, Mme Thao Pham, sous-ministre déléguée à Transports Canada, a présenté la vision du ministère pour 2030. Mardi, l'honorable Dennis Dawson a parlé de certaines considérations législatives et réglementaires pour les véhicules autonomes et connectés.

Selon tous les témoignages, les visites techniques du lundi au Centre de visualisation et de simulation de l'Université Carleton et aux installations d'essai du Conseil national de recherches du Canada étaient à la fois intéressantes et instructives. Après les visites guidées, les participants à la conférence se sont réunis au pub Mill St., niché le long de la rivière des Outaouais, pour le débat Bison Transport. Conformément au thème de la conférence, Adrian Lightstone et Trevor Hanson ont défié Mario Iacobacci et Bill Anderson, trois fois champions en titre, au sujet de «la tendance croissante au magasinage en ligne avec livraison à domicile qui augmenterait la congestion du trafic urbain».

Malgré un temps menaçant, le programme des accompagnateurs comprenait des incursions au Marché d'Ottawa, à la propriété du gouverneur général et au village historique de Perth. Le dîner de la conférence avait lieu sur un bateau de croisière qui partait juste derrière la colline du Parlement et suivait l'ancienne route commerciale de la rivière des Outaouais («Outaouais» est dérivé du mot algonquin adawe, qui signifie «échanger»). Au nom du comité organisateur, j'aimerais souligner l'assistance de plusieurs autres personnes à l'organisation de la conférence cette année, y compris les présidents de séance, les modérateurs et les conférenciers ainsi que les bénévoles. Rendez-vous l'année prochaine sur la côte ouest!

Lawrence McKeown
Coordonnateur de la programmation de la conférence annuelle 2018



Program Coordinator Larry McKeown and Conference Organizer Sandi London with the Statistics Canada team of volunteers – Aya Hagag, Maisie Karam, Matthew Olsheskie, David Evans and Allison Pratt – who helped staff the registration desk.

Coordonnateur du programme Larry McKeown et l'organisatrice de la conférence Sandi London avec les bénévoles de Statistique Canada – Aya Hagag, Maisie Karam, Matthew Olsheskie, David Evans et Allison Pratt – qui se sont occupés de l'accueil.

— President's Message —



The just-completed CTRF 53rd annual conference in Gatineau was a success, with 129 participants and 7 companions – and appeared to be enjoyed by all. The three plenary sessions; one on modal developments, one on infrastructure and one on data and analytics; were informative, stimulating and well received. The Bison Transport Debate was as entertaining as ever, on the subject of online shopping causing road congestion, and was won by the team of Adrian Lightstone and Trevor Hanson. On the Tuesday evening the weather held so we could enjoy a dinner/boat cruise along the Ottawa River with views of downtown Ottawa and Gatineau: Gerry Kolaitis was also presented a well-earned Honourary Life Membership in CTRF during the boat cruise.

This year's conference would not have been possible without the considerable dedication and contribution of many CTRF members, including in particular Roger Roy, Larry McKeown, Sandi London, Gordon and Marlene Baldwin, and John and Alison Lawson: thanks also to the volunteers from Statistics Canada who staffed the registration desk. On behalf of the CTRF, thank you.

Thanks are also in order for the many conference sponsors without whose financial contributions CTRF could not continue to hold the conference and provide awards to students. In particular, VIA Rail provided a \$5,000 certificate for travel over the next two years, and CTRF decided to hold a silent auction for the certificate during the course of the conference which raised \$1,600 to be used to further education opportunities.

The Annual Conference, and the Annual General Meeting (AGM) in particular, also marks a time of transition. I wish to thank Marc-André Roy, Barry Prentice, Matthew Roorda, Christopher Higgins, and Philip Cartwright for their service to CTRF over the last few years. As new board members, we are welcoming Garland Chow, Phil Davies, Joel Carlson, Glareh Amirjamshidi and Patty Toner. They will no doubt bring new perspectives and energy to the organization – which is volunteer run – and I look forward to working with each of them.

Planning is already underway for the 2019 annual conference, which will take place May 26-29, at the Pinnacle Hotel Harbourfront in Vancouver, British Columbia. Mark your calendars. There will be plenty to discuss with respect to the new Transportation Modernization Act and its impacts, as well as the results of several transport-related reviews currently being undertaken by the federal government.

It continues to be an interesting time in transportation research. I welcome your thoughts and suggestions on how CTRF could be of most value to you. I can be reached by email at malcolmbcairns@gmail.com.

M. B. Cairns

Malcolm Cairns
CTRF President

— Message du Président —

La 53e conférence annuelle du GRTC qui vient de se terminer à Gatineau a été un succès, avec 129 participants et 7 accompagnateurs. Elle a semblé être appréciée de tous. Les trois séances plénières sur les développements modaux, sur l'infrastructure et sur les données et l'analyse étaient instructives, stimulantes et ont été bien reçues. Le débat Bison Transport a été plus divertissant que jamais et a porté sur la congestion routière causée par les achats en ligne. Le débat a été remporté par l'équipe d'Adrian Lightstone et Trevor Hanson. Mardi soir, la température était au rendez-vous pour le dîner-croisière sur la rivière des Outaouais avec vue sur les centres-villes d'Ottawa et de Gatineau. Gerry Kolaitis a également reçu une adhésion honorifique bien méritée à vie au GRTC durant la croisière.

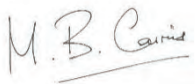
La conférence de cette année n'aurait pas été possible sans le dévouement et la contribution considérables de nombreux membres du GRTC, notamment Roger Roy, Larry McKeown, Sandi London, Gordon et Marlene Baldwin, ainsi que John et Alison Lawson. Merci également aux bénévoles de Statistique Canada qui se sont occupés de la table d'accueil. Au nom du GRTC, merci.

Des remerciements sont également adressés aux nombreux commanditaires de la conférence. Sans leurs contributions financières, le GRTC n'aurait pas pu organiser la conférence et décerner des prix aux étudiants. En particulier, VIA Rail a fourni un certificat de voyages de 5 000 \$ pouvant être utilisé au cours des deux prochaines années et le GRTC a tenu une enchère silencieuse pour le certificat pendant la conférence, ce qui a permis d'amasser 1 600 \$.

La conférence annuelle, et l'assemblée générale annuelle (AGA) en particulier, marquent également une période de transition. Je tiens à remercier Marc-André Roy, Barry Prentice, Matthew Roorda, Christopher Higgins et Philip Cartwright pour leur service au GRTC au cours des dernières années. En tant que nouveaux membres, nous accueillons Garland Chow, Phil Davies, Joel Carlson, Glareh Amirjamshidi et Patty Toner. Ils apporteront sans aucun doute de nouvelles perspectives et de l'énergie à l'organisation, qui est dirigée par des bénévoles. J'ai hâte de travailler avec chacun d'entre eux.

La planification est déjà en cours pour la conférence annuelle de 2019 qui aura lieu du 26 au 29 mai au Pinnacle Hotel Harbourfront à Vancouver, en Colombie-Britannique. Marquez vos calendriers. Il y aura beaucoup de sujets à discuter à propos de la nouvelle Loi sur la modernisation du transport et de ses répercussions, ainsi que des résultats de plusieurs examens liés aux transports qui sont actuellement entrepris par le gouvernement fédéral.

C'est une période toujours intéressante pour la recherche sur les transports. Je suis ouvert à entendre vos idées et suggestions sur la façon dont le GRTC pourrait vous être utile. Je peux être joint par courriel à malcolmbcairns@gmail.com.



Malcolm Cairns,
Président du GRTC

Plenary Session
The Future of Canada's Transportation System — Modal Perspectives
June 4, 2018
Report by Jim Frost



Moderator: Marc-André Roy, CPCS

Mr. Roy provided some historical perspective over the past 100-150 years and noted the pace of change has increased in recent years. He also suggested the “users are the winners”.

Panelist: Jim Athanasiou – V.P., St. Lawrence Seaway Management Corporation

Mr. Athanasiou provided a basic overview of the Seaway and its importance to the Canadian and Great Lakes Region economy, which, if it was a country, would have the 3rd highest GDP in the World.

Amongst other initiatives, the Seaway is focussed on leveraging technology, such as: 1) vessel self-spotting; 2) remote operation of locks; 3) marine security; 4) hands-free mooring (HFM); and 5) 3D navigation.

Mooring vessels was very labour intensive; Seaway management tested five iterations before choosing an appropriate solution. It is operated from two control centres, one in Welland and one in St. Lambert. The new system recently won an award from the OECD for the most promising technology in transportation.

New initiatives include e-shipping, which will automate many processes, eliminate duplication and streamline vessel scheduling. This will not mean job losses, just transformation of jobs.

Panelist: Pierre Loyer – V.P. Aeroports de Montreal

Mr. Loyer provided a brief overview of the airline industry, which has doubled in just the last 10 years. In the case of Montreal airport, it generates 74,000 jobs and \$7.9B of GDP; it is ranked #3 in Canada behind Toronto and Vancouver, although it is #1 in the percentage of international flights.

Airports are changing and Montreal is no exception. They were once just basic infrastructure but have become shopping centres.

In Mr. Loyer's view, the Canadian model for managing airports has reached the end of its useful life. Last year, \$60M in “rent” was transferred to the federal government. The Canadian model does not permit private equity investment. They raise money for developing their infrastructure through AIF's and raising debt. It is the only such system in the World.

Nonetheless, Aeroports de Montreal is embarking upon a \$2.5B expansion. Their planning horizon is 40 years and they are considering the impact of autonomous vehicles and “soundscape” management.

Panelist: Gerald Gauthier – Railway Association of Canada

Mr. Gauthier provided an overview of future trends for Canadian railways. The rail-based supply chain is significant and there is a distinct correlation between investment and productivity.

There are 6 Class 1 railways and 50 short lines operating in Canada. Between 2007-2016, they have collectively invested \$32B in their networks. In 2018, they plan to spend \$4B, or about 20% of their revenues.

Mr. Gauthier described the various elements which are required to support growth, which include regulatory stability, competition, and a market-driven focus. The industry needs a clear trade agenda, as well as programs and policies to support investments e.g. grain and the MRA. In this respect Bill C-49 will lift a restriction on investment.

With respect to short lines, they invest about 12% of their revenues, but wages and profits are very low and they could use some assistance and policies to address some of their issues.

Of particular concern to the RAC are safety issues with respect to: 1) human factors; 2) a “safety culture”; 3) local voice video recording (LVVR); 4) cannabis; 5) fatigue.

Questions:

Panelists were asked what the single biggest disrupter in their industry is likely to be. Mr. Roy provided some examples, which included: automation of cars and ships; truck platooning; Google Maps and route planning; the sharing economy i.e. car sharing; UBER and Lyft; cargomatic / convoys; Amazon Prime Air; elevated buses; stackable city cars; hyperloops; blimps / air ships; 3D printing; home offices; Google Translations; virtual reality; Skype / Go to Meeting.

It was also suggested that market volatility is the new reality, as is public resistance to efforts to build “national” infrastructure like pipelines. NAFTA negotiations and the “Trump effect” were considered to be short term phenomena.

Panelists suggested that automated technology will have an impact on ships and the operation of locks. AI will be a disrupter at airports, as will e-commerce and global warming e.g. taking off and landing. The location of major transportation facilities and their close proximity to urban areas is increasingly a concern, as is the interoperability (or lack thereof) of various transportation networks eg. REM in Montreal.



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Secretary: Carole Ann Woudsma • cawoudsma@ctrf.ca

Keynote Speaker: Thao Pham — Associate Deputy Minister, Transport Canada

June 4, 2018

Report by Jim Frost



Ms. Pham replaced Helena Borges who has retired.

She discussed three items:

1. The Global Economy
2. The Environment
3. Technology

The three main trade initiatives include NAFTA renewal, CETA and CTPP. It is Transport Canada's (TC) view that Canada needs to be agile to be competitive.

With respect to Technology, TC is considering 1) mobility; 2) automation; 3) connectivity; 4) improving safety and efficiency; and 5) allowing and encouraging innovation.

Transportation 2030 is TC's strategic plan for the future of transportation in Canada, looking out 20-30 years. It wants to build a safe, secure, green, and innovative transportation system. The Department has five priorities: 1) trade expansion; 2) safety; 3) green; 4) innovative; 5) maintaining and enhancing trade corridors.

With respect to the Trade and Transportation Corridors initiative, a number of projects have already been announced and a new round is now open for applications. It is also TC's intention to dedicate part of the fund to the North.

TC is also developing a \$50M Trade and Transportation Data system, along with Statistics Canada and the CTA. It is initiating a dialogue between the users and collectors of data with the view that better data will help optimize infrastructure.

TC has also established an Innovation Centre and presently hiring 30 young people to staff it.

Transport Canada continues to welcome the opportunity to collaborate with industry stakeholders and academia.



23rd Bison Transport Debate

This House Resolves That The Growing Trend Towards Online Shopping With Home Delivery Will Increase Urban Traffic Congestion

Report by Mark Hemmes

The incumbents; Mario Iacobacci and Bill Anderson, debaters for the third-year running, lost the traditional coin toss and argued against the resolution. The challengers Adrian Lightstone and Trevor Hanson defended the position. Barry Prentice once again served as moderator and Malcolm Cairns as timekeeper.

Mario argued the antithesis suggesting the demise of major chain department and retail stores has left shopping malls empty and that the trade off from reduced shoppers would balance against the increase in courier trucks.



Trevor's rebuttal pointed to a developed road and expressway network that was already congested and that the increase in online shopping will only contribute to this congestion, with everyone shopping for groceries and household items; such as bowties for cats.

The always eloquent Bill Anderson began his rebuttal by stating the defending team were suggesting that all change was bad. He took the audience back to a time when people would have milk delivered to their home and that milkmen in his generation were very important people. He compared the delivery of online shopping items to public transit for goods. Further, he raised the lunch time buffet as an example, likening it to people individually shopping for goods, as

opposed to a restaurant setting where food is delivered to the table. The buffet system creates more congestion.

When the vote took place, the audience stood to pick the winners and the choice was clear. The challengers won the debate pushing the incumbents from the throne they have held for so long. We look forward to Adrian and Trevor defending their title next year in Vancouver!

Plenary Session
The Future of Canada's Transportation System — Infrastructure Needs
June 5, 2018
Report by Robin Lindsey

Moderator: Gregory Peterson, Statistics Canada

Panelist: Yves Desjardins-Siciliano, President VIA Rail

Mr. Desjardins-Siciliano described the challenges that VIA Rail has faced as well as its recent successes. VIA Rail has had lean years in which it lacked funds to prevent its rolling stock from deteriorating. Maintaining reliable service has been difficult because most service is provided on freight track. Nevertheless, service has been getting better and ridership has increased year-by-year since 2014. Employee engagement has also improved from 46% in 2011 to 62% in 2017. VIA is dedicated to providing customer service, and customer satisfaction ratings have increased from 39.8% in 2014 to 51.7% in 2017.

VIA Rail's goal is to grow its business. To accomplish this, its long-term strategy comprises several components: to emphasize intermodality and inter-operability, to become self-financing, to acquire dedicated infrastructure, and to replace its aging fleet. In April 2018, VIA Rail began to replace all 200 components of its fleet. A decision on dedication is expected in the fall of 2018. Funding sources for the infrastructure have yet to be decided.

Panelist: Marc Fortin, Assistant Deputy Minister, Infrastructure Canada

Mr. Fortin spoke about the role of infrastructure for enabling transport in Canada and strengthening the economy. Much of the infrastructure is owned by businesses and municipalities and there is a need for cooperation between various organizations. Mr. Fortin described various established and new funding sources for infrastructure:

- existing legacy programs including the gas tax fund, the GST rebate and the New Building Canada Fund
- the Investing in Canada plan to spend \$180 billion over the next 12 years
- the Canada Infrastructure Bank mandate to allocate \$35 billion over the next 11 years
- the recent Smart Cities Challenge program to fund innovative ideas in urban communities

Mr. Fortin also mentioned Integrated Bilateral Agreements with provinces and territories, and the 2016 and 2017 budgets to provide funding for public transport, water and other projects. Infrastructure Canada is currently working on the Gordie Howe International Bridge and the Champlain Bridge.

The number of commuters taking public transit grew by nearly 60% from 1996 to 2016. Funding public transit is considered a priority but it is proving to be a challenge because of rising operating costs and changing usage patterns. Infrastructure Canada is committed to transparency and reporting, and details about the various projects are available on its website.

Panelist: Sarah Wells, Executive Director, Transportation Association of Canada

Dr. Wells began her presentation by reviewing the history of major transportation investments in Canada including the Last Spike and the Trans-Canada Highway. She then turned to the role of the Transportation Association of Canada (TAC) and the major priorities that concern it. She focused on two priorities of particular current importance: technology and the environment.

Technology is advancing rapidly and affecting both the demand and supply of transport. Of particular note are Autonomous Vehicles and Connected Vehicles which have the potential to deliver major benefits. By maintaining short headways and traveling in platoons, Autonomous Vehicles can make more efficient use of road space. They could also greatly reduce the need for parking space. Connected Vehicles can enhance operational efficiency and safety using communications between vehicles and between vehicles and infrastructure.

The natural environment in which transportation takes place is being affected by climate change. Stationary conditions no longer exist for temperature, precipitation, water levels, or storm frequency and intensity. Current infrastructure design standards are dated and will need to be overhauled to make infrastructure more resilient.

Mario Iacobacci, Partner, Economics & Asset Advisory, Deloitte

Mr. Iacobacci talked about the business case for major public infrastructure projects. He organized his talk around two questions: Is money being spent on the best projects? How are choices made? Benefit-cost analysis is a standard approach for evaluating whether projects are worthwhile. Some projects are assessed using a Multiple-Account Evaluation framework which is more comprehensive than benefit-cost analysis. Metrolinx in Toronto uses a four-step approach comprising four cases: Strategic, Economic, Financial and Deliverability & Operations. Much of the benefits from public infrastructure projects are intangible. This makes assessments of them challenging, and also means that they generally run a deficit.

Mr. Iacobacci focused the second part of his talk on large public transit projects that have been implemented in the last 10 years. Montreal had 3 projects. Benefit-cost analyses were conducted for them, but the analyses are not publicly available. Toronto had a number of projects. Some yielded a benefit-to-cost ratio greater than one, and others a ratio less than one. Vancouver had five projects. Of the four for which a public cost-benefit analysis exists, three had a benefit-to-cost ratio over 1.

In conclusion, Mr. Iacobacci indicated that progress has been made in project delivery and that Canada is now a world leader in this regard. However, more progress is needed in project development, conception and selection.

Summary

Following the presentations the moderator, **Gregory Peterson**, asked the panelists what they considered to be the most pressing infrastructure challenges. **Yves Desjardins-Siciliano** thought that providing value for users and the general community should take priority over profit for private entities. **Marc Fortin** argued that government should be active not only in funding but also project oversight. **Sarah Wells** identified building in flexibility as of overriding importance. **Mario Iacobacci** suggested project prioritization and the need to determine what the provinces should do and what the federal government should do.



Keynote Speaker: The Honourable Dennis Dawson, Senator Technology and the Future of the Automated Vehicle Report by Lawrence McKeown

At Tuesday's luncheon, the Honourable Dennis Dawson delivered a lively talk on autonomous (AVs) and connected vehicles (CVs). The Senate Standing Committee on Communications and Transportation was asked by Transport Minister Garneau to examine the legislative and regulatory framework for AVs and CVs. As the former Committee chair, Senator Dawson helped prepare the final report – Driving Change: Technology and the future of the automated vehicle – released in January.



In an animated and entertaining fashion, the Senator pointed to some larger issues concerning AVs before delving into specifics from the report. Like the current Senate review of the cannabis legislation, it is a shared federal and provincial responsibility. With motor vehicles, the federal government is responsible for safety and regulatory standards while the provinces are responsible for use and compliance. Within the federal government itself, some agencies such as Innovation Canada have the “foot on the gas” promoting AV technology and testing while others such as Transport Canada have the “foot on the brake” being responsible for safety and other regulatory matters.

While many expect the initial application to be in closed environments, the Senator asserted that “it is already happening” with AVs now operating in mine sites and even delivering pizzas to university dorms in the U.S. He feels that new digital technology companies “do not play by the old rules” as did the big 3 auto makers. As such, governments have to be ready for the onslaught of AV algorithms and need to start looking at an array of policy issues. For its report, the Senate heard from 78 witnesses during 30 meetings and received numerous briefs as well as embarked on fact finding missions to the University of Alberta’s Centre for Smart Transportation and elsewhere.

The report identifies several challenges including employment, liability, security, privacy concerns and infrastructure. There is a need to prepare for a labour market adjustment with drivers and transport equipment operators. In term of liability, there is a need to revisit the fundamentals of auto insurance, and unlike previous innovations such as airbags, we do not have the luxury of time. Also, AVs and CVs will require enormous amounts of data to be transmitted, either between vehicles (V2V) or with sensory devices or infrastructure (V2I). This raises questions of cybersecurity as well as privacy concerns, particularly given recent data breaches.

Finally, the Senator pointed to the challenge of infrastructure. Indeed, earlier in the day Dr. Sarah Wells (Executive Director of TAC) noted that much of Canada’s roads and bridges are not designed for the weight and reduced distances of truck platooning. On the plus side, the Senator views AVs as potentially more benign environmentally and certainly safer given the human factor in collisions, thus reducing deaths and injuries. While the Senator expects many of the issues to be resolved with the eventual widespread application of AVs, he views real challenges during the transition with a mix of AVs and non-AVs on our roads.



40TH AUSTRALASIAN TRANSPORT RESEARCH FORUM

Oct 30 – Nov 1, 2018

Darwin Convention Centre

Darwin, Northern Territory, Australia

www.atrfdarwin2018.com.au/

The ATRF is the principal transport research conference in Australia and New Zealand. It brings together transport researchers, policymakers, advisors and practitioners from a range of disciplines to share and build upon the latest research and thinking. The conference is held in a different location each year.

***54th Annual Conference of the
Canadian Transportation Research Forum
May 26-29, 2019
Pinnacle Harbourfront Hotel, Vancouver, BC***

The 2019 conference of the Canadian Transportation Research Forum will be held on May 26-29 at the Pinnacle Harbourfront Hotel (<http://www.pinnacleharbourfronthotel.com/>) in the Coal Harbour neighbourhood of downtown Vancouver. Conference guest room rates will be offered from May 23 through May 31. Reservations can be made directly by phoning: 1-844-337-3118 or 604-689-9211. An online booking link and group code will be made available later this year.

The Pinnacle Harbourfront Hotel is readily accessible from YVR airport by taxi, or by taking the Canada Line light rail line to Waterfront Station. The Pinnacle is just two blocks from the Seawall and the Vancouver Convention Centre, and close to the Canada Place Cruise Ship Terminal. It is also within walking distance of Stanley Park, Gastown, the Granville Street District and numerous stores and restaurants. The Pinnacle will offer complimentary internet service in guestrooms and meeting space, and complimentary use of bicycles for guests. Since 2016, Vancouver has also operated a bikeshare program, Mobi by Shaw Go, which provides convenient short-term bicycle rentals. In late May, the weather in Vancouver is generally good with an average daily high about 18° C.



PINNACLE HARBOURFRONT HOTEL



The theme of the 2019 conference will be decided early in the fall. In light of Vancouver's role as a gateway and important seaport, all major modes of transportation will be featured prominently. Similar to the 2018 conference in Gatineau, the 2019 conference will be forward looking. Among the topics we hope to feature are challenges with international trade, regulatory procedures for approving pipelines and other infrastructure projects, mobility pricing, green shipping, airships, autonomous vehicles, drones and the implications of climate change for transportation.

Preparation for technical tours is underway. The Bison Transport debate, a conference dinner, a Companions Program and other traditional highlights of CTRF conferences will also be organized. As planning progresses, more information will be posted on the CTRF website (www.ctrf.ca).

**54e Conférence annuelle du
Groupe de recherche sur les transports au Canada
26 au 29 mai 2019
Pinnacle Harbourfront Hotel, Vancouver, CB**

La conférence 2019 du Groupe de recherche sur les transports au Canada aura lieu du 26 au 29 mai à l'hôtel Pinnacle Harbourfront (<http://www.pinnacleharbourfronthotel.com/>), dans le quartier de Coal Harbour, au centre-ville de Vancouver. Les tarifs de groupe seront offerts du 23 mai au 31 mai. Les réservations peuvent être faites directement en téléphonant au 1-844-337-3118 ou au 604-689-9211. Un lien pour la réservation en ligne et un code de groupe seront disponibles plus tard cette année.



Le Pinnacle Harbourfront Hotel est facilement accessible depuis l'aéroport YVR en taxi ou en prenant la ligne de métro Canada Line jusqu'à la station Waterfront. Le Pinnacle est à seulement deux pâtés de maisons du Seawall et du Vancouver Convention Centre et à proximité du terminal des navires de croisière Canada Place. Il est également à distance de marche de Stanley Park, Gastown, le quartier Granville Street et de nombreux magasins et restaurants. Le Pinnacle offrira une connection internet gratuite dans les chambres et les espaces réservés à la conférence, et l'utilisation gratuite de vélos. Depuis 2016, Vancouver a mis en place un programme de location de vélos partagés, Mobi, de Shaw Go, qui offre des locations de bicyclettes à court terme. À la fin mai, le temps à Vancouver est généralement beau, avec une moyenne quotidienne d'environ 18 ° C.

L'HÔTEL PINNACLE HARBOURFRONT



Le thème de la conférence de 2019 sera décidé au début de l'automne. À la lumière du rôle de Vancouver comme porte d'entrée et important port maritime, tous les principaux modes de transport seront mis en évidence. À l'instar de la conférence de 2018 à Gatineau, la conférence de 2019 sera tournée vers l'avenir. Parmi les sujets que nous espérons aborder, citons les défis du commerce international, les procédures réglementaires d'approbation des oléoducs et autres projets d'infrastructure, les coûts de la mobilité, la navigation verte, les dirigeables, les véhicules autonomes, les drones et les implications des changements climatiques.

La préparation des visites techniques est en cours. Le débat Bison Transport, un dîner de conférence, un programme pour les accompagnateurs et d'autres incontournables traditionnels des conférences du GRTC seront également organisés. Au fur et à mesure que la planification progressera, d'autres informations seront affichées sur le site Web du GRTC (www.ctrf.ca).

***Congratulations to Dr. Barry Prentice
Winner of the CanInfra Challenge People's Choice Award***

The People's Choice winner, selected by public online voting, was awarded \$25,000: "Electric Airship Transportation System" envisions building a hydrogen-powered cargo airship serving Canada's northern communities.

More information here: <https://www.caninfra.ca/electric-airship-transportation-system>

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CTRF Scholarship Competition Recipients 2018-2019

CN Scholarship

Iman Ashtiani, Concordia University

Transport Canada Scholarship in Economics, Efficiency and Competitiveness in Transportation

Nazmul Khan, Dalhousie University

Transport Canada Scholarship in Safety and Security

David Copp, University of New Brunswick

Transport Canada Scholarship in Safety and Security

Seiran Heshami, University of Calgary

Transport Canada Scholarship in Sustainable Transportation

Mehdi Jourabchi, Wilfrid Laurier University

CTRF wishes to thank the supporters of the current scholarship program, without whom these awards would not be possible. They include: CN, Transport Canada and other corporate and individual contributors. Thank you.

Conference Paper Winners 2018 Annual Conference

The Ron Rice Award for the Best Conference Paper (\$1000)

Desai Shan

Work-related Mobility and Fatigue on the Great Lakes and St. Lawrence River: Canadian Seafarers' Experiences

Runner up Paper (\$500)

Justin Tyndall

Light Rail (Dis)Placement: Neighbourhood Choice, Transit and Labour Market Outcomes

Runner up Paper (\$250)

Gordon Baldwin

The Future of Canada's Transportation System: Has Canada Learnt from Outbreaks such as SARS, Ebola, H1N1 and MERS



Malcolm Cairns presenting awards to Desai Shan, Justin Tyndall, and Gord Baldwin

Thank you to our Sponsors - Merci à nos commanitaires



Merci ~ Thank you