THE OFFICIAL NEWSLETTER OF THE CANADIAN ASSOCIATION OF ROAD SAFETY PROFESSIONALS/
LE BULLETIN OFFICIEL DE L'ASSOCIATION CANADIENNE DES PROFESSIONALS DE LA SÉCURITÉ ROUTIÈRE

The Safety Network/ Le Réseau-Sécurité

CARSP ACPSER
Canadian Association of Road Safety Professionals
L'Association canadienne des professionnels de la sécurité routière

Issue 3 2018 – CARSP Conference Highlights

IN THIS ISSUE

Editorial

The 2018 edition of our annual conference has been memorable for me in many ways. First, we brought together one of our largest audiences, with 270 delegates from Canada and abroad and a record number of papers presented. This long-term effort could not have been accomplished without our local partner: Road Safety BC. I would especially like to thank Erin Anderson and her team who have been invaluable and without whom this conference could not have taken place. I would also like to thank our tireless Brenda Suggett for coordinating several important elements that make our conference a success year after year. I also thank all the members of my organizing committee, who have been dedicated to our conference month after month to offer participants a high-quality program and a seamless logistics organization. Finally, a big thank you to our sponsors and various exhibitors who helped make this event a success.

The programming of this annual conference was very much in line with this year's theme, which was *Next Generation Transportation: The Future of Road Safety*. Our guest speakers both inspired participants with their speeches. Todd Litman reminded us of the importance of seeing collisions and road injuries in a system where sustainable and safe mobility should be inseparable from our transportation actions. Bella Dinh-Zarr emphasized the importance of telling a story that resonates with the public to convey our safety messages. In this age of social networks, these two points of view set the table for three days of highly rewarding exchange and learning. In addition to the 24 sessions where participants were able to attend presentations on various themes, all three panels covered topics of current interest in Canada (the legalization of cannabis) in British Columbia (speed and its impact when increased), and in Victoria and elsewhere in the country (bicycle road safety and urban cycling infrastructures). All panellists were able to provide their perspective on what to expect as road safety professionals in the coming years if we are to continue to reduce the burden of road accidents. If you missed these fascinating discussions, note that all the videos of the panels will be online on our website in the coming months. Stay tuned!

Finally, on a more personal note, this congress was for me a step closer to the presidency of our association, and the completion of a year devoted to research on the West Coast. I am honoured by the confidence that our Board gives me and I take over from our current president and past presidents with my head full of ideas and renewed energy to offer you even more as members of our Association. I will not be alone in this adventure, I can count on a vice-president even younger than me (thank you Alex Nolet for taking up the challenge!) and a Board with (almost) parity between men and women (my little pride already!), and with all types of expertise from across Canada. I look forward to seeing you again in Calgary next year for our 29th Congress on the theme of *Vision Zero*. In the meantime, whether you are pedestrians, cyclists, motorists or users of all other modes of transportation, continue to advance road safety in your community. Future generations thank you in advance!

Marie-Soleil Cloutier
President, CARSP
Associate Professor, Institut National de la Recherche Scientifique

Éditorial

L'édition 2018 de notre conférence annuelle a été marquante pour moi de plusieurs façons. Tout d'abord, nous y avons réuni une de nos plus grandes assistances, avec 270 délégués provenant du Canada et de l'étranger et un nombre record de présentations. Ce travail de longue haleine n'aurait pas pu être accompli sans notre partenaire local : Road Safety BC. Je voudrais remercier tout spécialement Erin Anderson et son équipe qui ont été d'une aide inestimable et sans qui cette conférence n'aurait pu avoir lieu. Je voudrais aussi remercier notre infatigable Brenda Suggett pour la coordination de plusieurs éléments importants qui font de notre congrès une réussite année après année. J'adresse également mes remerciements à tous les membres de mon comité organisateur, qui ont été fidèles au poste mois après mois pour offrir aux participants un programme de qualité et une organisation logistique sans faille. Finalement, un grand merci à nos commanditaires et aux différents exposants, qui ont contribué à faire de cet événement une réussite.

La programmation de ce congrès annuel était tout à fait en phase avec le thème de cette année qui était sur le futur de la sécurité routière dans les transports de l'avenir. Nos conférenciers ont tous les deux su inspirer les participants avec leurs discours. Todd Litman nous a rappelé l'importance de voir les collisions et les blessés de la route dans un système où la mobilité durable et sécuritaire devrait être indissociable de nos actions en transport. Bella Dinh-Zarr a insisté sur l'importance de raconter une histoire qui résonne auprès de la population pour faire passer nos messages de sécurité. En cette ère des réseaux sociaux, ces deux points de vue ont mis la table pour trois jours d'échanges et d'apprentissage des plus enrichissants. En plus des 24 sessions où les participants ont pu assister à des présentations de tous les horizons, les trois panels ont couvert tout autant de sujets d'actualité au Canada (la légalisation du cannabis), en Colombie-Britannique (la vitesse et l'effet de son augmentation sur le réseau), et à Victoria (et ailleurs au pays : la sécurité routière à vélo et les aménagements cyclables urbains). Tous les panélistes ont su apporter leur point de vue sur ce qui nous attend en tant que professionnels de la sécurité routière dans les prochaines années si nous voulons continuer de réduire le fardeau des accidents de la route. Si vous avez manqué ces discussions passionnantes, notez que tous les vidéos des panels seront en ligne sur notre site web dans les prochains mois.

Finalement, sur une note plus personnelle, ce congrès a été pour moi une pas de plus vers la présidence de notre association, et la consécration d'une année de recherche sur la côte ouest. Je suis honorée de la confiance que notre conseil d'administration m'accorde et je prendre le relais de nos présidents et présidentes passés avec la tête remplie d'idées et une énergie renouvelée pour vous offrir encore plus en tant que membres de notre Association. Je ne serai pas seule dans cette aventure, je peux compter sur un vice-président encore plus jeune que moi (Merci Alex Nolet de bien vouloir relever le défi !) et un conseil (presque) paritaire entre hommes et femmes (une petite fierté déjà !), provenant de tous les milieux et de partout au Canada. Il me tarde de vous revoir à Calgary l'an prochain pour notre 29^{e} congrès sur le thème de la Vision Zéro. D'ici là, que vous soyez piétons, cyclistes, automobilistes ou utilisateurs de tous autres modes de transport, continuez de faire avancer la sécurité routière dans votre milieu. Les générations futures vous remercient d'avance !

Marie-Soleil Cloutier
Présidente, ACPSER
Professeure agrégée, Institut National de la Recherche Scientifique

CARSP Awards

By Brenda Sugget
Brenda Suggett is CARSP's Executive Director. She joined CARSP in 2010. Prior to that, Brenda was an Epidemiologist in Public Health for 15 years.

The Dr. Charles Miller Award is given to the best Research and Evaluation Paper presented at the CARSP conference based on technical and scientific merit. This year, the award was given to a team of researchers lead by Dr. Christine Wickens (CAMH, Toronto, Ontario). Their paper is entitled "The Impact of Childhood Symptoms of Conduct Disorder on Collision Risk". The authors are: Christine M. Wickens, Robert E. Mann, Anca R. Ialomiteanu, Evelyn Vingilis, Jane Seeley, Patricia Erickson, and Nathan J. Kolla.

The Mavis Johnson Traffic Safety Award is given to the Best Policy and Practice Paper presented at the CARSP Conference based on its overall quality and applicability to the field of road safety. This year the award was given to Senior Sergeant Michael Timms (New South Wales Police Force, New South Wales, Australia). The paper is entitled "To Serve and Be Protected: Improving police officer safety and road safety at random breath testing sites in New South Wales, Australia".

The CARSP Lifetime Achievement Award for Road Safety is presented annually to individuals who have made a positive impact on road safety in Canada. Candidates will have had a career in this field (past/present) and have also made contributions to the Canadian Association of Road Safety Professionals. This year the award went to two individuals who made an outstanding contribution to the field of road safety, and significant contributions to CARSP. These two people are: Dr. Evelyn Vingilis, Western University, London, Ontario and Mr. Felix J. Comeau, Alcolock, Toronto, Ontario.

CARSP Annual General Meeting Report

By Brenda Sugget

Brenda Suggett is CARSP's Executive Director. She joined CARSP in 2010. Prior to that, Brenda was an Epidemiologist in Public Health for 15 years.

CARSP held their Annual General Meeting (AGM) on Monday June 11th, 2018, the first full day of the 28th CARSP Conference in Victoria, British Columbia. Jennifer Kroeker-Hall, CARSP's Past-President, chaired the meeting. Jennifer welcomed the conference delegates and provided an overview of CARSP as an organization. She then introduced CARSP's President, Dr. Marie-Soleil Cloutier, its Executive Director, Brenda Suggett, the CARSP Board of Directors and CARSP's four committee chairs:

- Structure and Governance (S&G) Committee (Marie-Soleil Cloutier),
- Membership and Marketing (M&M) Committee (Liz Owens),
- Finance (F) Committee (Paul Boase), and the
- Young Professionals' Committee (YPC) (Kale Brown)

Jennifer then provided an overview of the activities CARSP was involved in over the past year, including:

a) Skills Development & Knowledge Sharing
   - Conference - Videotaping of Keynotes and Panelists – available on website (free to CARSP Members)
   - Pre-Conference Workshop (M&M)
   - Webinars (M&M)
     - 6 webinars (+ recording on website) delivered since Jan 2017 (free to CARSP members)
     - Topics such as: Cannabis & Road Safety; Vision Zero; Safe Systems; Autonomous Vehicles; Childhood Road Safety Injury Trends; etc.

b) Answers to Requests for Support and Participation on road safety initiatives
   - Many of our Board members serve as experts on committees discussing hot topics such as: autonomous vehicles; vulnerable road users; cannabis; etc.

c) Partner Engagement / Building Awareness
   - CARSP Booth at Several Events (M&M)
     - (e.g. arrive alive DRIVE SOBER, Parachute Vision Zero Conference, Vision Zero Advocate Institute Conference)
   - New Social Media and Sponsorship Working Group (M&M and YPC)
     - Social Media Strategy
     - Sponsorship Strategy

d) Fiscal Responsibility / Governance
   - New Financial Strategic Plan (F)
   - New Policy on Business Opportunities (F)
   - Revision of Committee Terms of Reference (S&G)
   - New Board Manual (S&G)
   - New Young Professional Committee Executive (YPC)

Paul Boase, CARSP Treasurer, gave an overview of CARSP's financial position. Noteworthy updates included:

- The 2017 Income/Expense Statement shows a net surplus of $6,542 for the year. (Please note this value reflects a pre-paid expense of $30,000 towards the 2018 conference venue), thus the

net surplus would actually be $36,542, had we not had to pay the $30,000 up front to the hotel (this amount upfront is unusual).
- The 2016 Balance Sheet shows an equity balance of $88,314.00
- The 2017 budget is forecasting a surplus of $28,744

The 2017 Financial Statements and 2018 Budget were next accepted by the membership, following a resolution put forward by Paul. Paul raised a second resolution, that "CARSP, being a non-soliciting not-for-profit corporation waive the appointment of a public accountant to conduct a review engagement for 2017 and that, as in previous years, the financial statements be prepared by compilation", which was accepted by the membership.

Kale Brown, Chair of the Young Professionals Committee (YPC) provided an overview of the YPC and urged people to join. He then outlined the two events they are hosting at the conference, their times and locations, and invited delegates to attend.

Jennifer gave an update on the Safety Network Newsletter by announcing the current Editorial Board members and inviting other CARSP members to join. Editorial Board members commit to eight teleconferences per year and act as writers, editors and French/English translators. She also asked for contributions to the newsletter in the form of letters to the editor, articles, photos and announcements.

Next, Jennifer gave the times and locations for the presentations of the following awards: the Dr. Charles H. Miller Award, the Mavis Johnson Traffic Safety Award and the Lifetime Achievement Award.

Jennifer also announced the name of one out-going CARSP board member, Dr. Brian Jonah and thanked him for his service.

Marie-Soleil Cloutier awarded Jennifer with an Award of Appreciation for serving as CARSP's President for the past two years.

Lastly, Tony Churchill, from the City of Calgary reminded the audience that the 2019 CARSP Conference will be held in Calgary Alberta, with the date still to be determined. He then talked about the theme of the conference, Vision Zero, his City's and Province's track record in Road Safety and played a short promotional video from Tourism Calgary.

Brenda Suggett
Executive Director, CARSP

Young Professionals Committee

By Shauna Fossum
Shauna is a member of the YPC and was a part of the CARSP 2018 Conference Planning Committee. She is currently completing her Master of Health Sciences (specialization in Gerontology) at Lakehead University.

At the CARSP 2018 conference held in Victoria, BC, the Young Proffessionals' Committee (YPC) held two social networking events on Monday June 11th.

At 5:00pm the committee held a facilitated "Growing Your Professional Network" session for YPC members (and other young professionals interested). Those attended participated in a workshop which offered advice on developing and building networking skills, which would help young professionals in the following evening event.

At 6:30pm at the LURE Restaurant & Bar, within the conference hotel, the committee invited all conference delegates to attend a social networking cocktail hour. Professionals within the road safety community came out to enjoy some beverages and appetizers with the YPC members. This event had a great turnout, and allowed for some wonderful networking connections to be made!

Lastly, the committee held a 50/50 raffle at the conference banquet on Tuesday June 12th. This raised funds for the committee to put towards future conference events.

What Was the 2018 CARSP Conference All About?

By Neil Arason

Neil Arason is a Director in public health at the BC Ministry of Health, where he is responsible for injury prevention. Neil is also the author of, No Accident: Eliminating injury and death on Canadian roads. The book examines how Canada can adopt safe system thinking in order to eliminate deaths and serious injuries from motor transport.

The CARSP conference in Victoria, co-hosted by CARSP and RoadSafetyBC, was the 28th national multi-disciplinary road safety conference to take place in Canada and, with 271 registrants, broke an all-time attendance record.

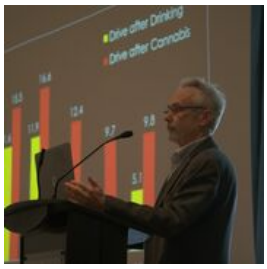
The conference theme, "Next-generation Transportation," captured the changing wave of thinking and the increasingly heavy emphasis put on multi-modal transport: walking, cycling and public transit. This shift reflects a world-wide trend because along with multi-modal transport comes better safety; healthier people; lowered levels of chronic disease; reduced greenhouse gases, oxides of nitrogen, particulate matter, and hydrocarbons; reduced health care costs; more social connectedness; and the more affordable and equitable transportation options that these modes supply.

No matter the annual theme, the CARSP conference is always built on the foundation of safe system thinking: strong and proven measures for vehicles, roads, drivers, and the need to ensure the right speed for each road type based on human injury potential in the event of a crash. If we as road safety professionals help fully adopt and implement the safe system approach, Canada can ultimately eliminate deaths and serious injuries from land transport: this is vision zero and our raison d'être.

The conference kicked off on Sunday with a Board meeting, a road planning workshop, an Old Town Victoria walking tour, and a welcome reception and exhibition opening. The excitement was felt around Victoria and on Twitter (#CARSP2018).

On Monday, the conference was opened by CARSP Vice-President Marie-Soleil Cloutier, and the Honourable Mike Farnworth, BC Minister of Public Safety and Solicitor General. Minister Farnworth's remarks included the notion that not all road crashes are caused by flagrant and egregious driving and that many are caused by ordinary human error. For that reason, we must continue to implement strong road safety measures of every ilk.

One of those measures is less driving. Keynote Speaker Todd Litman, Executive Director of the Victoria Transport Policy Institute**,** hit home the idea that the way we design and build our cities influences the amount of driving people do and this is a critical point since more driving causes more crashes and injuries.



Following on the heels of that came a session on cannabis-impaired driving with Doug Beirness, Paul Boase, Darrin Grondel, and Jeremy Wood. The four presenters took us through the challenges inherent in combatting cannabis-impaired driving like the fact that it is not possible to measure drugs in a person's system in the same way as is done for alcohol, and the fact that different people experience drugs differently from one another based on a plethora of individual factors. Nonetheless, the panel talked about what can be done. Darrin Grondel revealed what some of the learnings were in Washington State when in 2012 it became one of the first US states to legalize cannabis for recreational use (or non-medical cannabis as we often prefer to say). Doug Beirness inspired us by showing, through roadside surveys carried out over time, that we have made huge amounts of progress over the past number of decades in reducing the numbers of drivers who have alcohol in their system. Hopefully, we can keep this trend up and then do the same thing for drugs like cannabis.

Other topics of this day covered everything from fostering rigorous science and credible evidence in vision zero planning to trends in right-angle intersection crashes. Nathan Baugh showed us City of Surrey intersection camera footage that made many reflect on the need to ban the right-turn-on-red to reduce the number of deadly intersection crashes. At the same time, Nazli Kaya's research showed that drivers, when turning, often don't even look out or check for vulnerable road users like cyclists**.** Monday wrapped up with a session for young road safety professionals (those under age 30) on how to grow their professional network followed by a Young Professionals' Cocktail Hour (also a great way to grow networks). A focus on young professionals is vital for the future of the industry and most importantly for the work still needed to move Canada's road crash injury and death numbers onto a steeper and steadier downward path.

Tuesday opened with remarks from MLA Mitzi Dean who spoke on behalf of Claire Trevena, BC Minister of Transportation and Infrastructure.

Plenary speaker Bella Dinh-Zarr, board member of the US National Transportation Safety Board, shared some of her successes in using individual human-based stories to advance various road safety changes. She provided examples of how data does not necessarily convince decision-makers or garner media attention but a detailed story of just one person often does. Her presentation was laced with several themes including the importance of lowering the Blood Alcohol Concentration (BAC) level in the US to .05, the need to set appropriate speed limits, and the imperative of automated speed enforcement. Bella made the point vehemently that setting speeds based on the 85th percentile is a practice of a bygone era and has been refuted by recent evidence including that from her own organization: the US National Transportation Safety Board (see: https://www.ntsb.gov/safety/safety-studies/Documents/SS1701.pdf). Instead, speeds must be set based on injury potential which in turn is derived from the type of collision (pedestrian-vehicle crash, vehicle-to-vehicle lateral crash, etc.) that can happen on any specific road segment. Bella's talk laid the ideal foundation for the

speed and speeding panel that followed. With me as moderator, guests were Dr. Jeff Brubacher, Sergeant Robert Quilley, Dr. Emily Newhouse, and Vincent Stancato. The stage was set with the reminder that both stopping distances and the amount of moving energy (kinetic energy) are each a quadratic non-linear function of speed – this simply means that small increases in speed mean large differences in stopping distance and massively more injury-causing raw kinetic energy released in a crash.

The panel hit home the point that BC's speed limit increases implemented on rural highways in 2014 led to increased deaths and injuries. Since that time, two separate high-quality studies each found significant increases in injury, serious injury and fatalities in crashes attributable to the speed limit increases. Dr. Brubacher summed it up by saying, "Don't do what we did." (In other words, don't raise speed limits in your jurisdiction as was done in BC). At the same time, it was pointed out that hundreds of studies world-wide already tell us that when speeds go up, accidents, injuries and deaths go up. And when speeds go down, accidents, injuries and deaths go down. Reduced speeds remain an almost magical safety benefit in a system where things will inevitably go wrong for a myriad of different reasons.

The panel also covered the shortcomings of traditional police enforcement of speeds since ordinary patrol-based enforcement, according to Sergeant Robert Quilley, simply cannot adequately respond to the large problem of speeding. Automated speed enforcement, on the other hand, can do a much better job especially when implemented in all manner of ways that garner widespread public support (advance signage, ticket revenues diverted to a road safety fund, etc.).

Other topics that morning included alcohol-impaired driving, driver fitness and pedestrian safety. Linda Rothman's study revealed that Toronto's lower income areas have fewer low speed roads and speed humps than high income areas – a finding with enormous implications for equity and fairness. It was suggested that perhaps it is time for cities to move away from a response-based approach to implementing crash countermeasures and toward a proactive, planned and equitable one.

The conference also touched on the new role of the automobile – from the use of eye tracking technologies to validate a driver's identity before they can start up their engine to vehicles with no driver at all.

In exactly that vein, Tuesday's lunchtime speakers, Mark Francis and Erik Thomsen, covered the emergence of autonomous vehicles and work underway to develop best practice regulation for Canada and the US. With recent fatal crashes involving autonomous vehicles like the self-driving Uber that killed Elaine Herzberg in Tempe, Arizona just this year, this lunchtime event centred on a topic that will grow in scope and importance at future CARSP gatherings.

A plethora of sessions throughout the afternoon included distracted driving, child road user safety, crash modelling and more. Alex Nolet told us about a two-year project led by the Canadian Institute of Transportation Engineers that explores accessibility experiences in Canada for people with disabilities – something that has been receiving a great deal of attention recently: safe access to public space should not be just for some but must be for everyone.

The banquet that night was a hit for all with several people recognized for their outstanding work and contributions to road safety.

On Wednesday, the final day of the conference, sessions ranged from cycling safety to school related travel planning to vehicle electronic stability control to pediatric rear occupant safety. Researcher Simon Demers talked about his bicycle safety study using National Collision Database (NCDB) data and the challenge he faced in working with data that did not include a location identifier – not even the name of the province or territory in which the cyclist injury occurred.

Irrespective of the data shortcomings, the atmosphere in the room was quickly buoyed by an all-women cycling panel, moderated by Meghan Winters, that included Melissa Bruntlett, Kay Teschke, Karen Laberee, Sarah Webb, and Nancy Smith-Lea. The panel covered the evolution of cycling in Canada, the quality of crash data including that from BikeMaps.org, how safety is integrated into new cycling facilities, and the Toronto Bloor bike pilot. The panel argued for a level playing field – safety for all road users – and emphasized the many reasons bikes are a brilliant mode of transport in cities everywhere.

Finally, there were the closing remarks at mid-day Wednesday. The CARSP road safety conference never disappoints, always brings together the most dedicated and knowledgeable road safety professionals from across the land, and consistently inspires us – including the next generation – for the tall order of work that lies ahead. That work has no doubt already started and it is quite likely that many of us are already plotting the studies and emergent best practices that may ultimately be shared at next year's CARSP conference in Calgary.

Autonomous Vehicles – Panel Discussion

By Karen Bowman
Karen Bowman is the Director of Marketing and Communications and Director of the Drop It And Drive® Program (DIAD) with the Traffic Injury Research Foundation (TIRF), a charitable, independent road safety research institute. TIRF is a world leader in research, safety programs, and policy development. Karen is a regular speaker at industry and national safety conferences and is frequently called on by the media for comment on distracted driving issues.

Résumé
Lors de la Conférence ACPSER 2018, dont le thème était « Transports de nouvelle génération – Le futur de la sécurité routière », la séance plénière du 12 juin a abordé le sujet des véhicules automatisés. Les participants provenaient du secteur des assurances ainsi que des paliers de gouvernements fédéral et provinciaux. À la lumière des données montrant que 90% des accidents sont dus au comportement du conducteur ou à son état, la discussion a porté sur la réduction significative du nombre d'accidents que pourrait entraîner l'arrivée des véhicules autonomes. En parallèle, les participants ont également reconnu qu'il serait peu probable que les véhicules autonomes puissent prévenir tous les accident, notamment en raison des risques additionnels introduits par cette technologie. C'est pourquoi le fait de fournir des directives et des recommandations relatives aux véhicules automatisés est important afin de réduire les risques liés à cette technologie.

The 2018 CARSP Conference theme, '*Next-generation Transportation: The Future of Road Safety*,' featured the subject of automated vehicles (AVs) with speakers from the insurance industry as well as federal and provincial governments during the lunch plenary session held on June 12, 2018. In light of data showing that 90% of crashes are due to driver behaviour or condition, the focus of discussion was on the significant reduction in the number of crashes that could be achieved with automated vehicles. At the same time, the speakers acknowledged that it would be unlikely that automated vehicles would be able to prevent all crashes because of the additional risks introduced by this technology. As such, the provision of guidelines and recommendations related to automated vehicles is important to mitigate risks posed by technology.

Mark Francis Co-Chair, CCMTA's Autonomous Vehicle Working Group and Manager, Provincial Vehicle Registration and Licensing, ICBC, and Wendy Doyle, Executive Director, Office of Traffic Safety, CCMTA, presented, *"The Canadian Approach to Regulating Highly Autonomous Vehicles."* Vehicle automation is coming to Canada and in preparation, the CCMTA established an AV Working Group in 2014. The focus of the Working Group was to establish guidelines for AVs by 2018. CCMTA recognizes that regulation and guidelines for automated vehicles will be a shared responsibility of municipal, provincial/territorial and federal governments. The AV Guidelines will include two complementary documents; Canadian Jurisdictional Guidelines for the Safe Testing and Deployment of Highly Automated Vehicles, and, Testing Highly Automated Vehicles in Canada: Guidelines for Trial Organizations.
Canadian Jurisdictional Guidelines for the Safe Testing and Deployment of Highly Automated Vehicles will be geared towards motor vehicle administrators and law enforcement with respect to the administration, regulation and control of AV's. Testing Highly Automated Vehicles In Canada: Guidelines For Trial Organizations will target those organizations that may be interested in conducting trials of AVs on Canadian public roads.

The AV Guidelines report will contain a series of recommendations for jurisdictions and other manufacturers and entities and will focus on governance and the disciplines of vehicle registration, driver licensing and law enforcement. The report will provide a point-in-time set of voluntary recommendations to be used in developed testing programs (if desired) and helping to prepare for deployment. Recommendations will include: governance, testing, deployment, as well as law enforcement and transportation safety.

In summary, it was suggested that jurisdictions consider the recommendations within their legislative process, which could require changes to laws, regulations and policies. Manufacturers are encouraged to consider the recommendations when developing and deploying test vehicles in order to leverage optimal relationships with governmental partners in order to achieve the safest and most robust environment for testing and deployment of automated vehicles.

The guidelines will be released following approval from the CCMTA Board and will then be provided to the Council of Deputy Ministers and published on the CCMTA website.
In looking at limited, self-driving, semi-automated vehicle (LSDV) technology in Canada, the Traffic Injury Research Foundation recently released results of a study, with surprising findings, on the knowledge, attitudes and practices of aging Canadian drivers about vehicle automation. The report, *Senior Drivers & Automated Vehicles: Knowledge, Attitudes & Practices*, revealed that older drivers recognize the potential of LSDV technology to increase their safety on the road and instill greater confidence in their ability to drive under challenging conditions that are typically avoided. Of greater importance, this technology is perceived to enhance mobility among older drivers and help them to safely prolong driving and mitigate errors that are associated with age-related factors. As such, this cohort of drivers was very receptive to strategies and tools to help them learn to use LSDVs in ways that maximize safety benefits. Access to the report, executive summaries and infographic as well as information on the two-phase project is available at: http://tirf.ca/projects/aging-drivers-automated-vehicles/.

The implementation of automated and semi-automated technology across Canada will require continued investigation of best practices as well as significant consideration and input from governments, manufacturers, and road safety organizations to effectively and safely manage the process in order to keep our roads safe.

Research Papers at the 2018 CARSP Conference

By Alan German and Javier Zamora-Rojas
Alan is a Research Scientist with Road Safety Research in Ottawa, Ontario. Javier is a Research Transportation Engineer at the Laboratorio Nacional de Materiales y Modelos Estructurales, University of Costa Rica in San José. Both Alan and Javier are current members of CARSP's Editorial Board.

Résumé
Cette année, la conférence CARSP tenue en juin à Victoria, en Colombie-Britannique, a abordé des projets de recherche et des présentations sur un large éventail de sujets concernant la sécurité routière. Les sujets abordés comprenaient la conduite avec facultés affaiblies par l'alcool et le cannabis, la technologie et l'automatisation avancées des véhicules, l'ingénierie de traffic, les usagers vulnérables de la route, l'aptitude à conduire, la conduite distraite, les excès de vitesse et les campagnes de sécurité routière. De brèves informations sur certaines des informations présentées lors de la conférence, en particulier celles relatives aux diverses tables rondes et aux articles gagnants, ont été abordées dans d'autres parties de ce bulletin. Le présent article met l'accent sur certains des autres articles et présentations présentées lors de la conférence.

This year's CARSP Conference, held in Victoria, BC in June, featured research papers and presentations on a wide range of traffic safety issues. Topics included: alcohol and cannabis impaired driving, advanced vehicle technology and automation, traffic engineering, vulnerable road users, fitness to drive, distracted driving, speeding, collision reporting and analysis, and road safety campaigns.

Brief details of some of the information presented at the conference, in particular that related to various panel discussion and the papers that won awards, have been given in other portions of this newsletter. The present article highlights some of the other papers and presentations made at the conference.

CARSP members may view the Table of Contents for the entire conference proceedings, and download any paper of interest, by logging on to CARSP's web site and selecting the paper's title from: http://www.carsp.ca/research/research-papers/proceedings/2018-victoria/

The Influence of Interface Design on Driver Behavior in Automated Driving

Caroll P. Lau, Joanne L. Harbluk, Peter C. Burns, and Yue El-Hage (Transport Canada)

While fully-autonomous vehicles are still in the development and testing stages, many production vehicles offer advanced driver assistance systems such as adaptive cruise control and lane-keeping assistance. Level 3 automated driving systems (ADS) provide both longitudinal and lateral control; however, the driver is still required to be ready to take manual control when the system is about to exceed its operational limits and issues a request to intervene. Researchers from Transport Canada conducted a study of the effectiveness of two user interfaces – simple and advanced – for addressing the handover of the driving task.

Advanced interface with blue horizontal bar when the system is engaged (L). Horizontal bar turns amber and sounds an auditory warning when the system exceeds operational limits (R).

The test subjects preferred the advanced interface, finding it "easier to see", "easier to understand", and "less busy". The way in which a vehicle conveys the takeover information to the driver is of critical safety importance. There is a need, therefore, to develop guidelines for the design of human-machine interfaces for automated driving systems as well as metrics to assess their safety.

Behaviours of the taxi motorcycle drivers of Arusha City
P. Perego, F. Biassoni, and M. R. Ciceri (Università Cattolica del Sacro Cuore di Milano)

In this slide presentation, the authors provided some insight into traffic safety issues in an African environment, specifically the incidence of crashes involving motorcycle taxis (bodabodas) in Tanzania. Motorcycles are a popular mode of transportation, forming more than 50% of vehicle registrations. Almost 30% of traffic fatalities are motorcycle riders. For

bodaboda drivers in the study sample, 95% considered themselves to be good drivers. However, 48% of them had been involved in a crash, with 60% of these drivers having been involved in more than one crash.

'Bodaboda' - 2 wheeled vehicle used for commercial scope

Many drivers admitted to illegal behaviours such as using their mobile phone while driving, not always wearing a helmet, or transporting more than one passenger on their motorcycle. The enforcement of traffic rules appears to be inadequate and half of the drivers in the sample admitted to having bribed the traffic police. More education, a modification of existing road rules, and increasing police enforcement are all needed in order to improve road safety in Tanzania.

Real World Frontal Impacts Involving Belted Rear Pediatric Occupants
Michael Shkrum, Kevin McClafferty, Allison Pellar, Peyton Schroeder (Western University), Douglas Fraser, Tanya Charyk-

Stewart (London Health Sciences Centre), and Jean-Louis Comeau (Transport Canada)

A multi-disciplinary team of researchers, primarily based in London, Ontario, is conducting a study of collisions involving injuries to child occupants of motor vehicles with an emphasis on restraint performance. The present work details a series of 28 frontal impacts involving 40 rear seat occupants, under the age of twelve, who were restrained by three-point seat belts and/or child booster seats. The subject incidents were primarily collisions with an oncoming vehicle or with fixed objects. More than half were offset impacts to the left-front end of the case vehicle. Vehicle delta-V's ranged from 22 to 89 km/h.

Delta-V: 72 km/h (Longitudinal at t = 92 ms)
0110: 39-yr-F, Lap/torso/airbag, Major injuries
0130: 17-yr-F, Lap/torso/airbag, Major injuries
0210: 10-yr-F, Lap/torso, Fatal injuries
0230: 11-yr-F, Lap/torso, Fatal injuries

Figure 1 ROP3-1602 Case Vehicle

Six of the children were fatally injured and 20 sustained moderate or greater injuries. There were 14 children that were not injured or had minor injuries. The 6 fatalities occurred in impacts with a delta-V between 50 km/h and 72 km/h. While there was a trend for injury severity to increase with collision severity, minor injuries were observed in high delta-V crashes and severe injuries in some of the lower delta-V crashes. Restraint misuse was identified for 22 of the 40 children including the torso belt not being worn, lap belt placed on the abdomen, a sub-optimal restraint in use, the occupant being out of position, incorrect belt routing, and the seat belt being twisted.

Delta-V: 47 km/h (t = 90 ms)
0110: 47-yr-M, Lap/torso/airbag, Minor injuries
0210: 10-yr-F, Lap/torso, MAIS-3
0230: 12-yr-F, Lap/torso, MAIS-2

Figure 3 PROS-1620 Case Vehicle

There is need for better education of caregivers and children regarding proper restraint use, and for improvements in restraint technology for rear occupants.

Traffic Circles' Associations with motor vehicle, cyclist-MV, and pedestrian-MV crashes

Kay Teschke, Hui Shen, Anna Chinn (University of British Columbia), Liliana Quintero, Felita Ong, and James Wei (City of Vancouver)

After an earlier study of cycling injuries in Toronto and Vancouver, a group of researchers from UBC and the City of Vancouver made a further study of the effect of traffic circles on injuries. Three types of crashes were used from a database of 40,626 crashes at local street intersections in Vancouver, between 1996 and 2013: motor vehicle (MV), cyclist-MV, and pedestrian-MV. Relative risk analyses were calculated for three scenarios: (1) with vs. without traffic circles, (2) traffic circles vs. matched intersections within one block; and (3) after vs. before traffic circles.

Evidence shows that at same-time arrival, there could be confusion between a vehicle driver and a cyclist about who has the right-of-way. Even though, half of the injuries involving a cyclist were found to be single cyclist crashes.

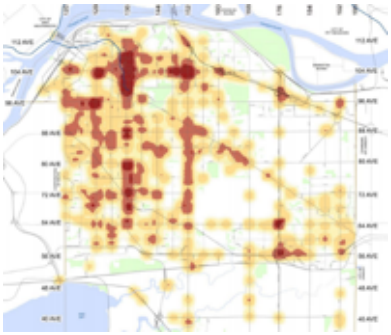
Results confirmed that there is an injury risk reduction for MV occupants when converting a stop-controlled intersection into a single-lane roundabout, generally due to speed reduction. On the contrary, both cyclist-MV and pedestrian-MV crashes resulted in more injuries, especially for cyclists, with 10 to 12 more injuries per year.

According to these results, the researchers do not recommend traffic circles as traffic calming measures on streets with bicycle routes. Rather, alternatives should be analyzed in terms of safety for all road users, such as raised crossings or traffic diversion measures.

Surrey Safe Mobility – Vision Zero Plan: Theory to Practice
J. Boan (City of Surrey)

Surrey's rapid urban growth has increased the number of vulnerable road users, and provincial annual reports in BC have shown that this city has the highest number of traffic fatalities in Metro Vancouver. Analyzing collision data shows that around 31% of serious injury and fatal collisions involve pedestrians or cyclists. Around 65% of serious injury and fatal collisions occur on only 5% of Surrey's roads, and about 78% near intersections.

The implementation of Vision Zero in the city has been a high priority in the city, leading to a new way of thinking, and approaching road safety and mobility problems by taking specific actions for safe roads, safe speeds, safe vehicles and safe road users. Causal factors such as speeding, distracted driving (especially by the use of cellphones while driving) and impaired driving have been addressed in this new strategy approved in November 2017. A Safer Systems Approach has been adopted, as well as continuous improvement and innovative practices.



Surrey hot spot map. Primary source: RCMP Collision Data. Secondary source: ICBC

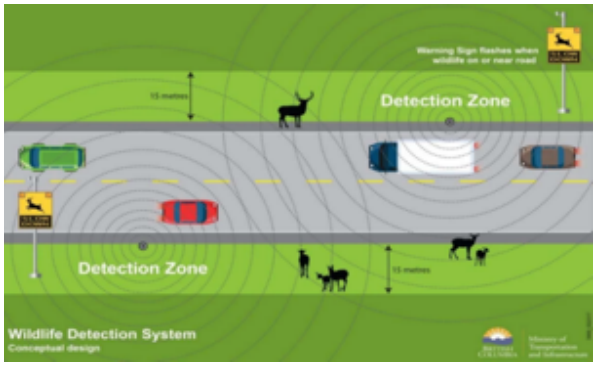
Technology will also play an important role, as with the initiative called DDACTS (Data-Driven Approach to Crime and Traffic Safety) which, in terms of road safety, integrates traffic crash data in order to efficiently deploy law enforcement and many other measures.

Wildlife Detection Systems in British Columbia
Leonard E. Sielecki & Mohamed Elesawey (Ministry of Transportation and Infrastructure, BC)

Wildlife-vehicle collisions have been a major road safety problem across Canada, resulting in injuries, fatalities, and costing millions of dollars. In some mountainous highway corridors in BC, some wildlife exclusion systems cannot be installed, so there is the need of new technologies. BC's Ministry of Transportation and Infrastructure developed wildlife detection systems (WDS) that integrate technologies such as ground surveillance radars, thermal cameras and video-analysis systems in order to detect wildlife approaching highways. The system

includes real-time advanced warning signs for drivers, with digital message signs.

Two sites were tested, covering 2.6 km and 5.5 km of highway, in southeastern BC. Wildlife movements were recorded, as well as vehicle traffic characteristics, including speed, direction and volume. Vehicle speed reductions were measured with WDS analytics and positive effects were proven, for up to 8.3 km/h speed reductions.



After a full year of operation, reductions were observed in notorious wildlife-vehicle collision, including collisions with deer, Big Horn sheep, elk and bears. However, long term studies are necessary to explore further the influence of the new system on driver behaviour and how to decrease vehicle speeds.

Automobile Braking on Very Steep Downgrades
Francis P.D. Navin (University of British Columbia)

The influence of very steep (10-30%) down grades on speed estimates made from braking skid marks was examined through a series of tests on roads with grades from 1 to 28% found within the urban area of Metro Vancouver.

The pavements were asphalt, both dry and wet. The same vehicle and driver were used throughout with both locked-wheel and ABS braking.

Vehicle deceleration on very steep down grades did not always behave as well as suggested by the traditional theory, with deceleration values being much lower than expected on the steepest grades. An empirical model designed to fit the data for both dry locked wheel braking and wet ABS braking was developed.

The results will be of interest to those responsible for making calculations in order to accurately reconstruct collisions, and also for those who estimate the safety impact of highway design elements or develop policies relating to road design. However, the results of this study illustrate that different analytical procedures are required to best suit the needs of these different specialists.

More papers and presentations from the 2018 conference are available on CARSP's web site. CARSP members must login to the site in order to download the full-text papers.

No doubt, further such material will be presented at the 2019 CARSP Conference so be sure to watch our newsletter and web site for details of our next conference

Thinking Outside the Box

By Valerie Smith

Valerie Smith has worked as a Director at Parachute since 2014 and previously was the Youth Program Manager at Smartrisk. Valerie has a MA in international and comparative education from University of Toronto. She spent many years working in East Africa and Central/South America on education programs for marginalized populations

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At the CARSP 2018 Conference (Victoria, BC) I had the opportunity to listen to two excellent presenters, both who reminded the audience of the importance of thinking outside the box in road safety; one focused on the need for a paradigm shift within the road safety sector; the other on the importance of layering the evidence and data with storytelling in road safety advocacy.

Todd Litman founder and executive director of the Victoria Transport Policy Institute, opened up Tuesday's plenary with a discussion on the importance of ensuring evidence based road safety interventions are taking place within the context of a paradigm shift. The new paradigm he encouraged, should consider both distance-based crash rates and mileage as risk factors. In doing so the new paradigm recognizes the safety benefits of transportation demand management (TDM) strategies such as more multimodal planning, efficient transport pricing, and Smart Growth development policies. Since these strategies result in significant co-benefits, besides safety, the new paradigm supports a more comprehensive analysis that accounts for these impacts.

The honourable, T. Bella Dinh-Zarr, PhD, MPH, is a Member of the National Transportation Safety Board, an independent U.S. federal agency charged by the U.S. Congress with investigating transportation disasters and making recommendations to advance safety. Use of systematic reviews and meta-analysis drives much of the work and the resulting recommendations the NTSB makes. Despite the absolute necessity for understanding the data related to major transport incidents, Dr, Dinh Zarr reflected on the vital importance of telling the stories behind the science. Sometimes it is just a personal story that reminds people of a face behind the numbers. Sometimes the story is about someone who has been killed or injured. She used the case in Utah as an example of the need for both evidence and storytelling. In Utah, the NTSB, was attacked by uninformed opponents of drunk driving laws and who spent substantial amounts of money to take out full page ads in the newspapers spreading false misconceptions about implications of a .05 BAC laws, mainly that it would impact tourism. Dr, Dinh Zarr used the evidence to influence the policy conversations by showing that reducing the number of all drinking drivers on the road at all BAC levels — high and low is a broad deterrent effect. And that drivers between 0.05 BAC and 0.079 BAC are seven times more likely to be involved in a single vehicle fatal crash than drivers without any alcohol in their system. These studies were backed up by stories from tourists who go to Utah for recreation and great skiing—not because of BAC laws.

"Step one: Hit the slopes. Step two: Have a drink or two with dinner. Step three: Get arrested driving home."

Letters to the Editor

Interested in submitting to the Safety Network Newsletter? Consider writing a Letter to the Editor. Any communications received in this regard will be considered for publication in a future issue.

Please send submissions to Pamela Fuselli, Chief Editor, pfuselli@parachutecanada.org.

lettres à l'éditeur

Si vous souhaitez soumettre un commentaire sur un aspect quelconque du contenu du SNN, vous pouvez le lire sous forme d'articles d'opinion ou de lettres à l'éditeur. Toute communication reçue à cet égard sera considérée pour la publication en cas de publication ultérieure.

Veuillez envoyer vos soumissions à Pamela Fuselli, rédactrice en chef pfuselli@parachutecanada.org.

Safety Network Newsletter (SNN) Editorial Committee Members

Each edition of the SNN will profile different members of the Editorial Committee. If you are interested in joining the SNN Editorial Committee, please contact Pamela Fuselli, Chief Editor at pfuselli@parachutecanada.org.

Javier Zamora-Rojas

Javier is passionate about road safety, urban mobility, and road transportation. He is from San José, Costa Rica, where he lives. He received his B.Sc. degree in civil engineering at University of Costa Rica in 2007, and his MScE degree at University of New Brunswick in 2011, with specialization in road safety. His 2 years in Fredericton, Canada brought him close to CARSP, and since then he joined the SNN Editorial Committee.

Javier works at the National Laboratory of Materials and Structural Models of the University of Costa Rica (LanammeUCR), as part of the Transportation and Road Safety Division. He engages in research projects, develops national road safety manuals and specifications, teaches courses and training workshops for the national road transportation sector, and performs road safety audits and reviews along Costa Rica's road network.

Furthermore, each year since 2013, Javier has taught two MSc level courses at his university: Transportation Seminar and Road Safety Engineering. At the civil engineering undergrad level, he has worked as advisor with over 20 students on their final graduation projects covering topics such as pavement marking performance, traffic barriers and roadside safety design, road safety countermeasures, vulnerable users (pedestrians, cyclists and motorcyclists), traffic accident analyses, and public transit.

Pamela Fuselli

Pamela Fuselli became the Vice President, Knowledge Transfer and Stakeholder Relations in July 2012 when Parachute was created. Prior to that she was the Executive Director at Safe Kids Canada. Pamela has worked in the health care/injury prevention field for 20 years. She is responsible for leading Parachute in translating evidence to action through strong relationships with key stakeholders and organizations across Canada. Pamela is responsible for publications including The Cost of Injury in Canada Report (2015) and the Canadian Injury Prevention Resource the first such resource in Canada. Her areas of interest are centered on knowledge mobilization resulting in behaviour change, the impact of good public policy on injury prevention and the importance of collaboration to further the impact on social change.

Pamela is a co-principal investigator on two CIHR funded research grants. The first a multi-city project on the impact of the built environment on children's active transportation. The second is a live pilot project to develop a peer-to-peer concussion model for high school students.

In addition, Pamela is a speaker and a media spokesperson on a wide range of injury prevention topics, public policy issues and knowledge mobilization.

Acknowledgements

This issue of The Safety Network Newsletter was produced through the contributions of the following individuals:

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Jean-François Bruneau, Polytechnique Montréal, Montreal
Mary Chipman, University of Toronto, Toronto, ON
Daphne Dethier, WSP, Montreal, QC
Pamela Fuselli (Chief-Editor), Parachute, Toronto, ON
Alan German, Road Safety Research, Ottawa, ON
Martin Lavallière, Université du Québec à Chicoutimi, Chicoutimi, QC
Rebecca Peterniak, Fireseed North Infrastructure, Winnipeg, MB
Pierre-Olivier Sénéchal, Société de l'assurance automobile du Québec, Quebec
Javier Zamora, Lanamme, University of Costa Rica, San Jose, Costa Rica

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Brenda Suggett, CARSP
Valerie Smith, Parachute
Shauna Fossum, Lakehead University

NEXT ISSUE

The next issue of The Safety Network Newsletter will address Road Traffic System Management. If you would like to contribute an article on this topic please contact Pamela Fuselli. Submissions are due November 20, 2018 and should be between 300-500 words plus accompanying photos and graphics.

SUBMISSION CONTACT
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PROCHAIN NUMÉRO

Le prochain numéro du bulletin Le Réseau-sécurité portera sur affaiblissement Gestion du système de circulation routière. Si vous souhaitez contributer un article portant sur ce subject contacter Pamela Fuselli. L'échéance pour soumettre un article est le 20 novembre 2018 et il doit être d'une lonueur de 300 à 500 mots, plus les images et les graphiques qui l'accompangnent.

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