The Official Newsletter of the Canadian Association of Road Safety Professionals

THE SAFETY NETWORK
LE RÉSEAU-SÉCURITÉ

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2017, Issue 3

2017 CARSP Conference

Conférence ACPSER 2017

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

Inside this issue:

Editorial

This edition of the Safety Network Newsletter covers the 2017 Canadian Association of Road Safety Professionals (CARSP) Conference, which was held June 18th to 21st at the Chelsea Hotel in Toronto, ON. Around 250 delegates attended from across Canada and from other countries, including the United States, the Netherlands, France, Lebanon, and Australia. Delegates work in multidisciplinary areas of road safety, including research, legislation, policy development, public health, enforcement, and engineering.

The Ministry of Transportation of Ontario (MTO) and the Canadian Automobile Association of South Central Ontario (CAA SCO) partnered with CARSP to organize this year's conference: their partnership on this venture has been invaluable and their staff have spent countless hours helping plan the conference. We would like to thank both organizations on behalf of CARSP.

This year marked the 27th anniversary of the CARSP Conference (formerly known as the Canadian Multidisciplinary Road Safety Conference), which was first held in 1982 by the Vehicle Safety Research Team at the Technical University of Nova Scotia, which is now part of Dalhousie University.

Highlights from the conference included:

- A road safety program evaluation workshop held at Ryerson University prior to the start of the conference.
- Welcoming remarks from Jennifer Kroeker-Hall, President of CARSP; Stephen Rhodes, Deputy Minister, MTO; and Teresa Di Felice, Director, Government and Community Relations, CAA SCO.
- Keynote address by Professor Fred Wegman on Vision Zero, where he challenged Canada to fully implement the Safe Systems Approach.
- Three panel discussions centered on this year's conference theme, *Technology and Road Safety,* which covered automated vehicle technology, pedestrian safety and technology, and technology and enforcement.
- Presentations by Roger Browne, Jennifer Keesmaat, and Kate Bassil of the host City of Toronto on local road safety programs.
- 77 paper presentations on a variety of topics including alcohol and drug impaired driving, distracted driving, city-wide road safety plans, pedestrian and bicyclist safety, fitness to driver, collision investigation among others. Conference papers and PowerPoint presentations are available on the members' section of the CARSP website.
- The CARSP Annual General Meeting, which revealed that our organization is financially sound as it provides services to our members.

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For Christine Allum, Conference Co-Chair from CAA SCO, sessions like drug-impaired driving, distracted driving, and the panel on technology and enforcement were timely and garnered great discussion for both speakers and attendees to take back to their respective organizations. Politics and technology heavily influence progress, as well as the challenges we face as road safety professionals. Conference sessions brought key road safety challenges to the forefront: legalization of cannabis, advances in automated enforcement, and the increasing presence of in-car technology. Discussions are critical to ensuring legislative and technological advancements support the progressive safety of our roads. CAA was proud to have co-hosted this year's conference and looks forward to the positive outcomes that such collaboration can accomplish.

We are very grateful for the 2017 CARSP conference sponsors:

- Platinum Sponsor: MTO
- Silver Sponsors: CAA SCO, Canadian Council of Motor Transport Administrators, the Infrastructure Health and Safety Association, and Alcolock.
- Bronze Sponsors: Automotive Industries Association of Canada, Plastic Safety Systems, RedFlex, and Smart Start.

We also thank the Insurance Bureau of Canada for their continuing sponsorship of the Student Paper Competition Sponsor, as well as Ryerson University's Faculty of Engineering and Architectural Science for supporting the workshop on Program Evaluation. Finally, we also thank Accident Support Services International for being the first-time sponsor of the Lifetime Achievement Award.

We had stellar support from members of our Conference Organizing Committee, including:

- CARSP: Brenda Suggett, Paul Boase, Kale Brown, Jennifer Kroeker-Hall
- CAA SCO: Christine Alum, Anna Mierzejewski, Tracy Nickleford
- MTO: Andrew Davidson, Jennifer Jefferson-Kotack, John LeFebvre
- Toronto Police Service**:** Gord Jones, Brett Moore
- Sick Kids Hospital: Linda Rothman, Andrew Howard
- Parachute: Valerie Smith
- Ryerson University: Bhagwant Persaud
- York University: David Wiesenthal
- Share the Road: Jamie Stuckless
- Canadian Vehicle Manufacturers Association: Karen Hou

Congratulations to this year's conference award winners:

- Sarah Plonka, Patrick Byrne, Tracey Ma and Erin Dessau of the Ministry of Transportation of Ontario received the Dr. Charles Miller Award for their paper

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Conference sessions brought key road safety challenges to the forefront: legalization of cannabis, advances in automated enforcement, and the increasing presence of in-car technology.

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entitled "Evaluation of Ontario's Speed Limiter Program for Large Trucks: A Study of Safety Outcomes Post 2009 Legislation."

- Dr. David Wiesenthal of York University, Dr. Alison Smiley of Human Factors North, and Anne Leonard of Arrive Alive Driver Sober, all received CARSP's distinguished Lifetime Achievement Award.
- Maria Espinosa of Ryerson University, Caitlin Sowers of the University of New Brunswick, and Ting Fu of McGill University, all received student paper competition awards.

Next year's CARSP Conference will be in Victoria, BC from June 10th to 13th, 2018. We hope to see you there!

Brian Jonah, **Conference Co-Chair and Past President of CARSP**

Christine Allum, Conference Co-Chair, Canadian Automobile Association South Central Ontario

Éditorial

Cette édition du bulletin Le Réseau-sécurité couvre la Conférence 2017 de l'Association canadienne des professionnels de la sécurité routière (ACPSER), tenue du 18 au 21 juin 2017, à l'Hôtel Chelsea de Toronto, en Ontario. Près de 250 délégués y ont participé en provenance du Canada et d'autres pays tels que les États-Unis, les Pays-Bas, la France, le Liban et l'Australie. Les participants à la conférence oeuvrent dans des domaines variés de la sécurité routière tels que la recherche, la réglementation, les politiques et programmes, la santé publique et l'ingénierie.

Le ministère des Transports de l'Ontario et l'Association canadienne des automobilistes de la région centre-sud de l'Ontario (CAA-CSO) ont collaboré avec l'ACPSER pour organiser cette conférence. Leur apport à cet événement a été d'une valeur inestimable et leur personnel a déployé un nombre incalculable d'efforts pour planifier la conférence. Nous aimerions remercier ces deux organisations au nom de l'ACPSER.

Cette année a marqué la 27ième édition de la Conférence ACPSER (autrefois intitulée Conférence canadienne multidisciplinaire en sécurité routière), qui a été organisée pour la première fois en 1982, par l'équipe d'enquête sur les collisions de l'Université Technique de Nouvelle-Écosse, qui fait maintenant partie de l'Université Dalhousie.

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Voici les faits saillants de la conférence :

- Un atelier sur l'évaluation de programmes, tenu à l'Université Ryerson avant le début de la conférence;
- Mot de bienvenue adressé par Jennifer Kroeker-Hall, présidente de l'ACPSER, Stephen Rhodes, sous-ministre, ministère des Transports de l'Ontario et Teresa Di Felice, directrice des relations gouvernement & communauté, CAA-CSO;
- Discours du professeur Fred Wegman sur la Vision Zéro au cours duquel il a mis le Canada au défi d'instaurer une véritable approche de système-sûr pour atteindre cette vision;
- Trois panels de discussion axés sur le thème de cette année, « *Technologie et sécurité routière* », qui couvrait les technologies d'automatisation des véhicules, les technologies pour la sécurité des piétons et les technologies pour améliorer le contrôle policier.
- Présentations de Roger Browne, Jennifer Keesmaat et Kate Bassil de la ville de Toronto, hôte de la conférence, qui ont parlé des programmes locaux de sécurité routière;
- 77 articles et présentations portant sur une grande variété de sujets, incluant entre autres la conduite avec les facultés affaiblies, la distraction au volant, les plans municipaux de sécurité routière, la sécurité des piétons et des cyclistes, la capacité de conduire et les enquêtes de collision. Les articles et présentations Power Point sont disponibles dans la section réservée aux membres sur le site Web de l'ACPSER;
- L'Assemblée générale annuelle de l'ACPSER a révélé que notre organisation est en bonne santé et qu'elle rend de précieux services à ses membres;
- Un atelier de formation Web du *Canadian Injury Prevention*;
- Une activité de réseautage tenue par le Comité des jeunes professionnels de l'ACPSER.

Pour Christine Allum (CAA-CSO), co-organisatrice de la conférence, les sessions dédiées à la conduite avec les facultés affaiblies et la distraction au volant, de même que le panel sur les technologies pour améliorer le contrôle policier, venaient à point. Ils ont permis de fructueux échanges, autant pour les conférenciers que pour les délégués, en générant des retombées pour les différentes organisations, même après la conférence. Les domaines de la politique et des technologies influencent grandement les défis auxquels font face les professionnels de la sécurité routière et les progrès qui peuvent être réalisés. La conférence a mis en évidence les défis clés

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de la sécurité routière que sont la légalisation du cannabis, les avancées dans le contrôle automatisé et la présence accrue des technologies embarquées dans les véhicules. Ces discussions sont importantes pour assurer les avancées légales et technologiques qui vont contribuer à progressivement accroître la sécurité sur nos routes. Le CAA a été fier de co-organiser cette conférence et il réalise l'ampleur des effets positifs inhérents à cette collaboration.

Nous sommes très reconnaissants envers les commanditaires de la Conférence ACPSER :

- Commanditaire Platine : ministère des Transports de l'Ontario
- Commanditaires Argent : CAA-CSO, Conseil canadien des administrateurs en transport motorisé, Infrastructure Health & Safety Association et Alcolock.
- Commanditaires Bronze : Association des industries de l'automobile du Canada, Plastic Safety Systems, RedFlex, et Smart Start.

Nous remercions aussi le Bureau d'assurance du Canada, pour le soutien continu apporté au concours du meilleur article rédigé par un étudiant, de même que la faculté de génie et des sciences architecturales de l'Université Ryerson, pour avoir organiser l'atelier sur l'évaluation de programmes. Finalement, nous voulons remercier *Accident Support Services International,* pour avoir accepté d'être le tout premier commanditaire du Prix d'excellence pour l'ensemble des réalisations ACPSER.

Nous avons bénéficié du support exceptionnel des membres suivants du comité organisateur :

- **ACPSER :** Brenda Suggett, , Paul Boase, Kale Brown, Jennifer Kroeker-Hall
- **CAA centre-sud Ontario :** Christine Allum, Anna Mierzejewski, Tracy Nickleford
- **MTO :** Andrew Davidson, Jennifer Jefferson-Kotack, John LeFebvre
- **Service de police de Toronto :** Gord Jones, Brett Moore
- **Sick Kids Hospital :** Linda Rothman, Andrew Howard
- **Parachute :** Valerie Smith
- **Université Ryerson :** Bhagwant Persaud
- **Université York :** David Wiesenthal
- **Share the Road :** Jamie Stuckless
- **Association canadienne des constructeurs de véhicules :** Karen Hou

Félicitations aux récipiendaires des différents prix de la conférence 2017 :

- Sarah Plonka, Patrick Byrne, Tracey Ma et Erin Dessau du ministère des Transports de l'Ontario ont reçu le Prix Charles Miller pour leur article intitulé « Evaluation of Ontario's Speed Limiter Program for Large Trucks: A Study of

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Safety Outcomes Post 2009 Legislation »;

- Dr David Wiesenthal de l'Université York, Dr Alison Smiley de *Human Factors North* et Anne Leonard de *Arrive Alive Driver Sober* ont reçu le Prix d'excellence pour l'ensemble des réalisations ACPSER;
- Maria Espinosa de l'Université Ryerson, Caitlin Sowers de l'Université du Nouveau-Brunswick et Ting Fu de l'Université McGill ont reçu le Prix du meilleur article rédigé par un étudiant.

La prochaine conférence ACPSER aura lieu à Victoria, en Colombie-Britannique, du 10 au 13 juin 2018. En espérant vous y voir !

Brian Jonah, **co-organisateur de la conférence et président sortant de l'ACPSER**

Christine Allum, co-organisateur de la conférence, Association canadienne des automobilistes, région centre-Sud de l'Ontario

Dr. Charles Miller Award Recipient

Evaluation of the Road Safety Impact of Ontario's Speed Limiter Legislation for Large Trucks

Le prix du Dr Charles Miller est accordé au meilleur article technique de la Conférence ACPSER. Cette année, le prix a été décerné à une équipe de chercheurs du Bureau de la recherche en sécurité routière du Ministère des Transports de l'Ontario. Leur article visait à déterminer si le programme ontarien des limiteurs de vitesse a permis de réduire les collisions impliquant des véhicules lourds sur les routes à haute vitesse. L'article a été rédigé par les membres suivants du Bureau de la recherche : Sarah Plonka (Conseillère en recherche), Erin Dessau (Conseiller sénior en recherche), Patrick Byrne (chargé de projet) et Tracey Ma (chargé de projet). Félicitations pour cet accomplissement !

The Dr. Charles Miller Award is given to the best paper presented at the CARSP conference based on technical and scientific merit. This year, the award was given to a team of researchers from the Research Office of the Ontario Ministry of Transportation. Their paper aimed to determine whether Ontario's speed limiter program has been effective in reducing large trucks' collisions on high-speed highways. The research paper was completed by the team which consisted of: Sarah Plonka (Research Advisor), Erin Dessau (Senior Research Advisor), Patrick Byrne (Team Lead) and Tracey Ma (Team Lead). Congratulations for a job well done!

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Congratulations to this year's Dr. Charles Miller Award Recipients from the Ontario Ministry of Transportation for Evaluation of the Road Safety Impacts of Ontario's Speed Limiter Legislation for Large Trucks

This evaluation aimed to determine whether Ontario's speed limiter program has been effective in reducing large trucks' collisions on high-speed highways.

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Abstract of Paper

From left: Tracey Ma (MTO), Patrick Byrne (MTO), Erin Dessau (MTO), Sarah Plonka (MTO), Jennifer Kroeker-Hall (CARSP)

Collisions involving large trucks, defined here as vehicles with a Gross Vehicle Weight Rating (GVWR) above 11,793 kg, tend to be more severe than those involving other vehicles. On January 1, 2009 the Province of Ontario introduced legislation mandating the use of speed-limiting technology to restrict large truck speed to 105 km/h. A literature review indicated that only one pre-existing study used crash data to assess the effectiveness of large truck speed limiters in reducing collisions.

Objectives: This evaluation aimed to determine whether Ontario's speed limiter program has been effective in reducing large trucks' collisions on high-speed highways. Specifically, we asked: (1) what has been the effect on the frequency of collisions involving speeding large truck drivers on 100 km/h roads; and (2) has the legislation inadvertently caused an increase in other collisions involving large truck drivers?

Methods: The study compared police-reported collision data from a three year pre-implementation period (2006-2008) to a three year post-implementation period (2010-2012). Drivers of large trucks (GVWR>11,793 kg) comprised the study group, while drivers of all other vehicles comprised the comparison group. Collision data was obtained from Ontario Ministry of Transportation's Accident Database. For Objective 1, the outcome measure was taken as the proportion of large truck drivers who were at-fault due to speeding (relative to all at-fault driver actions), in a collision on a 100 km/h highway. Poisson regression was used to investigate whether speed limiter implementation was associated with a pre/post change in outcome (speeding at-fault proportion) for large truck drivers that differed from any change in outcome seen for drivers of other vehicles. For Objective 2, the same analysis was conducted for speeding large truck drivers on 80 km/h roads to investigate whether drivers compensated, where possible, for the restriction of speed on 100 km/h roads. A pre/post comparison of the proportion of large truck drivers struck in the rear was used to investigate claims that these collisions are a consequence of speed limiter legislation.

Results: For Objective 1, a decrease of 72.7% in speeding at-fault proportion on 100 km/h roads was found for large truck drivers, which was significantly greater than a 29.73% decrease found for other drivers. For Objective 2, regarding large truck

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drivers in collisions on 80 km/h roads a similar effect was found to that of 100 km/h roads; significance was marginal. No change pre/post was found in the proportion of large truck drivers struck in the rear (pre: 10.03%, post: 10.47%).

Conclusion: Our analysis indicates that Ontario legislation limiting large truck speed was associated with a decrease in the proportion of large truck drivers found at-fault for speeding in a collision. In addition, there is no evidence that the legislation has contributed to an increase in large truck drivers involved in other collisions.

Limitations: The study was limited by low collision outcome numbers that prevented the use of a control group more similar to large truck drivers e.g. other commercial vehicles not requiring a speed limiter.

Ontario legislation limiting large truck speed was associated with a decrease in the proportion of large truck drivers found at-fault for speeding in a collision.

Mavis Johnson Traffic Safety Award

The Mavis Johnson Traffic Safety Award is presented to the author(s) of the best paper in the Policy and Practice Stream at the CARSP Conference. The award recognizes contributions by safety practitioners to any aspect of traffic safety legislation, policy development, regulation, enforcement, education, training, assessment/rehabilitation, community or stakeholder engagement.

There were no qualifying papers submitted for the 2017 CARSP Conference and this award was not conferred. So - calling all traffic safety practitioners - why not submit your paper to the next conference, to be held on June 10-13, 2018 in Victoria, BC? You may have a really good chance to win the 2018 Mavis Johnson Traffic Safety Award!

Le prix de la sécurité routière Mavis Johnson est présenté au(x) auteur(s) du meilleur article dans le volet « Politiques et pratiques » de la Conférence ACPSER. Le prix reconnaît la contribution des praticiens sur tout aspect lié à la sécurité routière : législation et réglementation, élaboration de politiques et de programmes, éducation, formation, évaluation/réhabilitation, engagement communautaire ou implication des décideurs.

À la Conférence ACPSER 2017, ce prix n'a pas été décerné car aucun article n'a été soumis dans cette catégorie. Voici donc un appel à tous les praticiens de la sécurité routière : pourquoi ne pas soumettre votre proposition à la prochaine conférence, qui aura lieu du 10 au 13 juin 2018, à Victoria en Colombie-Britannique ? Vous aurez sûrement d'excellentes chances de remporter le prix Mavis Johnson 2018 !

CARSP's Lifetime Achievement Award is presented annually to individuals who have made a positive impact on road safety in Canada.

Lifetime Achievement Award Recipients

CARSP's Lifetime Achievement Award is presented annually to individuals who have made a positive impact on road safety in Canada. Candidates have had a stellar career in this field and have made significant contributions to the Canadian Association of Road Safety Professionals. At the 2017 CARSP Conference, three members were awarded with this honour.

Le "CARSP's Lifetime Achievement Award" est remis annuellement à des individus ayant eu un impact positif sur la sécurité routière au Canada. Ces personnes ont non seulement contribué significativement à CARSP mais ils ont aussi eu une carrière remarquable dans leurs champs d'expertise respectifs. Lors de la conférence CARSP 2017 tenue à Toronto en juin dernier, 3 candidats reçurent cette prestigieuse distinction.

Dr. David Wiesenthal

David's career spans 46 years, starting as a Postdoctoral Fellow and Special Lecturer at York University in 1970, and continuing to his retirement in 2016 as Professor Emeritus and Senior Scholar. He has served on a wide variety of committees within York University. His research has addressed a number of social issues relevant to applied psychology, including blood donation, vandalism, scientific racism and violence in sport; however, his most prolific research was in the area of road safety, particularly on driver stress, aggression, distraction, and street racing. His published work includes more than 60 journal articles, 18 book chapters, and more than 160 workshops and conference presentations. He has contributed greatly to the next generation of road safety advocates, serving on CARSP's Board of Directors between 2009 and 2015.

Fort d'une expérience de plus de 46 ans, David a débuté sa carrière en tant que boursier postdoctoral et conférencier invite à l'Université York en 1970, et poursuit maintenant depuis sa retraite en 2016 en tant que professeur émérite et chercheur senior. Durant sa carrière, il a siégé sur une multitude de comités au sein de l'Université York. Ses recherches ont abordé de nombreuses questions sociales liées à la psychologie appliquée, y compris le don de sang, le vandalisme, le racisme et la violence dans le sport. C'est en sécurité routière qu'il a toutefois montré son profil de recherché le plus prolifique en étudiant plus particulièrement le stress chez les conducteurs, les comportements agressifs au volant, la distraction et les courses de rue. Son dossier de publications compte plus de 60 articles de revues scientifiques, 18 chapitres de livres et plus de 160 ateliers et présentations de conférences. Il a grandement contribué à la prochaine génération d'acteurs en sécurité routière, en plus de server au sein du conseil d'administration de CARSP entre 2009 et 2015.

Congratulations to this year's recipients: Dr. David Wiesenthal, Dr. Alison Smiley, and Anne Leonard.

Dr. Alison Smiley

Based in Toronto, Ontario, Alison has been the President of Human Factors North for the past 32 years. Her many accomplishments include serving as an adjunct professor in the Mechanical and Industrial Engineering Department at the University of Toronto over a 24-year period; organizing and conducting a number of workshops on road safety/ human factors in both Canada and the United States; publishing more than 50 academic articles, writing several book chapters, and producing more than 100 reports and conference presentations. She is widely sought after as an expert witness in motor vehicle collision litigation. Alison has received a number of awards in the field of road safety and human factors, including the A.R. Lauer Safety Award given by the US Human Factors and Ergonomics Society.

Basé à Toronto (Ontario), Alison est présidente de Human Factors North depuis 32 ans. Parmi ses nombreuses réalisations, Alison a occupé le poste de professeur adjoint au département d'ingénierie mécanique et industrielle de l'Université de Toronto pendant 24 ans, organiser de nombreux ateliers sur la sécurité routière et les facteurs humains au Canada et aux États-Unis. Elle a publié plus de 50 articles scientifiques, en plus de rédiger plusieurs chapitres de livres et tout en produisant plus de 100 rapports et présentations de conférences. Elle est reconnue par la communauté comme témoin expert dans les litiges de collision de véhicules automobiles. Alison a reçu plusieurs prix dans le domaine de la sécurité routière et les facteurs humains, y compris le A.R. Lauer Safety Award attribué par le US Human Factors and Ergonomics Society.

Anne Leonard

Anne recently retired as the Executive Director of *arrive alive DRIVE SOBER* in Ontario after a career spanning 20 years. Starting out as a volunteer with the Ontario Community Council on Impaired Driving, she became the founding member, and eventually the President, of *arrive alive DRIVE SOBER*. Anne has been tireless in her passion for impaired driver awareness

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Anne a récemment pris sa retraite de arrive alive DRIVE SOBER où elle travaillait en tant que directrice générale de l'organisation suite à une carrière s'Étalant sur plus de 20 ans. Débutant sa carrière en tant que bénévole auprès du Conseil communautaire de l'Ontario sur la conduite avec les facultés affaiblies, elle est devenue membre fondateur, puis présidente de arrive alive DRIVE SOBER. Anne fait foi d'une passion infatigable pour la sensibilisation des conducteurs Ontariens, et Canadiens face à la conduite avec les capacités affaiblies. Elle a travaillé avec de multiples organismes, y compris les étudiants

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Le "CARSP's Lifetime Achievement Award" est remis annuellement à des individus ayant eu un impact positif sur la sécurité routière au Canada.

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both within Ontario and across Canada. She has worked with multiple organizations, including Ontario Students Against Impaired Driving, Action Sudbury, Student Life, the Ontario Association of Chiefs of Police, Canadian Association of Chiefs of Police, and the Ontario Provincial Police. Anne's organization has played a key role in Ontario in changing the attitudes and perceptions towards impaired drivers. She has received a number of awards, including the Regional Commander's Award from the Toronto Police Service, the 2016 Public Safety Award of Excellence, and two Road Safety Achievement Awards presented by the Ontario Ministry of Transportation.

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Ontariens contre la conduite avec les capacités affaiblies, Action Sudbury, Student Life, l'association des chefs de police de l'Ontario, l'Association canadienne des chefs de police et la police provinciale de l'Ontario. L'organisation fondée par Anne joue un rôle clé en Ontario afin de changer les attitudes et les perceptions à l'égard des conducteurs ayant les capacités affaiblies. Elle a reçu de nombreuses récompenses, dont le prix du commandant régional du Service de police de Toronto, le prix d'excellence en sécurité publique de 2016 et deux prix de la sécurité routière présentés par le ministère des transports ontarien.

Student Paper Competition Award Recipients

First Place: Maria Espinosa, Ryerson University

Safety Evaluation of Signalized Intersections with Automated Vehicles at Various Penetration Levels based on Conflict Analysis of Simulated Traffic

Maria is a recent M.A.Sc. graduate in Transportation Engineering from Ryerson University. The main focus of her research was road safety at signalized intersections, specifically for automated vehicles. Throughout her master's, Maria developed a wide range of skills on the area of traffic operations and road safety. She works at CIMA+ as an EIT in the Transportation Department.

Maria Espinosa of Ryerson University receiving 1st Place in the CARSP Student Paper Competition from Insurance Bureau of Canada sponsor

Abstract: Automated vehicles (AVs) are expected to offer great benefits by potentially reducing crashes. The safety at signalized intersections is influenced by several factors, one of them being the driving behavior. By introducing AVs on the roads, the unpredictability of this factor will potentially decrease and eventually, reduce crashes. By using micro-simulation, it was possible to use simulated traffic conflicts as indicators of potential crashes, to analyze the potential safety of signalized intersections in the presence of automated vehicles. The objective was to compare crash frequency for signalized intersections at various AVs penetration levels (0%, 50%, and 100%) by using prediction models that relate crashes to conflicts. Furthermore, the effect on crashes by introducing a hypothetical left turn protection treatment was also evaluated. The results indicated that intersection safety may improve in the presence of AVs. However, the safety effects of treatments may be reduced compared to the effects with no AVs.

Résumé : Les véhicules autonomes (VAs) offriront de nombreux avantages notamment en diminuant, voir éliminant les collisions de la route. La sécurité aux intersections signalisées est influencée par plusieurs facteurs, l'un d'entre eux étant le comportement de conduite des utilisateurs de la route. Par l'introduction voitures autonomes sur les routes, l'imprévisibilité de ce facteur pourra potentiellement diminuer et donc, de réduire les collisions éventuelles. À l'aide de la microsimulation, il a été possible d'utiliser les conflits de trafic simulé comme indicateurs des risques de collisions, d'analyser le potentiel de la sécurité aux intersections signalisées en présence de véhicules autonomes. L'objectif était de comparer la fréquence de collision pour les intersections signalisées à différents niveaux de pénétration des voitures autonomes (0 %, 50 % et 100 %) à l'aide de modèles de prédiction des collisions liées aux conflits. L'effet sur les collisions par l'introduction d'un virage à gauche protégé hypothétique a également été évalué. Les résultats ont indiqué que la sécurité aux intersections peut améliorer à la présence de VAs. Cependant, les effets des traitements peut être réduite par rapport aux effets sans VAs.

Caitlin Sowers of the University of New Brunswick receiving 2nd Place in the CARSP Student Paper Competition from Insurance Bureau of Canada sponsor

Second Place: Caitlin Sowers, University of New Brunswick

The Future of Traffic Monitoring: A New Perspective Using Drones

Abstract: Unmanned Aerial Vehicles (UAVs) have been successfully used as an alternative to traditional traffic monitoring practice given their low cost and improved mobility. A UAV was used to investigate how quickly drivers adapted to the introduction of the first two-lane roundabout in New Brunswick. The footage provided by the UAV was manually analyzed to interpret changes in driving errors as they became more familiar with the new facility. The video

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Congratulations to this year's student paper award recipients:

1st Place: Maria Espinosa,Ryerson University

2nd Place: Caitlin Sowers, University of New Brunswick

3rd Place: Ting Fu, McGill University

Honourable Mention: Gabriel Suskin, London Central Secondary School

Honourable Mention: Suliman Gargoum, University of Alberta

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also allowed for real-world estimates of driver gap acceptance for use in capacity analyses. The captured data has led to recommended design changes that should lead to a safer facility going forward. Transport Canada is the governing body for UAV regulation in Canada and the application process undertaken for the research done at the roundabout is discussed. Operational practices for the best use of UAVs for traffic monitoring are also recommended, which include surveys that traditionally require significant person-power.

Résumé : Des drones (véhicules aériens sans pilote, UAV) ont été utilisés avec succès comme alternative à la pratique courante de surveillance du trafic, compte tenu de leur faible coût et de leur mobilité améliorée. Dans la présente étude, un drone (UAV) a été utilisé pour enquêter sur la rapidité avec laquelle les conducteurs se sont adaptés à l'introduction du premier rond-point à deux voies au Nouveau-Brunswick. Les images fournies par le drone ont été analysées manuellement en vue de déceler les erreurs de conduite au moment où les conducteurs se familiarisaient davantage avec la nouvelle installation. L'enregistrement-vidéo a également permis d'estimer en temps réel les écarts acceptables entre véhicules; de telles données pourraient être utilisées par la suite dans les analyses de capacité. L'information obtenue a permis de faire des recommandations judicieuses dans la conception pouvant conduire à une installation plus sécuritaire à l'avenir. Transports Canada étant l'institution responsable de la réglementation des drones (UAV) à travers le pays, le processus de demande de permis de leur utilisation pour la recherche effectuée au rond-point est discuté. Les pratiques opérationnelles pour la meilleure utilisation des véhicules aériens sans pilote (UAV) pour la surveillance de la circulation routière sont également recommandées, y compris des enquêtes qui nécessitent traditionnellement une main d'œuvre importante.

Ting Fu of McGill University receiving 3rd Place in the CARSP Student Paper Competition from Insurance Bureau of Canada sponsor

Third Place: Ting Fu, McGill University

A Novel Framework to Evaluate Pedestrian Safety at Non-signalized Locations using Video-based Trajectory Data

Abstract: A new framework is proposed to evaluate pedestrian safety at non-signalized crosswalk locations. In the framework, the yielding maneuver of a driver in response to a pedestrian is split into the reaction period and the braking period. The relationship of the distance required for a yielding maneuver and the speed of the approaching vehicle depends on the reaction time of the driver and deceleration rate that the vehicle can achieve. The framework, which is represented in the distance-velocity diagram, is called the DV model. The situations for vehicles approaching when the pedestrian shows the intention to cross are divided in three categories: 1. situations where vehicles cannot make a full

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stop, 2. uncertain situations where whether they can yield depends on the driver reaction time, and 3. situations where they must yield. Based on this, non-yielding maneuvers are classified as non-infraction non-yieldings, uncertain non-yieldings and non-yielding violations respectively, and crossing decisions of the pedestrians are classified as dangerous crossings, risky crossings and safe crossings accordingly. Yielding compliance and yielding rate, as measures of the yielding behavior are redefined based on these categories. Time to crossing and deceleration rate required for the vehicle to stop are used to measure the probability of collision. Finally, the framework is demonstrated through a case study in evaluating pedestrian safety at three different types of non-signalized crossings including: a painted crosswalk, an unprotected crosswalk, and a crosswalk controlled by stop signs. Results indicate that the proposed framework works properly and reasonably as expected in evaluating pedestrian safety at non-signalized crosswalk locations.

Résumé : Un nouveau cadre est proposé pour évaluer la sécurité des piétons dans les emplacements non balisés. Dans le cadre, la manœuvre de rendement d'un conducteur en réponse à un piéton est divisée en la période de réaction et la période de freinage. La relation entre la distance requise pour une manœuvre d'éjection et la vitesse du véhicule d'approche dépend du temps de réaction du conducteur et de la vitesse de décélération que le véhicule peut atteindre. Le cadre, qui est représenté dans le diagramme distance-vitesse, est appelé le modèle DV. Les situations pour les véhicules qui s'approchent lorsque le piéton montre l'intention de traverser sont divisées en trois catégories: 1. les situations où les véhicules ne peuvent pas faire un arrêt complet, 2. les situations incertaines où leur rendement peut dépendre du temps de réaction du conducteur et 3. les situations Où ils doivent céder. Sur cette base, les manœuvres non productives sont classées comme non-rendement non-infraction, non-rendement incertain et non-rendement respectivement, et les décisions de passage des piétons sont classées comme des passages dangereux, des passages à risques et des passages sécuritaires en conséquence. Rendant la conformité et le taux de rendement, comme les mesures du comportement de rendement sont redéfinies sur la base de ces catégories. Le temps de croisement et le taux de décélération requis pour arrêter le véhicule sont utilisés pour mesurer la probabilité de collision. Enfin, le cadre est démontré par une étude de cas sur l'évaluation de la sécurité des piétons à trois types différents de passages non signalés, dont un passage piéton peint, un passage piéton non protégé et un passage à niveau commandé par des panneaux d'arrêt. Les résultats indiquent que le cadre proposé fonctionne correctement et raisonnablement comme prévu dans l'évaluation de la sécurité des piétons dans les emplacements de signalisation non signalés.

Honourable Mentions in Student Paper Competition

Gabriel Suskin, London Central Secondary School: *Drivers Stopping Behaviour at Non-Warranted Stop Signs: A Feasibility Study*

Suliman Gargoum, University of Alberta: *Automated 3D Assessment of Sight Distance on Highways using Mobile LiDAR*

In his keynote address, Dr. Wegman gave Canada a check-up in terms of how we are doing with adopting and implementing a Safe Systems Approach in road safety.

Towards Vision Zero by Safe Systems

Keynote address by Dr. Fred Wegman, Professor Emeritus of Delft University in the Netherlands

Résumé : Cette année, le conférencier d'honneur était le Dr Fred Wegman, professeur émérite de l'Université de Delft aux Pays-Bas. Le Dr Wegman a partagé ses réflexions sur une nouvelle façon de penser à la sécurité en étant proactif plutôt que réactif, selon l'approche Système-sûr. Il a ensuite examiné les pratiques canadiennes par rapport à l'adoption et à la mise en œuvre d'une approche Système-sûr.

This year's keynote speaker was Dr. Fred Wegman, Professor Emeritus of Delft University in the Netherlands. Dr. Wegman has played a key role in the adoption and implementation of a Sustainable Safety or Safe Systems Approach to road safety in the Netherlands since the early 1990s. In his keynote address, Dr. Wegman gave Canada a check-up in terms of how we are doing with adopting and implementing a Safe Systems Approach in road safety.

Dr. Wegman first described the traditional engineering approach which is to "go fishing where the fish are". In other words, look for the things we want to change by seeing where the events are occurring at an unacceptable level. For instance, where there is a high concentration of killed and/or seriously injured persons caused by traffic collisions, the next step would be to determine the problem and then implement the appropriate countermeasure.

This method is reactive, rather than proactive. While in the short-term it is important to focus on problem areas and react to collision spikes, once those spikes are gone, the rest of the collision distribution needs to be examined and treated. The entire distribution needs to be lowered when safety is considered paramount and no injury or death is acceptable.

The spike approach stems from a system where collisions are deemed an inevitable outcome of a motorized society, and that sites above an acceptable injury or death rate, the outliers, are the true problem. This approach also puts a lot of responsibility on the road user to drive safely. While traditional engineering approaches look at road design, they also factor in road user behaviour as a major contributor to injuries and deaths.

Dr. Wegman challenged us to consider a system in which safety is the primary objective. Examples of this are in the air transport and rail sectors. In these two sectors safety is more important than time or money. If there was an opportunity to cut costs but at the same time lessen safety, it would not be implemented as safety is paramount.

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Such a Safe System Approach has six guiding principles:

1. Ethical. Is it in the best interest of our society?
2. Proactive. We don't need to wait for a crash to change a speed limit from 50 km/h to 30 km/h.
3. People are the measures of all things. Human life is supreme.
4. Integral and holistic. A Safe Systems Approach involves many different sectors working together.
5. It aims to reduce gaps and latent errors in the system.
6. It uses preventable injuries as its outcome.

Safe Systems also uses a two-pronged approach. First, there is a need to adjust the environment such that if there is a human error, the system is more forgiving of such errors (in terms of a less severe injury outcome). Secondly, the system needs to deal effectively and efficiently with those who break the rules of the road.

Dr. Wegman also stressed that a Sustainable Systems Approach needs to be catered to the issues within each country. He gave the example of a 2 + 1 road, where the middle lane changes direction to match the flow of traffic. This approach works well in Sweden as traffic volumes are low, but would not work well in the Netherlands, where traffic volumes are much higher. Decision-makers need to select road designs which best suit their jurisdiction based on local needs and issues.

The Safe Systems approach is not new to Canada. Dr. Wegman pointed out that many cities in Canada have adopted Vision Zero, which is very similar to Safe Systems or Sustainable Safety. However, while there is some movement, Dr. Wegman has doubts about whether Canada as a whole is truly moving toward a Safe System. To evaluate how well Canada is doing with the Safe Systems Approach, Dr. Wegman examined the Canadian Council of Motor Transport Administrator's document "Canada's Road Safety Vision 2025". He believed that the targets set out in this document fall short. In the document it states that Vision Zero is not a target to be achieved by a certain date, but rather it is 'aspirational in nature'. He asked why we don't make it a target. The CCMTA document also states that we wish to lower the mortality rate by a defined amount. While he commends this objective, he stressed that without a plan to get there, it fails to address how the objective will be achieved.

Dr. Wegman stated that in order to be successful, Canadian society as a whole needs to decide that safety is paramount, no matter the cost. This paradigm shift needs to occur outside of the road safety arena. Only a paradigm shift will create the political pressure necessary for our government to deem it a priority. He further went on to say that road safety professionals and CARSP as a whole, has a role in this process. Road safety professionals can try to better educate and engender the community values necessary for this movement. In order to create this paradigm shift, there are three problems road safety professionals need to address:

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The Safe Systems approach is not new to Canada. However, while there is some movement, Dr. Wegman has doubts about whether Canada as a whole is moving toward a Safe System.

Safe Systems is a journey; one in which we learn from other countries and ourselves, readjust our plan, and keep moving forward.

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- There is a low perception of the dangers of driving.
- There is lack of appreciation that there are solutions.
- There is a lack of support for initiatives that infringe on perceived personal freedoms.

It is also important to have safety champions at the forefront to help influence decision-makers. Dr. Wegman conveyed that Safe Systems is a journey; one in which we learn from other countries and ourselves, readjust our plan, and keep moving forward. He encouraged us to keep learning and lead our society in a revolution of community values aimed at safe roads, no matter the cost.

Dr. Wegman's speech and the slidedeck are available in the members-only section of the CARSP website at www.carsp.ca.

Brenda Suggett
Executive Director, CARSP

Automated Vehicles Panel

Résumé : Conformément au thème de la technologie et de la sécurité routière de la Conférence ACPSER de 2017, quatre panélistes ont échangé sur les technologies d'automatisation des véhicules et leurs implications sur la sécurité routière le lundi 19 juin après les cérémonies d'ouverture. Un panel diversifié de conférenciers en provenance du monde universitaire, d'organisations non gouvernementales et de l'industrie a ainsi discuté l'état actuel de la technologie des véhicules automatisés, l'évolution de la technologie et les conséquences en termes de sécurité routière.

In keeping with the 2017 CARSP Conference theme of *technology and road safety*, four panelists discussed automated vehicle technologies and road safety on Monday, June 19, following the opening ceremonies. A well-rounded panel of speakers from academia, non-government organizations, and industry illustrated where automated vehicles technology is now, how the technology is changing, and what the implications are for road safety.

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Levels of Automation

Nicolas Saunier, Associate Professor of Transportation Engineering at Polytechnique Montréal

Nicolas Saunier set the stage for discussion of automated and autonomous vehicles, which is a critical distinction. To answer his own question, "Are automated vehicles a thing of science

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fiction?" Nicolas presented videos collected from inside an Infiniti Q50 and a Tesla Model S. The Infiniti Q50 could be seen operating on a German multi-lane highway at high speeds without any driver input through use of its lane-keeping and adaptive cruise control features, while the Tesla Model S could be seen traversing the busy and winding streets of San Francisco without any driver input, using just its Autopilot system. To provide a framework for discussion, Nicolas presented the five levels of vehicle automation proposed by the Society of Automotive Engineers and the National Highway Traffic Safety Administration, including descriptions of the systems required at each level. A number of major challenges exist in the advancement of systems from Level 1 (driver assistance) to Level 5 (full automation), including weather, work zone/temporary traffic control, legal frameworks, and insurance. Given the current alternative of more than 1.2 million fatalities and 50 million injuries per year, the goal of reducing severe collisions is promising; Volvo maintains that it is on track to meet its 2012 commitment to commercially available systems in eight years, and Tesla continues to improve its Autopilot system through software upgrades. However, these merely represent two examples of a complex technological and commercial landscape. The proliferation of increasingly automated systems on our road networks is certain, while the impacts on safety, congestion, transportation planning, car ownership, and the economy are less so.

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Automated Vehicle Technology: A vehicle manufacturer's perspective

G. F. (Geof) Bailey, Director of Vehicle Safety, Emissions and Product Programs at General Motors of Canada Company

Geof Bailey stressed that the deployment of automated vehicle technologies should not be discussed in isolation of other major changes occurring in the automotive industry. He contextualized this argument through the discussion of General Motors' four-pronged technology roadmap, which imagines transportation now and into the future as connected, electric, sharing, and autonomous. Citing the transition from horse-drawn carriages to gas powered vehicles, he described the imminent paradigm shift in transportation. The processes of electrification and increased automation go hand-in-hand, considering the demand for electric power by automated systems. General Motors continues to work towards electrification and increased automation through vehicles like the Chevrolet Volt and Chevrolet Bolt EV, and through the acquisition and development of Cruise Automation. General Motors also recently launched MAVEN as a residential vehicle sharing brand. While autonomous vehicles can improve road safety by reducing collisions attributed to driver error, driver distraction, or impaired driving, Geof extolled the even greater benefits to be unlocked through ubiquitous deployment of vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I), and vehicle-to-person (V2P) systems.

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In 2016, CCMTA published the white paper titled Automated Vehicles in Canada, which included a checklist for jurisdictions to assess their readiness for piloting automated vehicles.

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Automated Vehicle Technology: A regulator's perspective

Mark Francis, Manager of Provincial Vehicle Registration and Licensing at the Insurance Corporation of British Columbia (ICBC) and Co-Chair of the Working Group on Automated Vehicles at CCMTA

Mark Francis presented on the current work of the Canadian Council of Motor Transport Administrators (CCMTA), including regulatory considerations, the relationship between automated vehicles and various levels of government, and support provided jointly by CCMTA and the American Association of Motor Vehicle Administrators (AAMVA). In 2016, CCMTA published the white paper titled *Automated Vehicles in Canada,* which included a checklist for jurisdictions to assess their readiness for piloting automated vehicles. AAMVA is set to publish similar guidelines in December 2017. Mark provided some of the key considerations for the administration of automated vehicles, including new vehicle registration requirements, driver licensing requirements, driver training requirements (particularly relating to the use of automated functions), law enforcement, de-weaponization, and first responder safety.

Driver Behavious and Automation

Robyn Robertson, President and CEO at the Traffic Injury Research Foundation (TIRF)

Robyn Robertson rounded out the panel discussion with highlights from unique Canadian research on public perception of automated technologies. TIRF's 2016 survey ,*Automated Vehicles: Driver Knowledge, Attitudes, and Practices,* focused on familiarity, trust, and perceived ease of use or usefulness of automated vehicles, all of which affect driver behaviour and how behaviour will shape our experience with automated vehicles in the future. More than 2600 respondents across Canada completed the survey, enabling regional comparisons. Respondent familiarity with automated vehicle systems was high (63%), which paralleled the preference to use vehicles with standalone safety features, or those that combine safety features such as lane monitoring or forward collision warning systems (67%). However, low percentages of respondents identified a preference to use limited self-driving vehicles (20%) or fully self-driving vehicles (14%). This survey represents an important foundation for assessing changing knowledge and attitudes towards automated vehicles to build on in the future since, as Robyn warns, driver behaviour should not be overlooked or underestimated in the development and implementation of these technologies.

TIRF's 2016 survey, Automated Vehicles: Driver Knowledge, Attitudes, and Practices, *focused on familiarity, trust, and perceived ease of use or usefulness of automated vehicles.*

Mark Hearson
Fireseeds North Infrastructure

Pedestrian Safety and Technology Panel

Résumé : Le Panel sur la sécurité des piétons et les technologies connexes a exploré la sécurité des piétons selon différents points de vue, tels que l'approche de la santé publique, l'examen d'une technologie spécifique avec des répercussions involontaires sur la santé, l'utilisation de la technologie pour diffuser les interventions et enfin l'utilisation des médias sociaux pour entraîner des changements lors de campagnes visant les piétons.

The Pedestrian Safety and Technology Panel explored pedestrian safety from a number of perspectives such as public health approach, the examination of a specific technology with unintentional health repercussions, the use of technology to inform interventions and finally the use of social media to drive change on pedestrian related campaigns.

Trends in Pedestrian Injuries and Fatalities

Jennifer Crain, Research and Data Manager, Public Health Agency of Canada's Surveillance and Epidemiology Division

Jennifer Crain kicked-off the panel on pedestrian safety by discussing injuries as a public health problem. She presented some high-level statistics on motor vehicle injuries and pedestrian injuries and fatalities. Second to falls, transportation is the biggest cause of preventable injuries, costing about $4 billion annually. Pedestrians represent 22% of global traffic fatalities, approximately 300 of which occur in Canada every year. Seniors are at the highest risk for pedestrian fatalities. Canadian Hospitals Injury Reporting and Prevention Program data reveals that 71% of road users injured in a collision were motor vehicle occupants, followed by pedestrians at 13%.

Pedestrian Exposure Data

Jean-Francois Rheault, Director, North American/Canada, Eco-Counter

Jean-Francois Rheault from Eco-Counter demonstrated their system for pedestrian and cyclist counting as they relate to safety. Pedestrian counting has less robust historical data and tracking. Most pedestrian counting systems are time limited and may not provide enough exposure for long-term trend analysis. Short-term counts should accompany permanent counts to model pedestrian exposure. Hot-spot risk assessments using traffic fatalities and pedestrians are a great way to build informative maps and target interventions.

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Hot-spot risk assessments using traffic fatalities and pedestrians are a great way to build informative maps and target interventions.

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Pedestrian Countdown Signals

Andrew Howard, Orthopaedic Surgeon, Hospital for Sick Children, Senior Scientist, Child Health Evaluative Sciences and Associate Professor, University of Toronto

Andrew Howard presented on traffic signals, including a study on pedestrian countdown signals in Toronto which had a negative safety outcome. A detailed spatial before-after study of pedestrian countdown signals at 1,965 intersections found a 26% overall increase in car-pedestrian collisions after installation. Car-car collisions also increased by 7%. There have not been many studies on this specific subject, and the existing studies are not robust enough to complete a meta-analysis on the overall effectiveness of countdown signal. Howard emphasized that signals should be part of a mixed approach to reducing collisions.

Disability in Childhood as a Determinant of Traffic Injury

Ron Buliung, Professor, Department of Geography and Programs in Environment, University of Toronto

Ron Builiung, discussed his lived experiences with disabling infrastructure in childhood, as a professor, and as a father of a six year old who has a neuromuscular disease. Disability is often poorly represented in transport and injury policy documents. Disability should fit into active transportation. Disability is often not conceptualized in road safety strategies. People with disabilities experience a higher risk to sustain an injury in comparison to the healthy population, however there is a high need for more research including traffic safety with disability as a determinant of health.

Social Media, Education and Engagement

Véronique Fournier, Piéton Québec

Veronique Fournier from *Piéton Québec* finished the panel with a presentation on social media, education and engagement. *Piéton Québec* is trying to build a social movement on active transportation. How do we change behaviour, create knowledge, social norms and political involvement? This relatively new, volunteer-driven organization is starting a national social movement to change norms on the provincial and local level. The use of policy briefs, social media, and fact sheets are critical in creating that movement, translating knowledge, and empowering citizens. Political involvement is critical to make sure pedestrians have representation.

Disability is not often conceptualized in road safety strategies. People with disabilities experience a higher risk to sustain an injury in comparison to the healthy population.

Technology and Enforcement Panel

Résumé : Le troisième panel de la conférence ACPSER 2017 portait sur les technologies qui représentent des solutions à des problèmes d'application de la loi. Les sujets discutés par les panélistes comprenaient : le contrôle de la vitesse au moyen de caméras au feu rouge, un système de télémétrie qui utilise l'ultrason, des tests salivaires pour la détection des drogues et des systèmes automatisés de reconnaissance de plaque d'immatriculation.

The third panel session at the 2017 CARSP Conference focused on technological solutions that are being applied to traffic enforcement issues. Topics discussed by the panelists included red-light cameras and speed enforcement; a range-finding system that uses ultrasound; oral fluid testing for drugs; and automated license plate recognition systems.

Red Light Cameras and the Potential for Future Automated Speed Enforcement

Roger Browne, Manager, Traffic Safety Unit, City of Toronto

In 2004, six Ontario municipalities were authorized to operate red-light cameras with the intent of reducing the incidence of angle collisions at intersections, a crash mode that poses high risk of occupant injury. In 2010, the fine for red-light running was increased from $180.00 to $325.00. Currently, eight jurisdictions are operating red-light cameras, at a total of 205 intersections across the province. The camera takes a photograph of the rear license plate of an offending vehicle. The legislation allows the registered owner of the vehicle to be charged rather than the driver (who is not identified in the photograph). A fine is levied but there is no loss of points. The programme has proven to be highly effective in Toronto, where traffic-related fatalities and injuries have decreased by 40% and 23%, respectively.

With a view to building on the success of automated enforcement through the use of red-light cameras, recent legislative changes in Ontario have been adopted to facilitate automated speed enforcement in certain areas. Bill 65, Safer School Zones Act, 2017 amends the Highway Traffic Act to allow municipalities to designate areas by by-law where they can impose speed limits that are lower than 50 km/h. In addition, automated speed enforcement systems may be used in community safety zones, where the speed limit is below 80 km/h, and in school zones. It is anticipated that these measures will provide enhanced safety for vulnerable road users and allow targeting of aggressive and distracted driving.

Bill 65, Safer School Zones Act, 2017 amends the Highway Traffic Act to allow municipalities to designate areas by by-law where they can impose speed limits that are lower than 50 km/h.

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Some police officers patrolling by bicycle have range-finding systems attached to the handlebars that measure the lateral distance to passing vehicles using ultrasound and hence permit direct enforcement of the legislation.

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Leveraging Technology for Road Safety

Rob Wilkinson, Coordinator, Safer Roads Ottawa

The City of Ottawa has implemented a number of technologies aimed at enforcing specific traffic laws. For example, new legislation in Ontario requires drivers to leave at least a one-metre passing distance when overtaking a cyclist. Some police officers patrolling by bicycle have range-finding systems attached to the handlebars that measure the lateral distance to passing vehicles using ultrasound and hence permit direct enforcement of the legislation.

A second initiative, that took the form of a pilot project, was to install high-definition video cameras on the side of a school bus to monitor and record passing infractions when the bus was stopped with its flashing red lights activated. The results over a one-year period indicated that over 200 charges could have been laid for a single bus route, demonstrating the potential for this technology to address this specific safety issue.

Another tool being used by police in Ottawa is a tint meter, an electro-optical device to measure the opacity of tinted windows. The device addresses a number of safety concerns including the ability to identify drivers, and distractions such as cellphone use, by direct observation through side windows, and ensuring officer safety during traffic stops.

Oral Fluid Testing for Drugs

Doug Beirness, Senior Research & Policy Analyst, Canadian Council on Substance Abuse

Drug use by drivers is an issue of increasing concern, and the proposal to legalize recreational cannabis has the potential to increase overall cannabis use by drivers. As a result there is a need to implement a roadside screening device that could detect and measure drugs quickly and easily. One such technology that is being tested is oral fluid drug screening.

In a field study, samples from known drug users were taken using one of three screening devices, with a second sample being submitted for conventional laboratory testing. The samples were screened for cannabis (THC), cocaine (benzoylecgonine), amphetamine, methamphetamine, opioids, and benzodiazepines, although it must be recognized that these are by no means the only drugs that could result in driver impairment. The readings from the screening devices were compared to the laboratory results. The conclusions were that cannabis, cocaine and methamphetamine could be detected by the oral fluid screening devices, but attention needed to be paid to both miss-rates and false-positive results.

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At present, it is envisaged that an oral fluid screening device, in conjunction with a Standardized Field Sobriety Test, may well prove valuable in identifying some measure of drug use, and likely provide reasonable and probable grounds for a follow-up blood test and/or evaluation by a Drug Recognition Expert.

Utilizing Automated License Plate Recognition to Target Prolific Prohibited Drivers

Inspector Michael Labossiere, E Division Traffic Services, RCMP, and
Corporal Paul Walker, Abbottsford Police Department

Automated License Plate Recognition (ALPR) typically uses all-weather, infrared cameras mounted to the roof of a police vehicle, providing the ability to scan and record images of licence plates of other motor vehicles in the vicinity. Digital image processing techniques are used to locate a vehicle's licence plate in a photograph, and an optical character recognition system extracts the alpha-numeric digits of the licence number. The result is transmitted to a database and screened for any potential issues such as plates that belong to a driver with a suspended licence, or plates associated with stolen vehicles.

A pilot project, conducted by the RCMP in British Columbia used ALPR to target known offenders who were suspected of continuing to use their vehicles while being disqualified, and to check on the activities of suspected criminals. Of 2,658 prohibited drivers in the Lower Mainland, 312 had two or more driving prohibitions and yet were believed to be continuing to drive. The objective of the programme was to target these high-risk offenders, remove them from the roadways, and make local communities and roadways safer.

Over the nine-week period of the pilot study, 45,016 licence plates were read generating 688 positive hits. These included individuals who had no driving licence, no insurance, and/or who were driving while prohibited. A total of 41 criminal charges and 22 charges under the Motor Vehicle Act were laid, and 11 arrest warrants were executed. Six stolen vehicles were recovered, and seizures made of vehicles, cash, drugs, and stolen property.

The positive results of the pilot study resulted in the implementation of a of a full time, six-person, Prohibited Driver Enforcement Team (PDET). The PDET officers are deployed in unmarked, unconventional, police vehicles equipped with ALPR.

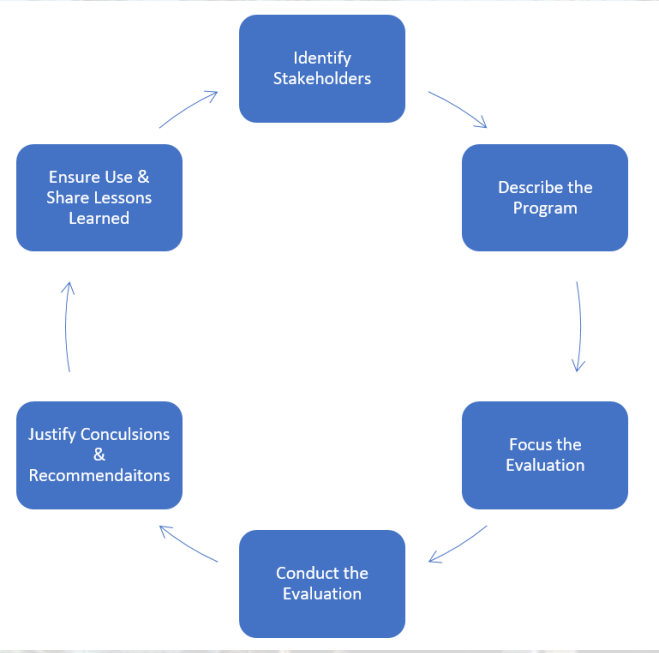
Alan German
Road Safety Research

A pilot project, conducted by the RCMP in British Columbia used ALPR to target known offenders who were suspected of continuing to use their vehicles while being disqualified, and to check on the activities of suspected criminals.

Program Evaluation Workshop

Résumé : Lors de la conférence de l'ACPSER, Brian Jonah et Paul Boase ont dirigé un atelier d'une durée de trois heures portant sur l'évaluation de programmes de sécurité routière. Cet atelier était coparrainé par l'ACPSER et la Faculté de génie et d'architecture de l'Université Ryerson. L'atelier a abordé le cycle de vie complet de l'évaluation de programmes et a inclus des études de cas passées portant sur les campagnes d'application de la loi sur la ceinture de sécurité ainsi que sur les améliorations apportées à l'infrastructure routière. Les participants ont également travaillé en groupe pour évaluer le programme de radars photo de la Colombie-Britannique.

On the afternoon of Sunday, June 18, 2017, CARSP offered a three-hour workshop on the evaluation of road safety programs. The workshop, which took place just prior to the start of the 2017 CARSP Conference in Toronto, was led by Brian Jonah and Paul Boase, both members of the Board of Directors of CARSP. The workshop was co-sponsored by CARSP and the Ryerson Faculty of Engineering and Architectural Science. There were 12 workshop participants from across Canada as well as from France and Lebanon.



The workshop was designed to cover the life-cycle of an evaluation as shown in the diagram on the right. The workshop covered the purpose of evaluations (it was stressed that evaluations should be part of the planning for a program not be an afterthought), identifying stakeholders (i.e., policymakers, program managers and staff, those served by program), describing the program looking at underlying theoretical foundations and logic models, focusing the evaluation process including different types of evaluations (i.e., formative, process, impact, and outcome) and the use of different research designs (i.e., experimental and quasi-experimental). Participants worked in small groups to develop a logic model for a speed camera program that was conducted in the late 1990s in BC.

The workshop was designed to cover the life-cycle of an evaluation. Participants worked in small groups to develop a logic model for a speed camera program that was conducted in the late 1990s in BC.

The diagram on the following page outlines the steps to follow in conducting an evaluation. Participants then discussed what evaluation questions could be posed

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for each type of evaluation, what indicators could be employed to address these questions, and how the indicators can be measured such as observational and public opinion surveys as well as collision data. It was also pointed out that it is important that evaluators must justify their conclusions and recommendations based on the information and data collected and that it is important to make sure that the program stakeholders are aware of the results so that they can act on them.
Participants were shown how a couple of program evaluations had been conducted in the past on seat belt enforcement campaigns and road infrastructure improvements. The workshop ended with participants working in groups to develop their plan for conducting an evaluation of BC speed camera program and then they received the results of the actual evaluation that was conducted on the program.

Workshop evaluations have been sent out to participants with the goal of improving the workshop for additional in person or webinar sessions. Consideration will be given to another session at the CARSP Conference in June 2018 in Victoria, BC.

CARSP would like to thank Ryerson University for the use of a room at the International Living and Learning Centre.

Brian Jonah, CCMTA
Paul Boase, Transport Canada

Young Professionals Committee

Résumé : Le Comité des jeunes professionnels (CJP) d'ACPSER a organisé une séance de réseautage autour de « L'avenir de la sécurité routière au Canada ». La séance de réseautage a permis aux jeunes professionnels et aux cadres supérieurs du domaine de la sécurité routière de partager leurs points de vue, opinions, actualités de travail ou recherche. Avant de participer à la séance de réseautage, les jeunes professionnels ont été encouragés à participer à une séance de formation. Cette séance de formation a porté sur les meilleures pratiques en matière de réseautage avec des professionnels et a offert des outils pratiques et des astuces pour être un communicateur efficace. Les jeunes professionnels participants ont eu l'occasion de mettre en réseau et d'établir des liens avec les patrons et dirigeants en matière de sécurité routière. L'évènement a apporté une chance précieuse de transférer une partie de la grande richesse collective de connaissances au sein d'ACPSER à de nouveaux professionnels de la sécurité routière entrant dans la profession.

One participant said, "it was awesome to meet other young people in the field and get better skills for networking around campus".

The CARSP Young Professionals Committee (YPC) hosted a networking session themed around the *Future of Road Safety in Canada*. The networking session provided an opportunity for young professionals and more senior leaders in the road safety field to share their views, opinions, current work and/or research.

Before participating in the *Future of Road Safety in Canada* networking session, young professionals were encouraged to attend a training session provided by the Canadian Injury Prevention Trainee Network. This training session focused on best practices for networking with professionals and offered practical tools and tricks for being an effective communicator.

Participants were able to ask questions to the facilitators and build their confidence by doing short, interactive activities. One participant said, "it was awesome to meet other young people in the field and get better skills for networking around campus". After getting some feedback at the training, participants joined other CARSP members for the networking session.

Participating young professionals enjoyed the opportunity to network and make connections with leaders in road safety. The event provided an invaluable opportunity to transfer some of the great collective wealth of knowledge within CARSP to new road safety professionals entering the field.

Next year's event will include some improvements and we hope to have even more members participate. The Committee would like to thank everyone who was able to participate and for sharing their knowledge.

Additionally at this year's CARSP Conference, the YPC ran another successful raffle for conference attendees. Prizes included 2 CARSP polo shirts (donated by CARSP board), 4 tickets to the Art Gallery of Ontario (donated by Arrive Alive) and a grand prize of a 50/50 draw. This year's 50/50 winner took home over $150. Thank you to all participants and those who provided donations.

The Young Professionals' Committee (YPC) is a sub-committee of CARSP and a multidisciplinary group of students and young professionals who come from various backgrounds, including engineering, injury prevention, safety programming, outreach, medicine, and psychology working across Canada in road safety. The CARSP YPC plans and participates in road safety activities across the country to generate awareness, advocate for evidence-based public policy and programming, and create a national network of young road safety professionals. If you are interested in learning more or joining the committee contact the chair at YPC_Chair@carsp.ca or visit http://www.carsp.ca/our-association/ypc/.

Kale Brown
CARSP YPC
City of Ottawa

CARSP Annual General Meeting

Résumé : L'ACPSER a tenu son assemblée générale annuelle (AGA) le lundi 19 juin 2017, lors de la première journée de la 27e Conférence de l'ACPSER à Toronto. Les règlements administratifs, le rapport sur les finances et l'invitation pour se rendre à la conférence de l'année prochaine qui se tiendra à Victoria, en Colombie-Britannique ont été les sujets principaux abordés lors de l'AGA.

CARSP held their Annual General Meeting (AGM) on Monday June 19th, 2017 – the first full day of the 27th CARSP Conference in Toronto, Ontario. Jennifer Kroeker-Hall, CARSP's President, chaired the meeting. Jennifer welcomed the conference delegates and provided an overview of CARSP as an organization. She then introduced CARSP's Executive Director, Brenda Suggett, and CARSP's four committee chairs:

- Structure and Governance Committee (Marie-Soleil Cloutier)
- Membership and Marketing Committee (Liz Owens)
- Finance Committee (Paul Boase)
- Young Professionals' Committee (Matthew Mulkern)

Marie Soleil Cloutier, CARSP's Vice President, presented proposed changes to the CARSP by-laws which were last modified in 2013. The proposed by-law changes were:

- Update the mission statement: *Fostering a road safety community by providing access to multi-disciplinary information, research, and networking opportunities.*
- Officers roles and terms: *The officers must be members of the Board. The officers will be elected by resolution of the Board. The term of the president and the vice-president will be two years. The term of the treasurer will be three years and may be extended up to three more years.*
- Executive director position: *Manage internal affairs including daily financial tasks. In charge of minutes and seal of the corporation. Perform other duties as prescribed by the president and the directors.*

The proposed changes were accepted by the CARSP membership.

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

- The 2016 Income/Expense Statement shows a net surplus of $23,673.02 for the year.
- The 2016 Balance Sheet shows an equity balance of $67,510.10.
- The 2017 budget is forecasting a surplus of $12,630.

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CARSP updated its mission statement to: Fostering a road safety community by providing access to multi-disciplinary road safety information, research, and networking opportunities.

CARSP will partner with RoadSafetyBC to deliver the 2018 CARSP Conference in Victoria, BC from June 10th to 13th, 2018.

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The 2016 Financial Statements and 2017 Budget were accepted by the CARSP 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 2016 and that, as in previous years, the financial statements be prepared by compilation", which was accepted by the membership.

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.

Jennifer announced the times and locations of the Dr. Charles Miller Award, Lifetime Achievement Award and the Student Paper Competition Awards presentations. She also announced the names of two out-going CARSP board members and thanked them for their service: George Equakun and Mark Asbridge.

Lastly, Jeff Groot from RoadSafetyBC announced that the 2018 CARSP Conference will be held in Victoria, B.C and June 10-13, 2018. CARSP will be partnering with RoadSafetyBC to deliver the conference. He discussed the Ministry's track record in road safety and played a short promotional video from Tourism Victoria.

Brenda Suggett
Executive Director, CARSP

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Editorial Board

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- Jeff Suggett - Associated Engineering, St. Catharines, ON
- Javier Zamora - LanammeUCR, University of Costa Rica, San Jose, Costa Rica

Guest Contributors

- Brian Jonah, Conference Co-Chair and Past President of CARSP, Ottawa, ON
- Christine Allum, Conference Co-Chair, CAA South Central Ontario
- Mark Hearson, Fireseeds North Infrastructure, Winnipeg, MB
- Brenda Suggett, CARSP, St. Catharines, ON
- Paul Boase, Transport Canada, Ottawa, ON
- Kale Brown, City of Ottawa, CARSP YPC, Ottawa, ON

Next Issue

The next issue of the Safety Network Newsletter will cover heavy vehicles and commercial drivers. Contact Rebecca Peterniak (rebecca.peterniak@fireseedsnorth.ca) if you would like to contribute an article on this topic. Submissions are due October 15, 2017 and should be between 300 and 500 words plus accompanying pictures and graphics

Prochain Numéro

Le prochain numéro du bulletin Le Réseau -sécurité portera sur les véhicules utilitaires lourds et leurs chauffeurs. Veuillez contacter Rebecca Peterniak si vous souhaitez contribuer un article portant sur ce sujet. L'échéance pour soumettre un article est le 15 octobre 2017 et il doit être d'une longueur de 300 à 500 mots, plus les images et les graphiques qui l'accompagnent.