

The Official Newsletter of the Canadian Association of Road Safety Professionals

THE SAFETY NETWORK ***LE RÉSEAU-SÉCURITÉ***

Le bulletin officiel de l'Association canadienne des professionnels de la sécurité routière

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SPEED AND SPEED MANAGEMENT

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Editorial



Like it or not, we live in a society obsessed by speed, or at the very least, by the desire to keep going faster. Speed is part of our lives, regardless of the reason behind it: obligation, efficiency, saving time, simple pleasure or any other rationale. The frantic pace of our lifestyle, with

its phenomenon of “faster, faster,” has its advantages, but also many disadvantages. Road accidents caused by speeding are an example of the disadvantages that affect the largest number of people.

Speed is one of the main problems that cause unsafe roads. To remind the public of the dangers of speeding and encourage them to slow down, jurisdictions in Canada and elsewhere have been using awareness campaigns for years. They have passed legislation to enforce speed limits on road networks and thus improve safety for all road users. They have used monitoring, both human and automated, to make sure people comply with the law. Jurisdictions are increasingly conscious of the impact the road environment has on speed, and are improving that environment so that characteristics of the road itself contribute to minimizing the risk of drivers making mistakes. The complexity of the problem of speeding requires combined efforts in all these areas of activity, as well as in vehicle technology. This intervention model, applicable for all unsafe road problems, has contributed to considerable improvement in road safety.

Nonetheless, speeding remains a problem, one that is difficult to address. A social consensus on the dangers of speeding is difficult to create and maintain, in particular because so much in our social environment says the opposite, especially concepts of productivity, about which agencies dedicated to road safety can do nothing. Thus, while problems like drinking and driving, or using cell phones or (the most recent trend) texting while driving are the subject of strong social consensus, we cannot say the same for speeding.

On the contrary, so many people drive over the speed limit and are completely unfazed by it that speeding is trivialized, even normalized. Drivers both overestimate and underestimate the problem. Behind the wheel, they tend to overestimate their own skills and the capabilities of their vehicle, and underestimate the risks to which

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they are exposing themselves by driving over the limit, even just a bit, which often seems harmless. And yet, speeding is indiscriminate - it claims victims every day.

Why is it so difficult to fight speeding and make all motorists understand that it is essential to obey speed limits at all times, so there aren't even minor instances of speeding? One reason is that there are almost no alternatives that we can offer. For impact, you can wear a seatbelt... For fatigue, you can take a rest, or even a nap... for impaired driving, you can choose a sober designated driver, take a taxi or use a drive-home service, etc. For cell phones, we can suggest turning them off while driving, so that there is less temptation to answer or check who has sent a text message.

But what is the replacement solution for speeding? Driving more slowly? Better trip planning, in particular by leaving a few minutes earlier? Both of these proposals give drivers the impression that they are wasting time. People are confronted by the concrete reality of time, and obviously, the prospect of wasting time by driving slower is not very attractive for most motorists.

Drivers who do not obey speed limits also have the impression that they are less identifiable than, say, drivers who don't obey legal limits for alcohol. They also feel less at fault. After all, unlike alcohol, speeding doesn't affect their judgment. Alcohol results in a sustained state of offence, whereas speeding is much more fleeting. In any event, drivers who speed are no worse than all the others who do it - everyone does it. They are only going with the flow of traffic...

Some people find speed thrilling; others feel the need to "test" their vehicle. So, how to satisfy this "need" for speed without impinging on one's own safety and that of others? Of course, there are places like race tracks or closed courses for speed-lovers. However, these places are still relatively rare, and for these types of drivers, slowing down on the road involves an immediate deprivation of pleasure that they are not usually ready to give up.

Lastly, there are numerous drivers who think speeding and safety can go together. In their minds, the goal behind monitoring speed, in particular when it is a question of a few kilometres per hour over the limit or when monitoring is automated, is to "put money in government coffers." We don't often see this perception in connection with impaired driving enforcement. Drivers dissociate speeding and danger,

because they can recognize that they are driving faster than others and still not consider that they are a more dangerous driver. Hence it is difficult to play on fear, because fear goes against the feeling of safety that cocoons drivers, comfortably seated in their increasingly safe and soundproof vehicles. They are

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Like it or not, we live in a society obsessed by speed, or at the very least, by the desire to keep going faster.



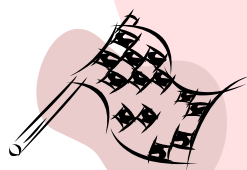
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careful, which is proven by the fact that they haven't had an accident... yet. However, while it is true that vehicles have greatly improved over the years, one element has not changed: the ability of a body to absorb impact. Even though most people are aware that risk increases as speed increases, they do not fully perceive it.

All of these reasons, in addition to the multifactorial nature of speeding, make this problem the most difficult to act upon. A long-term solution requires a holistic approach, where every intervention dealing with the road environment, vehicles, awareness, legislation or enforcement interacts with all the others, to enhance their respective effects. In this regard, this edition of The Safety Network bulletin is an excellent example of the broad range of actions involved in a holistic approach. One last question: why do you speed... even if it's just a little bit?

Pierre-Olivier Sénéchal
Société de l'assurance automobile du Québec

Éditorial



Qu'on le veuille ou non, force est d'admettre que nous vivons dans une société obsédée par la vitesse, du moins, par une volonté d'aller constamment plus vite.

Qu'on le veuille ou non, force est d'admettre que nous vivons dans une société obsédée par la vitesse, du moins, par une volonté d'aller constamment plus vite. Que ce soit par obligation, pour être plus performant ou efficace, pour gagner du temps, simplement pour le plaisir ou pour toute autre raison qui nous semble bonne, la vitesse fait partie de nos vies. Le caractère effréné de notre rythme de vie, ce phénomène du « toujours plus rapidement » comporte son lot d'avantages, certes, mais également de nombreux inconvénients. Parmi ceux-ci, les accidents de la route où la vitesse est en cause sont certainement ceux qui affectent le plus grand nombre de gens.



De fait, la vitesse est l'un des principaux problèmes d'insécurité routière. Depuis des années, plusieurs administrations, au Canada comme ailleurs dans le monde, lancent des campagnes de sensibilisation visant à rappeler à la population les dangers des excès de vitesse et inciter les gens à ralentir. Elles légifèrent afin d'encadrer la vitesse sur le réseau routier et ainsi améliorer la sécurité pour tous les usagers de la

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route. Elles ont recours à des moyens de contrôle, humain ou automatisé, afin de faire respecter la loi. Par ailleurs, ces administrations sont de plus en plus conscientes de l'importance de l'environnement routier dans le choix des vitesses et modifient celui-ci en conséquence afin que les caractéristiques des routes contribuent à minimiser le risque pour le conducteur de commettre des erreurs. La complexité du problème de la vitesse nécessite en fait des efforts combinés dans tous ces secteurs d'activité auxquels il faudrait ajouter la technologie des véhicules. Ce modèle d'intervention, applicable pour tous les problèmes d'insécurité routière, contribue à une amélioration notable de la sécurité sur les routes.

Néanmoins, le consensus social autour de la vitesse est difficile à créer et à maintenir; notamment parce qu'il ne concerne pas uniquement la vitesse sur les routes, mais une profonde conception sociale de la productivité face à laquelle les administrations dédiées à la sécurité routière ne peuvent rien. Ainsi, alors que des problèmes d'insécurité routière tels que l'alcool, le cellulaire ou plus récemment le « texto » au volant bénéficient d'un consensus social fort, on ne peut pas en dire autant du problème de la vitesse.

Au contraire, la vitesse est banalisée, on pourrait même dire normalisée tellement une majorité de conducteurs ne respectent pas les limites et ne s'en formalisent pas pour autant. En outre, le problème de la vitesse est à la fois surestimé et sous-estimé par le conducteur. Une fois derrière son volant, il a tendance à surévaluer ses habiletés ainsi que les capacités de son véhicule et à sous-évaluer les risques auxquels il s'expose en dépassant les limites, même si ce n'est qu'un petit excès de vitesse apparemment sans conséquence. Pourtant, la vitesse fait quotidiennement, sans discrimination, nombre de victimes.

Mais, pourquoi est-ce si difficile de lutter contre la vitesse au volant et de réussir à faire comprendre à l'ensemble des automobilistes qu'il est essentiel de respecter les limites de vitesse en tout temps, qu'il n'y a pas de petit excès de vitesse? L'une des raisons est qu'il n'y a peu ou pas de solutions de rechange à proposer pour la vitesse. Pour le choc, il y a la ceinture... Pour la fatigue, il y a la pause voire la sieste... Pour la consommation d'alcool ou de drogue, il y a la désignation d'un conducteur qui n'a pas consommé, le taxi, les services de accompagnement, etc. Pour le cellulaire, il est préférable de le fermer lorsque l'on est au volant, la tentation de répondre ou de voir qui nous a envoyé un message texte sera ainsi moins forte.

Pour la vitesse, quelle serait la solution de remplacement? Rouler plus lentement? Mieux planifier son déplacement, notamment en partant quelques minutes plus tôt? Tout cela renvoie le conducteur à l'impression de perdre du temps. Le temps est une réalité concrète à laquelle les gens sont confrontés et, évidemment, la perspective de perdre du temps en allant moins vite est peu séduisante pour plusieurs automobilistes.

Le conducteur ne respectant pas la limite légale de vitesse se sent aussi moins

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La solution à long terme passe nécessairement par une approche globale où chaque intervention touchant l'environnement, le véhicule, la sensibilisation, la législation ou le contrôle interagit avec une autre, venant du coup bonifier leurs effets respectifs.

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« identifiable » que, par exemple, le conducteur ne respectant pas la limite d'alcoolémie. Il a également moins l'impression d'être fautif. Après tout, la vitesse n'altère pas son jugement contrairement à l'alcool. L'alcool produit un état durable d'infraction, la vitesse des moments beaucoup plus fugaces ou du moins provisoires. De toutes manières, il n'est pas pire que les autres qui dépassent la limite, tout le monde le fait. Il ne fait que suivre le trafic...



La vitesse est grisante pour plusieurs et certains éprouvent le besoin de « tester » leur véhicule. Alors, comment peut-on satisfaire le « besoin » de vitesse sans mettre à mal sa sécurité et celle des autres? Certes, il existe des endroits comme des pistes d'accélération ou des circuits fermés pour les amoureux de la vitesse. Mais ces endroits demeurent rares et, dans leurs cas, ralentir sur la route implique une privation de plaisir immédiat qu'ils ne sont généralement pas prêts à délaissier.

Enfin, plus nombreux sont les conducteurs qui pensent pouvoir associer vitesse et sécurité et qui considèrent que le contrôle de la vitesse, en particulier lorsqu'il est question de petits excès de vitesse ou encore de contrôle automatisé, sert à « faire rentrer de l'argent dans les coffres ». C'est là une conception que l'on retrouve peu à propos du contrôle de l'alcool. Les conducteurs dissocient vitesse et danger puisqu'ils peuvent reconnaître qu'ils conduisent plus vite que les autres et ne pas pour autant se considérer comme un conducteur plus dangereux. Il est donc difficile de jouer sur la peur parce que cela va à l'encontre du sentiment de sécurité que se sont construit les gens bien confortablement assis dans leurs véhicules toujours plus sécuritaires et insonorisés. Du reste, ils sont prudents, la preuve en est qu'ils n'ont pas d'accident... encore. Or, s'il est vrai que les véhicules se sont grandement améliorés au cours des dernières années, un élément n'a pas changé : la capacité du corps à absorber les chocs. Même si la plupart en sont conscients, le risque qui augmente à mesure que la vitesse s'accroît n'est pas perçu.

Toutes ces raisons, en plus du caractère multifactoriel de la vitesse, font de ce problème celui sur lequel il est le plus difficile d'agir. La solution à long terme passe nécessairement par une approche globale où chaque intervention touchant l'environnement, le véhicule, la sensibilisation, la législation ou le contrôle interagit avec une autre, venant du coup bonifier leurs effets respectifs. En ce sens, la présente édition du bulletin Réseau-Sécurité donne un excellent exemple de l'éventail des actions touchant la plupart des sphères de l'approche globale. Et vous, quelle est votre raison de dépasser les limites de vitesse... ne serait-ce qu'un peu?

Pierre-Olivier Sénéchal
Société de l'assurance automobile du Québec

Canadian Motor Vehicle Advertisement Framework Agreement protocol with the Canadian Motor Vehicle Industry 2009-2011



Following the First Report of the Road Safety Board of Québec announced in July 2007 and the adoption of the Law to amend the Road Safety Code and the demerit points regulation in December 2007, the Société de l'assurance automobile du Québec (SAAQ) in collaboration with concerned industry stakeholders has been put in charge of establishing guidelines to prohibit advertising messages using a motor vehicle with evidence of a lack of concern regarding road safety, by presenting situations that encourage behaviours or reckless actions considered dangerous or prohibited.

Indeed vehicle advertising praising the virtues of speed or engine power have concerned authorities in various jurisdictions, because it is likely to affect driver behaviour in a negative way, especially among the youngest ones which are more susceptible to advertisements. However, the influence of vehicle advertising on driver behaviour is difficult to quantify. The cause-effect relationship between exposure to these advertisements and inadequate road behaviour development has not yet been demonstrated.

In addition, it is important to note that young drivers are exposed to other visual and audible sources which equally influence their road behaviour; for instance television car races, action movies in theatres, video games, car performances recorded by young people and abundantly posted on YouTube and many other social media, etc.

In the first months of 2008, the SAAQ established and chaired a working group composed of representatives of the Canadian motor vehicle industry, representatives of the advertising industry and government representatives from the Canadian Council of Motor Transport Administrators (CCMTA).

In Canada, no federal or provincial law prohibits vehicle advertising focusing on engine power, acceleration capability, speed, etc. Vehicle advertising is governed by Advertising Standards Canada (ASC), which is the self-regulatory non-governmental organization of the Canadian advertising industry.

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While keeping the current Canadian Code of Advertising Standards intact, the working group adopted four additional guidelines that Advertising Standards Canada added to the Advisories for vehicle advertising. These were intended to help motor vehicle manufacturers and their advertising agencies to develop creative and effective vehicle advertising automobiles that would meet the law in both its literal meaning and general sense, in terms of road safety in all provinces and territories.

The new adopted guidelines aim at speeding, aggressive and unsafe behaviour, and representations of races, rallies and competitions. More information is available to the readers by visiting the website of Advertising Standards Canada: <http://www.normespub.ca/en/Standards/interpretationGuideline4.aspx>

After working positively on the addition of new guidelines, representatives from motor vehicle manufacturers formally co-signed an agreement protocol with the representatives of CCMTA on May 11, 2009.

Following the signing of the protocol, it seemed important that advertising agencies responsible for the ads of vehicle manufacturers be made aware of the agreement. Two meetings were organized by ASC (September 24, 2009 in Montreal and October 1, 2009 in Toronto) to inform the advertising agencies, vehicle industry marketing people, public relations firms and specialized media.

The new guidelines adopted in 2009 are important. By their adoption, the automotive industry recognizes that road safety is a shared responsibility and has a role to play in improving road behaviour.

Patrice Letendre
Société de l'assurance automobile du Québec (SAAQ)



Encadrement de la publicité automobile au Canada

Protocole d'entente avec l'industrie canadienne de l'automobile 2009-2011

Dans la foulée du Premier rapport de la Table québécoise de la sécurité routière dévoilé en juillet 2007 et de l'adoption, en décembre 2007, de la Loi modifiant le Code de la sécurité routière et le Règlement sur les points d'inaptitude, la Société de l'assurance automobile du Québec (SAAQ) s'est vu confier le mandat, en collaboration avec l'industrie concernée, d'établir des lignes directrices visant à interdire tout message publicitaire utilisant un véhicule routier et qui témoigne d'insouciance à l'égard de la sécurité routière en présentant des situations qui encouragent des pratiques ou des gestes imprudents, dangereux ou prohibés.

En effet, la publicité automobile vantant les mérites de la vitesse ou la puissance des moteurs préoccupe les autorités de diverses administrations, car elle est susceptible d'influencer négativement le comportement des conducteurs, surtout celui des plus jeunes, plus perméables à la publicité. Cependant, l'influence de la publicité automobile sur le comportement des conducteurs est difficile à quantifier. Le lien de cause à effet entre l'exposition à la publicité automobile et l'adoption de comportements routiers inadéquats n'a pas encore été démontré à ce jour.

De plus, il importe de préciser que les jeunes conducteurs sont exposés à d'autres sources visuelles ou sonores également susceptibles d'influencer leurs comportements sur les routes. Citons, par exemple, les courses automobiles diffusées à la télévision, les films d'action dans les cinémas, plusieurs jeux vidéo, les « exploits » d'autres jeunes abondamment diffusés sur YouTube et dans d'autres médias sociaux, etc.

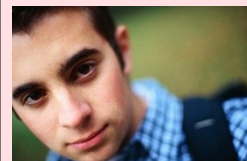


Dès les premiers mois de 2008, la SAAQ a mis sur pied et présidé un groupe de travail composé des représentants de l'industrie canadienne de l'automobile, des représentants de l'industrie de la publicité et des représentants gouvernementaux du Conseil canadien des administrateurs en transport motorisé (CCATM).

Au Canada, aucune législation fédérale ni provinciale n'interdit la publicité automobile misant sur la puissance des moteurs, la rapidité d'accélération, la vitesse, etc. La

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publicité automobile est encadrée par les Normes canadiennes de la publicité (NCP). Il s'agit de l'organisme d'autoréglementation (non gouvernemental) de l'industrie canadienne de la publicité.

Tout en conservant intact l'actuel Code canadien des normes de la publicité, le groupe de travail a adopté quatre lignes directrices supplémentaires que les Normes canadiennes de la publicité ont ajouté dans l'Avis sur la publicité automobile. Ces lignes avaient pour objectif d'aider les constructeurs de véhicules automobiles et leurs agences de publicité à concevoir des publicités automobiles créatives et efficaces qui seraient conformes tant à la lettre qu'à l'esprit des lois en matière de sécurité routière dans les différentes provinces et les territoires.

Les nouvelles lignes directrices adoptées visent à la fois la vitesse au volant, les comportements agressifs et non sécuritaires et les représentations de courses, de rallyes ou de compétitions. Le lecteur peut en prendre connaissance en consultant le site Internet des Normes canadiennes de la publicité : www.normespub.ca/fr/Standards/interpretationGuideline4.aspx.

Après avoir collaboré positivement à l'ajout de nouvelles lignes directrices, les représentants des constructeurs automobiles ont officiellement cosigné un protocole d'entente avec les représentants du CCATM le 11 mai 2009.

À la suite de la signature du protocole, il est apparu important que les agences de publicité responsables des annonces des constructeurs automobiles soient informées de l'entente intervenue. Deux rencontres ont été organisées par NCP (le 24 septembre 2009 à Montréal et le 1er octobre 2009 à Toronto) pour informer les agences de publicité, les gens de marketing de l'industrie automobile, les firmes de relations publiques et les médias spécialisés.

Les nouvelles lignes directrices adoptées en 2009 sont importantes. Par leur adoption, l'industrie automobile reconnaît que la sécurité routière est une responsabilité partagée et qu'elle a un rôle à jouer dans l'amélioration des comportements sur la route.

Patrice Letendre
Société de l'assurance automobile du Québec (SAAQ)

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Speed-On-Green Enforcement Resumes

Résumé:

Le contrôle automatisé des excès de vitesse sur feux verts (speed-on-green) a été repris dans la ville d'Edmonton. Après une révision approfondie de la technologie des caméras et du processus de révision des contraventions, la Ville d'Edmonton, le Service de Police d'Edmonton (EPS), et la Justice d'Alberta soutiennent tous l'utilisation du contrôle automatisé des excès de vitesse sur feux verts à Edmonton.

Speed-on-green enforcement has resumed in the City of Edmonton. After a thorough review of the camera technology and ticket review process, the City of Edmonton, the Ed-



monton Police Service (EPS), and Alberta Justice all support the continued use of speed-on-green enforcement in Edmonton.

"Speed-on-green technology is an excellent tool for improving intersection traffic safety," explains Bob Boutilier, General Manager of Transportation Services with the City of Edmonton. "Keeping motorists safe is our top priority."

The City and EPS have made technology upgrades to all the camera systems. Equipment monitoring tools and new ticket review processes have been added to the intersection safety camera program. All intersection safety camera locations have been extensively tested and are tested on a daily basis to confirm they are within operating standards.

In 2010 there were 28,840 collisions in the City of Edmonton with 47 per cent (13,501) being intersection related. The intersection related collisions contributed to 67 per cent of total injuries (3,314) and 13 of the 27 fatalities.

This article was adapted from an earlier article written by City of Edmonton staff.

Speed-on-green technology is an excellent tool for improving intersection traffic safety



A community-based program, Speed Watch relies upon volunteers to help drivers make smart driving choices.



Speed Watch Program

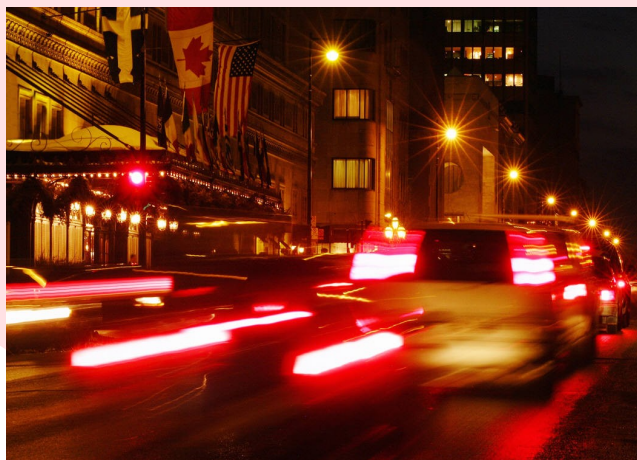
Le Programme « Speed Watch » de la Colombie-Britannique est un partenariat entre l'ICBC, les services de police locaux et des bénévoles de la communauté. Ce programme, en activité depuis 30 ans, donne des résultats significatifs avec le déploiement de nouveaux panneaux lecteurs de vitesse.

It's 7:45 am on a cool October morning in Mission, BC. John Connor and Bill Hamilton stand near the intersection of Cedar Street and Seventh Avenue. Next to them a digital display board flickers, showing the speeds of various vehicles. John muses: "We've seen many crashes around this area, and cars zipping by, especially drivers rushing to work." Bill nods in agreement.

John and Bill are community volunteers who make up part of the eighty-nine Speed Watch groups active in B.C. These citizens partner with their local police and the Insurance Corporation of British Columbia (ICBC) to raise awareness about the dangers of speed and hopefully slow drivers down.

A community-based program, Speed Watch relies upon volunteers to help drivers make smart driving choices. By using portable radar equipment, and an electronic digital display board, volunteers monitor speeds near high-crash locations, such as intersections, and other areas, including school and playground zones. The board displays an instant readout of a vehicle's speed as it passes by.

Don Miller, a Road Safety Coordinator with ICBC, oversees the Speed Watch program and believes that working with local citizens to educate local drivers is the key to this program's success. "We train all the volunteers on how to safely set up and monitor traffic," says Miller. "We also equip new groups with everything they need to start up: safety vests, cones, signs and, of course, the digital radar speed reader board."



The BC Speed Watch program has been active for over 30 years and ICBC is always looking at emerging technologies to further enhance the program. Earlier this year, ICBC started replacing older reader boards with a new model that incorporates the radar head

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Speed Watch volunteers in Burnaby, BC pose with one of their radar speed reader boards.

into the reader board (instead of a separate radar unit mounted on top of the board). North Vancouver Speed Watch volunteer Doug Gavin says, the new units are paying for themselves.

"After using the new unit in the field for several months, I have to say it is a quantum leap from the old units," said Gavin. "The readout is much more visible to approaching traffic, and with the posted speed also flashing, it's great. The 'slow down' reaction with the new boards has increased greatly."

So how have BC drivers reacted to the Speed Watch program? In an ongoing effort to stay in touch with BC drivers, ICBC conducts on-line surveys about various road safety issues, including Speed Watch. The survey revealed that among B.C. drivers who have driven through a Speed Watch deployment in the past month, one-half (51 per cent) reduced their speed while driving through the deployment. Furthermore, of those drivers who reduced their speed, 71 per cent continued at a reduced speed after being out of the Speed Watch range.

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The survey revealed that among B.C. drivers who have driven through a Speed Watch deployment in the past month, one-half (51 per cent) reduced their speed while driving through the deployment.

Of those drivers who reported they were traveling above the posted speed limit, three-quarters (77%) reduced their speed, and three-quarters (77%) of these drivers continued at a reduced speed after being out of the Speed Watch range.



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But what about drivers who were speeding? Of those drivers who reported they were traveling above the posted speed limit, three-quarters (77%) reduced their speed, and three-quarters (77%) of these drivers continued at a reduced speed after being out of the Speed Watch range.

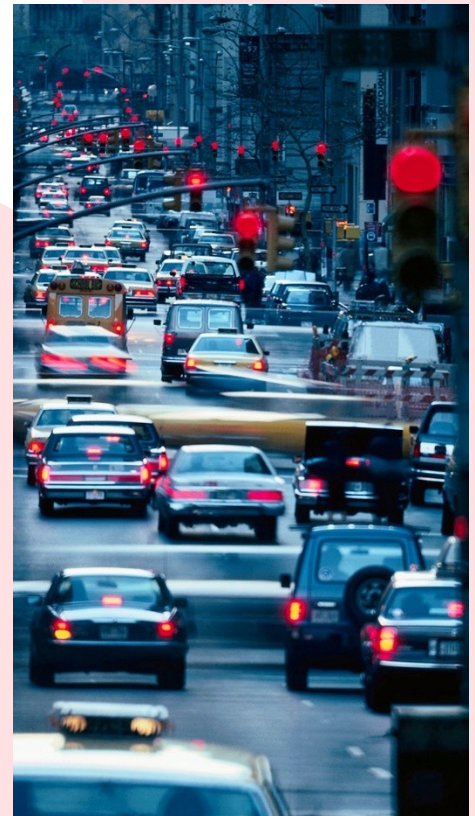
Sometimes, local police are set up just down the road from a Speed Watch deployment. If drivers don't heed the warning from Speed Watch, they'll get the message from a police officer!

Speed Watch is one of many activities ICBC uses to educate drivers on the importance of driving at the appropriate speed. Other tactics include: annual province-wide educational campaigns on speeding, supporting efforts of speed enforcement by police, and presentations to young drivers about the potential negative consequences of speeding.

Investments in road safety programs, such as Speed Watch, help prevent and minimize the impact of crashes. And when we get our communities involved, that makes it all worthwhile.

Alex Lee

Insurance Corporation of British Columbia



The Role of Speed in Motor Vehicle Collisions: A Crash Investigator's Perspective

Une appréciation du rôle des excès de vitesse dans les collisions de véhicules a été limitée par les données disponibles, qui sont souvent fondées sur les versions données par les témoins et les conducteurs impliqués, et donc peut-être inexactes et/ou biaisées. La reconstruction scientifique de collisions peut fournir des estimations plus précises par rapport aux vitesses, mais ces reconstructions sont en nombre limité. Le rôle de la vitesse dans les accidents de la route est d'importance aux chercheurs en sécurité routière pour le développement de mesures appropriées, et à la communauté légale et d'assurance pour bien se prononcer sur la responsabilité résultant des collisions. Les nouvelles technologies automobiles, telles que les enregistreurs de données d'événements de la route, offrent des données plus objectives sur la vitesse des véhicules avant la collision ainsi que d'autres variables importantes des collisions.

Speed and the Ability to do Harm

It is well known to collision reconstructionists that both crash severity and causation are strong functions of vehicle speed. The kinetic energy that a moving vehicle inputs into a crash event is related to the square of its impact speed times its mass. The simple mathematical relationship for kinetic energy is: $KE = \frac{1}{2} \text{ mass} \times \text{speed}^2$

The greater the kinetic energy of the colliding vehicles the greater the potential for harm. It is the change in kinetic energy that occurs during the crash event that largely determines impact severity. However, the energy available for dissipation in the collision is limited by the pre-impact kinetic energy. While high initial kinetic energy does not ensure a violent impact, it provides the potential for serious harm.

Consider a passenger car undergoing a full-frontal crash test into a fixed barrier. The post-impact kinetic energy is negligible because the vehicle comes to a stop when it hits the barrier. The crush energy, or energy dissipated, is well-approximated by the vehicle's initial kinetic energy. If one triples the impact speed into the barrier, the initial kinetic energy increases by a factor of 9. For example, crash severity at an impact speed of 60 km/h is 9 times the severity of the barrier impact at 20 km/h.

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The greater the kinetic energy of the colliding vehicles the greater the potential for harm.



Emergency stopping distance is a combination of the distance required for a driver's perception-reaction to an event and the vehicle's braking distance.



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A combination of conservation of linear momentum and conservation of energy is frequently used by reconstructionists to calculate the impact speeds of colliding vehicles. Linear momentum usually requires reasonably accurate knowledge of vehicle pre-impact headings and post-impact velocities. Tire marks and other roadway evidence are normally used to determine pre-impact and post-impact trajectories, vehicle headings and speeds.

Such calculations of impact speed require significant physical evidence and considerable analysis. The accuracy of the calculated speeds can vary widely depending on the crash events. Vehicle rotation, free-rolling wheels, structural damage, secondary impacts, rollovers, falls and vaults add additional complexity and increase uncertainty. Unfortunately such complications tend to be more the rule than the exception. Multiple analytical approaches are used whenever possible to increase accuracy.

Another important method for calculating initial speed in cases of loss of control is through analysis of yaw marks. Yaw marks are curved marks made by a tire that is rolling and sliding laterally. Sliding results when a vehicle is traveling around a curve and the side force produced by its lateral acceleration exceeds the friction available at the tire-roadway interface. The radius of the curve indicated by the yaw marks combined with the vehicle's lateral acceleration can be used to estimate speed. It is important that the wheels be free-rolling as heavy braking will tend to reduce the available friction for cornering.

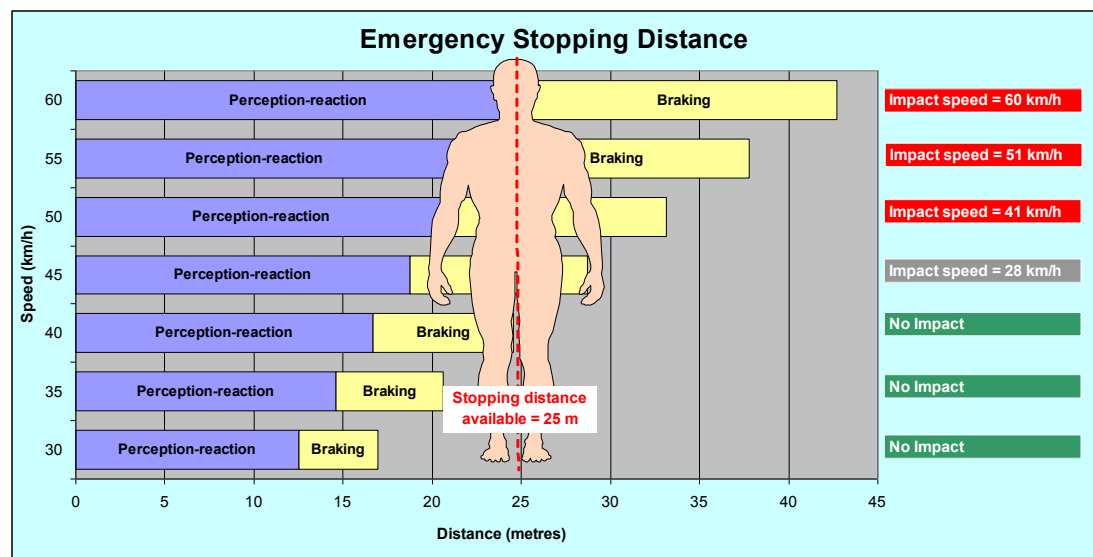
Emergency stopping distance is a combination of the distance required for a driver's perception-reaction to an event and the vehicle's braking distance. Both of these are functions of vehicle speed. The distance required for perception-reaction is equal to speed multiplied by the driver's perception-reaction time. The braking distance is proportional to the square of the initial speed divided by the average deceleration. The deceleration that a vehicle undergoes under emergency braking depends primarily on the available friction between the tires and road surface.

If the emergency stopping distance exceeds the distance available for crash avoidance a collision will result. For example, suppose that a pedestrian dashes out into the roadway into the path of an oncoming vehicle. If the vehicle were traveling at

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50 km/h, the (average) driver had a perception-reaction time of 1.5 seconds, and the vehicle generated an average deceleration of 0.8g, under emergency braking on dry asphalt, the vehicle would stop centimetres short of a pedestrian located just over 33 metres ahead of the vehicle. However, increasing the initial speed by just 10 km/h would result in a crash with the same pedestrian, with an impact speed of about 40 km/h!



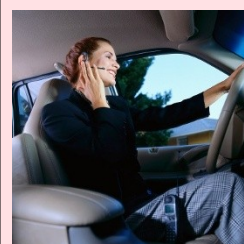
Speeding and driver inattention both increase emergency stopping distance. The greater the speed, the longer the distance needed for perception-reaction, and the greater the braking distance. Similarly, the greater the perception-reaction time due to inattention, the longer the distance before the driver applies the brakes. Speeding has a similar effect as driver inattention in that it increases emergency stopping distance. However, speeding has the additional effect of increasing the potential for harm.

Gaps in Knowledge

Transportation engineers do a very good job designing safe roads and setting reasonable speed limits despite numerous competing interests. Vehicle manufacturers provide state-of-the-art crash avoidance safety features on their top end vehicles and these features are consistently incorporated into new low end models. Drivers usually adjust their behaviour and reduce speed when hazards are apparent. How-

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Speeding and driver inattention both increase emergency stopping distance.



The role of speed as a causal factor in crashes is still poorly understood.



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ever, the steady unrelenting carnage on our highways is a regular testament to human fallibility and the undeniable physics of motor vehicle collisions.

The role of speed as a causal factor in crashes is still poorly understood. Accurate and comprehensive data on pre-impact speed has long been in short supply. Determining speeds and driver pre-crash actions requires in-depth crash investigation and reconstruction. However, only a small percentage of crashes are reconstructed and, even then, determination of accurate pre-crash speeds may not be possible.

Consequently, most studies of speed and crash causation have relied heavily on witness reports or have been correlational in nature. While both types of studies have yielded much useful data, there remain large gaps in knowledge.

In vehicle-to-vehicle collisions frequently both drivers share fault. While speeding on the part of one driver or another often plays an important role in crashes it is hard to prove beyond a reasonable doubt. Unless there is compelling evidence of excessive speed, police won't be able to charge a driver even if they suspect speeding was a factor. Certainly the driver of a speeding vehicle won't admit to the fact and will be blaming the other driver.

Pre-crash speed data are fundamental to the understanding of the anatomy of motor vehicle collision causation. Unfortunately the quantity and quality of speed data for such important analyses is still non-existent. When it comes to the relationships between speed and crash causation researchers have many questions. But, noble attempts to determine the role of speed from large databases of crash data have been somewhat akin to gazing into a crystal ball.

In order to understand the shortage of pre-crash speed data it may be helpful to

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examine the why and how of the data collection process.

Collision Reconstruction and Speed

Police do a remarkable job investigating and reconstructing collisions. One of the important roles of the police collision investigator is to carefully document the physical evidence after a severe motor vehicle collision. Their evidence is critical for sorting out criminal and civil liability issues following a crash. Police have to analyze the incident and determine if any laws have been broken.

Police reports are the primary source of vehicle speeds used in large databases of collision data. Often these speeds are determined from witness statements. In some severe crashes speed may be determined from analysis of physical evidence such as skid marks and vehicle damage. This in-depth collision reconstruction analysis is done by officers with very specialized training in collision reconstruction.

Police reconstructionists must use considerable caution when reporting calculated speeds as this evidence can lead to criminal charges or charges under the Highway Traffic Act. These officers typically report a wide speed range and determine minimum speeds that can be supported in court with high confidence. While 80% certainty may often be good enough for research, the Canadian public would not tolerate 20% error when it comes to criminal charges.

From a civil liability perspective, probable speeds may be sufficient to settle an injury claim. In research, probable speeds will often provide a good picture of the factors in the crash event. However, as someone that has been involved in criminal cases, I have a keen appreciation for the difference between minimum speed and probable speed, and some of the difficulties that police experts face. Criminal courts are interested in what the expert says is probable. However, the bottom line is often what is "reasonably possible", and there's a big difference. Any error must

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Police reconstructionists must use considerable caution when reporting calculated speeds as this evidence can lead to criminal charges or charges under the Highway Traffic Act.



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be on the side of the accused, and initial speed is rarely known with complete confidence. Determining what is reasonably possible can be a very difficult challenge for the expert witness.

In the good old days of crash reconstruction, pre-impact braking would usually cause multiple wheels to lock and, on dry asphalt, the result would be skid marks. Braking distance can be readily determined by measuring the length of the skid marks. If the coefficient of friction is known one can readily calculate the speed of the vehicle at the start of the skid marks.

However, vehicles equipped with anti-lock brakes (ABS) often do not leave readily discernible tire marks. Their tire marks tend to be lighter and more fleeting. Depending on road surface, lighting and other factors, the tire marks left by an ABS-equipped vehicle may be hardly visible and difficult to distinguish from other tire marks on the roadway. In consequence, determining initial speed from skid marks has become more difficult for reconstructionists.

Assessing the Role of Speed

Speeding has historically been the benchmark for evaluating the role of speed and assessing liability after a crash. Speeding encompasses both excessive speed (i.e. driving above the speed limit) and inappropriate speed (i.e. driving too fast for the prevailing conditions). A difficulty in using speeding as a benchmark is that most everyone drives above the speed limit. In fact the speed limit is the minimum travel speed on many roads. Even the reasonably prudent driver may exceed the posted limit from time to time!

Inappropriate speed can be very subjective. The crash event may be proof of inappropriate speed in some cases. An obvious example is a driver who loses control on a slippery Canadian highway and is involved in a collision. In this scenario, the collision event may be objective proof that the driver was traveling at an inappropriate speed for the roadway conditions. A less obvious example is the intersection collision that often involves a speeding driver traveling straight through. In Ontario, inappropriate speed can lead to a careless driving charge following a crash.

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Speeding encompasses both excessive speed (i.e. driving above the speed limit) and inappropriate speed (i.e. driving too fast for the prevailing conditions)

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Drivers have a duty of care to other road-users and a legal obligation to use reasonable care while driving. The reasonably prudent driver is a typical standard used in tort law for evaluating cases of negligence. Harm is foreseeable should a collision occur and the potential for harm increases dramatically as speed increases. A driver's duty of care increases as the potential for harm increases. Without speed there would be no potential for harm.

Excessive speeding is a common factor in severe single vehicle collisions. Excessive speeding is similar to driving over the "speeding limit" and can result in a very hefty speeding ticket and much more. At least one province defines excessive speeding as exceeding the speed limit by 40 km/h or over in a zone of 60 km/h or less; by 50 km/h or over in a 60 km/h to 90 km/h zone; and by 60 km/h or over in a zone of 100 km/h. Excessive speeding is often considered a high-risk business, and occasionally makes the media when an extreme speeder is caught.

While speed alone may not be careless or dangerous driving, it is a very important factor when assessing driver negligence. A criminal lawyer once explained to me that proving the offences of careless driving, dangerous driving and criminal negligence after a crash was much like making a layer cake of negligence. Speed is a very important consideration in the assessment of driver negligence.

Careless driving is one of the most serious charges under the Highway Traffic Act and is typically defined as driving on a highway without due care and attention or without reasonable consideration for other persons using the highway. The standard against which the defendant's driving is measured is that of the reasonably prudent person. A momentary lapse or a simple error in judgment alone is insufficient to justify a conviction for careless driving.

Consider the case of a driver traveling on a dry asphalt rural highway with a posted speed of 80 km/h. The driver was traveling at 100 km/h when he allowed his minivan to travel onto the gravel shoulder as a result of momentary inattentiveness. As a result of the egress he loses control and collides head-on with an oncoming pickup truck. The driver of the pickup is killed in the severe crash.

How do we assess the role of speed in the above case? It is certain that the loss of

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Drivers have a duty of care to other road-users and a legal obligation to use reasonable care while driving. The reasonably prudent driver is a typical standard used in tort law for evaluating cases of negligence.



Many late-model vehicles are equipped with event data recorders (EDR) that act as impartial witnesses to collision events.

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control would not have occurred if not for the inattentiveness. There is a good chance that the loss of control would not have occurred had the driver been traveling at the posted speed limit but it is not certain. The average speed of traffic on this road is near 100 km/h so the driver's speed wasn't a major departure from the norm.

From a legal liability perspective, a driver's duty of care increases with speed as there is greater chance of causing serious harm. In this case a careless driving charge is quite possible. While some might argue that this is a rather severe for momentary inattentiveness, there is an increased duty of care while driving on a highway at highway speed. If the vehicle that went out of control was a tractor-trailer there is little doubt that the driver would be charged with dangerous driving due to the increased duty of care.

The Future: Event Data Recorders

Many late-model vehicles are equipped with event data recorders (EDR) that act as impartial witnesses to collision events. The EDR forms part of the sensing and diagnostic module (SDM) that controls deployment of the airbag system. These systems variously capture data relating to the crash pulse (the time history of the velocity change that occurs in the collision), and the pre-collision time history of a number of key pre-crash vehicle parameters. Pre-crash information often consists of the vehicle's speed, engine speed, throttle position, and the status of the brake light switch

for a period of five seconds prior to the event that triggered the recording. In some late model systems pre-crash information may include steering wheel angles, lateral acceleration, and activation of



Example of an event data recorder

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safety systems such as anti-lock brakes and electronic stability control. The precise nature of the data record is dependent on the type of SDM with which a specific year, make and model of vehicle is equipped.

Recent research has shown that the EDR-recorded vehicle speeds are very accurate under steady state conditions. When supported by in-depth collision reconstruction, EDRs can provide an accurate account of pre-crash driver actions including speed.

Lack of physical evidence, competing interpretations of physical evidence and uncertainty in calculations are some of the barriers to successful prosecution of both Criminal Code and Highway Traffic Act cases. The EDR provides extensive supporting documentation that, when combined with competent reconstruction, will increase the probability of successful prosecution.

It is clear that event data recorders offer a path to significantly better understanding of many aspects of motor vehicle collisions including the role of speed. The current technology is developing quickly and crash data retrieval is becoming an integral part of the crash investigation process particularly when the crash is severe.

Perhaps the greatest strength for this technology is as a research tool, and this is an area where the greatest safety benefits can be achieved. It is foreseeable that these data could greatly increase our knowledge of pre-crash factors in motor vehicle collisions which, in turn, will lead to the development of more effective safety countermeasures.

Kevin McClafferty
Traffic Safety Consultant
Southwestern Collision Analysis



Downloading EDR data from a GM vehicle

When supported by in-depth collision reconstruction, EDRs can provide a very accurate account of pre-crash driver actions including speed.

Unsafe speed — defined as driving too fast for road and traffic conditions — is one of the most frequently cited contributing factors in police-reported car crashes.



Unsafe speed

Unsafe speed — defined as driving too fast for road and traffic conditions — is one of the most frequently cited contributing factors in police-reported car crashes.

Combined with other high-risk driving such as running red lights and stop signs and tailgating, drivers who engage in such behaviours are putting themselves and others at risk.

Slowing down and keeping your distance, being more realistic about travel times and showing more tolerance toward other drivers can reduce your risk of getting in a crash.

The faster you go, the longer it takes to stop

Travelling at an unsafe speed is dangerous because you need time to see and react before your brakes take effect and slow you down. Stopping your vehicle is more than just pressing on the brake pedal. Total stopping distance is the distance your vehicle will travel from the moment you:

- **See** — a hazard
- **Think** — decide to brake
- **Do** — put your foot on the brake pedal until you stop

When you see a problem ahead while driving, it will take you about three-quarters of a second to **See-Think** and another three-quarters of a second to **Do**. Only then will your vehicle begin to slow.

When choosing your speed, keep this in mind. Whenever you double your speed, your braking distance is multiplied by four. In wet or icy road conditions, it's even more.

The faster you drive, the harder you hit.

Force of impact, like braking distance, increases as you go faster. If you double your speed, you hit four times as hard.

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Vitesse non sécuritaire

La vitesse non sécuritaire — que l'on définit par conduire trop rapidement pour les conditions routières ou de circulation — est l'un des facteurs contributifs les plus fréquemment mentionnés dans les accidents de voitures signalés à la police.

Combiné à d'autres attitudes de conduite présentant un risque élevé telles que brûler les feux rouges et les panneaux d'arrêts ainsi que suivre de trop près, les conducteurs qui se livrent à ce genre de comportements mettent leur vie et celle des autres en danger.

Ralentir et garder vos distances, être plus réaliste au sujet des temps de déplacement et démontrer plus de tolérance envers les autres conducteurs peuvent réduire votre risque d'être impliqué dans un accident.

Plus vous allez vite, plus cela vous prendra du temps pour arrêter

Voyager à une vitesse non sécuritaire est dangereux puisque vous avez besoin de temps pour voir et réagir avant que vos freins agissent et vous ralentissent. Arrêter votre véhicule, c'est bien plus que simplement appuyer sur la pédale de frein. La distance totale de freinage correspond à la distance que votre véhicule parcourra à partir du moment où vous :

- **Voir** – voyez un obstacle
- **Penser** – pensez à freiner
- **Agir** – agissez en appuyant avec votre pied sur la pédale de frein jusqu'à l'arrêt complet.

Lorsque vous conduisez et apercevez un problème, cela vous prendra environ trois quarts de seconde pour voir-penser et un autre trois quarts de seconde pour agir. C'est seulement alors que votre véhicule commencera à ralentir.

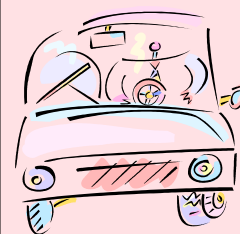
Quand vous choisissez votre vitesse, gardez ceci à l'esprit. Chaque fois que vous doublez votre vitesse, votre distance de freinage est multipliée par quatre. Sur une chaussée mouillée ou glacée, c'est encore plus.

Plus vous roulez vite, plus fort sera le choc.

La force de l'impact, tout comme la distance de freinage, augmente avec votre vitesse avant freinage. Si vous doublez votre vitesse, vous frapperez l'obstacle quatre fois plus durement.

Cet article est adapté d'informations disponibles sur le site www.icbc.com qui sont utilisées avec leur permission.

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Pace Car drivers sign an actual pledge and then place magnetic decals on the backs of their cars, telling the world that they "drive the limit."

Mobile Speed Bumps: Tackling Speeding with the Pace Car Program

Le programme de voiture pilote s'avère une pratique prometteuse dans le contexte des efforts mis de l'avant pour s'attaquer au problème de la vitesse sur nos routes. Des conducteurs s'engagent à respecter les limites de vitesses et apposent un autocollant du programme sur la vitre arrière de leur voiture, devenant ainsi « un dos d'âne mobile ». Les communautés et les services de police supportent ce programme, et les conducteurs participant au programme affirment qu'ils ralentissent.

A growing number of communities are adding another strategy to their tool boxes in the fight against speeding on our streets. It's called the Pace Car program and it is a promising practice in slowing drivers down.

Essentially, people in a community pledge to drive the speed limit at all times. They act as a Pace Car, or "mobile speed bump," for other drivers on the road who tend to speed. Pace Car drivers sign an actual pledge and then place magnetic decals on the backs of their cars, telling the world that they "drive the limit."

The Pace Car program uses community-based social marketing to encourage behaviour change. It was created by David Engwicht of Australia and has spread across the globe in the past several years. It finally reached Canada for the first time in late 2006 when Active & Safe Routes to School of the Ecology Action Centre adapted it for use in Nova Scotia. Soon, other provinces and Safe Kids Canada recognized its success and modified our materials for their own use.

We use a community development model to spread the program, working with community teams to promote and establish Pace Car at the grassroots level. It has grown to include over 20 communities and schools and over 2,650 drivers across the province. The rationale behind Active & Safe Routes to School offering the program is that concerns over speeding is a top barrier to more parents allowing their kids walk or cycle to school.

Police are happy to support the program. At the launch of the first Pace Car community in NS in November of 2006, Corporal Joe Taplin with the RCMP in the Halifax Regional Municipality said, *"I think it's a great program...it takes community to keep our communities safe. As police we can't do it all on our own. It's not just keeping the community safe, it's keeping the children safe who are in the community playing or even walking to school."*

Pace Car drivers indicate in surveys that they are slowing down. Here's what some

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of them have to say:

"I know that all of us who are using [decals] have decreased our speed. Thus far, I think that is the best thing about the program. For those of us who have committed, we notice how much we exceeded the speed limit in the past and are now challenged to keep a reduced speed."

"I love the program. It has completely transformed a friend of mine who was a chronic speeder. For her, once she put the [decal] on the back she felt morally obligated and now she can't speed even if she is late. The psychology behind it is fascinating, as this friend has been caught and fined for speeding a few times and this still didn't deter her like the [decal] has!"



A participant in the Pace Car program yields to a pedestrian

Speed and collision data are currently being crunched to evaluate Pace Car on its ability to decrease average speed and its safety effects. We look forward to sharing the results in the near future. To learn more about the program visit www.pacecar.ca.

Janet Barlow
Ecology Action Centre



"I know that all of us who are using [decals] have decreased our speed."



School officials, police and traffic engineers have struggled with the management of vehicle speeds within school zones for years.



The Effectiveness of Radar Speed Displays in School Zones: A Fredericton Case Study

School officials, police and traffic engineers have struggled with the management of vehicle speeds within school zones for years. Most measures that encourage compliance with 30 km/h school zone limits have been shown to be either ineffective or transient. In an effort to reduce speeds, particularly at problematic sites, The City of Fredericton installed two sets of radar speed display signs to be evaluated. These installations were at each end of two local school zones: Bliss Carman Elementary School and Devon Middle School. Figure 1 shows an example of one of the installations near the elementary school.



Figure 1: Radar display sign used in study

The University of New Brunswick undertook a study to quantify the benefits of the use of these speed display signs in school zones. Speed data were collected a week before the installation of the display units, within a week following installation, and approximately two months later. The objective was to determine how the display signs affected operational conditions in the short and medium terms. Speed data were collected at

three locations throughout the school zones, during both non-peak and peak operational periods. Speeds were collected at either end of the school zone (within at least 100 m of the posted start/end) as well as approximately in the middle of the zone. The result was a documentation of speed profiles that could be evaluated. In addition to mean speeds, the variation in speeds among the traffic mix was also evaluated since it has been shown to also influence safety levels. Mean speeds and standard deviations before and after installation were statistically compared in or-

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der to determine whether the display units made any significant differences. For the purpose of this study 'statistically significant' was associated with a 90% confidence interval. Testing showed that after one week and two months of operation all speeds were reduced at a statistically significant level. There was only one exception, one week after installation during non-peak hours at Bliss Carman Elementary School, where mean speeds were not shown to be statistically lower. Reductions in mean speeds ranged from 7-16 km/h and averaged 11.9 km/h over the two month study period. Furthermore, 85th percentile speeds were evaluated before and after installation of the signs and were also reduced at a statistically significant level, ranging between 6-17 km/h and averaging 11.8 km/h.

Any safety gains resulting from reductions in speed could be negated if speed variations (larger speed differentials) were shown to increase in the school-zones. Research has shown that the introduction of greater speed differentials will greatly increase the risk of collisions. Statistical testing showed that the difference in the magnitude of standard deviations before and after the installation of the display signs was not significant.

The benefits associated with speed display signs in this study suggest significant reductions in speeds, although a strategic and conservative approach should be taken in considering the implementation of speed display signs in other school zones in the area. Many factors would affect the outcome of speed display signs such as the school's immediate environment, traffic conditions, type of school, surrounding road network, and base speed data. The two test sites evaluated were identified on the basis of relatively high base operating speeds.

Should speed display signs become common it may be possible that they will become less effective since motorists will become conditioned to seeing them and essentially their "novelty" may dissipate. It is suggested that a warrant system similar to that employed for traffic signals may be a useful tool to help city officials rationalize where these units are located.

Some studies have shown that speed display signs are most effective when intermittent enforcement of speeds is present. It is highly recommended that the use of speed display signs be supplemented with intermittent enforcement.

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The benefits associated with speed display signs in this study suggest significant reductions in speeds, although a strategic and conservative approach should be taken in considering the implementation of speed display signs in other school zones in the area.



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Finally, it is noted that the testing sites will be re-visited again at the 1-year anniversary of the installation of the units in order to obtain longer-term results. An Empirical-Bayes approach will be required in order to normalize other extraneous influences on speed data at these sites.

Dan Mason and Eric Hildebrand—University of New Brunswick

L'efficacité des panneaux indicateurs de vitesse dans les zones scolaires: Étude de cas à Fredericton

Depuis des années, les responsables scolaires, la police et les ingénieurs en transport ont du mal avec la gestion de la vitesse des véhicules dans les zones scolaires. La plupart des mesures de sécurité qui encouragent le respect des limites de vitesse de 30 km/h dans les zones scolaires se sont révélés inefficaces ou transitoires. Dans un effort pour réduire la vitesse, en particulier sur les sites problématiques, la ville de Fredericton a installé deux ensembles de panneaux indicateurs de vitesse munis d'un radar afin de les évaluer. Les panneaux ont été installés à chaque extrémité de

deux zones scolaires locales: l'école primaire Bliss Carman et le collège Devon. La figure 1 montre un exemple de l'une des installations près de l'école primaire.

L'Université du Nouveau-Brunswick a entrepris un projet de recherche visant à quantifier les avantages de l'utilisation de ces panneaux indicateurs de vitesse dans les zones scolaires. Des données de vitesse ont été collectées une semaine avant l'installa-



Figure 1: Panneau indicateur de vitesse à radar utilisé dans la recherche.

Depuis des années, les responsables scolaires, la police et les ingénieurs en transport ont du mal avec la gestion de la vitesse des véhicules dans les zones scolaires.



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tion des panneaux d'affichage, pendant la semaine après l'installation, et environ deux mois plus tard. L'objectif était de déterminer comment les panneaux d'affichage avaient une incidence sur les conditions opérationnelles à court et moyen terme. Les données de vitesse ont été recueillies à trois endroits d'un bout à l'autre des zones scolaires, pendant les heures de pointe et en dehors des heures de pointe. Les vitesses ont été collectées à chaque extrémité de la zone scolaire, soit au moins 100 m du début et de la fin de la zone, ainsi que à peu près au milieu de la zone. Le résultat a été la documentation des profils de vitesse qui pourraient être évalués.

En plus des vitesses moyennes, la variation de vitesse entre la composition du trafic a également été évaluée, car il a été démontré que cette variation influe sur les niveaux de sécurité. Les vitesses moyennes et les écarts types, avant et après l'installation, ont été statistiquement comparés afin de déterminer si les panneaux d'affichage ont produit des différences significatives.

Pour ce projet de recherche, un intervalle de confiance de 90% a été choisi pour la signification statistique. Les essais ont montré qu'après une semaine et deux mois de fonctionnement, toutes les vitesses ont été réduites à un niveau statistiquement significatif. Il y avait une seule exception, une semaine après l'installation en dehors des heures de pointe à l'école primaire Bliss Carman, où les vitesses moyennes ne sont pas statistiquement inférieures. Les réductions des vitesses moyennes ont varié de 7 à 16 km/h, en moyenne de 11,9 km/h, au cours des deux mois de l'étude. Par ailleurs, les vitesses du 85e percentile ont été évaluées avant et après l'installation des panneaux et elles ont également été réduites à un niveau statistiquement significatif, se situant entre 6 et 17 km/h, pour une moyenne de 11,8 km/h.

Tous les gains de sécurité découlant de la réduction de la vitesse pourraient être annulés si les variations de vitesse (de plus grands différentiels de vitesses) montraient une augmentation dans les zones scolaires. Les recherches ont démontré que l'introduction des différentiels de vitesses supérieurs va accroître considérablement le risque de collisions. Les essais statistiques ont montré que la différence dans les écarts types, avant et après l'installation des panneaux d'affichage, n'est pas significative.

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Les avantages associés à des panneaux indicateurs de vitesse dans cette étude suggèrent des réductions significatives de la vitesse, mais une approche stratégique et conservatrice devrait être considérée pour la mise en place de panneaux d'affichage de vitesse dans d'autres zones scolaires de la région.



(Continued from page 31)

Les avantages associés à des panneaux indicateurs de vitesse dans cette étude suggèrent des réductions significatives de la vitesse, mais une approche stratégique et conservatrice devrait être considérée pour la mise en place de panneaux d'affichage de vitesse dans d'autres zones scolaires de la région. De nombreux facteurs pourraient avoir une incidence sur le résultat des panneaux indicateurs de vitesse tels que l'environnement immédiat de l'école, les conditions de circulation du trafic, le type d'école, le réseau routier dans les environs de l'école et les données de base de vitesse. Les deux sites d'essai évalués ont été identifiés dans des conditions d'une vitesse d'opération de base relativement élevée.

Si les panneaux d'affichage de vitesse deviennent communs, il peut être possible qu'ils deviennent moins efficaces car les automobilistes seront conditionnés à les voir et, essentiellement, leur « nouveauté » pourrait se dissiper. Il est suggéré qu'un système de justification semblable à celui employé pour les feux de signalisation peut être un outil utile pour aider les responsables à décider de l'emplacement adéquat des panneaux indicateurs de vitesse.

Certaines études ont montré que ces panneaux sont plus efficaces avec des contrôles intermittents de vitesse. Il est donc fortement recommandé que l'utilisation de panneaux indicateurs de vitesse soit complétée avec un contrôle intermittent. Finalement, il est noté que les sites seront revisités de nouveau au premier anniversaire de l'installation des panneaux dans le but d'obtenir des résultats à plus long terme. Une approche empirique de Bayes sera nécessaire afin de normaliser d'autres influences extérieures sur les données de vitesse dans ces sites.

Dan Mason et Eric Hildebrand
Université du Nouveau-Brunswick



Speeders Beware – You Are on a Digital Billboard

Résumé : « Preventable », une association qui vise à réduire les accidents évitables, a lancé une nouvelle initiative contre les accidents évitables à temps pour la période du retour à l'école. Pendant que parents et enfants se préparaient pour la rentrée des classes, « Preventable », la Fondation pour la sécurité routière de BCAA ainsi que les villes de Surrey et Burnaby ont installé des panneaux mobiles à affichage variable dans les environs de plusieurs écoles sélectionnées. Ces panneaux vont prendre une photo des conducteurs qui excèdent la limite de vitesse et afficher la photo sur le panneau, accompagnée du message suivant : « Avant de conduire à toute vitesse, prenez le temps d'en discuter avec vous-même. »

The first such road safety digital billboard of its kind in North America, the objective is to engage drivers to consider how they drive, particularly around school zones.



A motorist passes the mobile digital billboard with their image displayed.

Vancouver, BC – From the people who brought you last year's innovative 3D illusion "Pavement Patty", Preventable is launching another unique preventable injury initiative in time for back to school. As parents and students gear up for back to school, Preventable, together with the BCAA Road Safety Foundation, the City of Surrey and City of Burnaby, is setting up a mobile digital billboard at select schools that will photograph speeding cars and post their photos on the billboard with the message "Before you rush through here, have a word with yourself."

The first such road safety digital billboard of its kind in North America, the objective is to engage drivers to consider how they drive, particularly around school zones.

(Continued on page 34)

In 2010, Preventable achieved international attention with its back to school preventable injury initiative of a 3D illusion pavement image of a small girl chasing a ball, the first in Canada.



(Continued from page 33)

The digital billboards will be mobile to maintain the surprise factor, moving from one school to another each day in Burnaby and Surrey from September 6-9.

In 2010, Preventable achieved international attention with its back to school preventable injury initiative of a 3D illusion pavement image of a small girl chasing a ball, the first in Canada.

"As children head back to school, everyone needs to be reminded of school zones," says Allan Lamb, Preventable spokesperson and President & COO of the BCAA Road Safety Foundation. *"We see a lot of pedestrian-related injuries in September and October with children aged 5 to 14 years at the greatest risk for pedestrian-related fatalities. The key to reducing serious injuries truly is, behaviours and attitudes - with this innovative digital billboard, we're reminding drivers to have a word with yourself and make smart driving decisions."*

Statistics have shown that during the first week of school, two children in British Columbia will die as a result of injury. The most frequently reported child pedestrian activity that results in injury or death is crossing at an intersection followed by running onto the road.

"Children are vulnerable on the roads so we want to encourage drivers to slow down and take caution around school zones to maximize road safety," says City of Burnaby Mayor Derek Corrigan. *"We believe in saving lives and reducing injuries. Partnering with Preventable on this campaign will help us achieve these goals."*

"Surrey is the largest school district in the province and we have about 70,000 students walking and cycling around their schools each day. It's very important to ensure they are safe and that drivers are aware of the reduced speed limits," says City of Surrey Mayor Dianne Watts. *"As part of our Safe & Active Schools Program, the City of Surrey has been heavily investing in safety around schools, so we're proud to partner in this initiative to increase awareness and encourage drivers to slow down."*

Preventable is the first organization to undertake a province-wide social marketing strategy focusing on preventable injuries. Using integrated advertising, guerrilla marketing activities and social media, Preventable asks people to adjust their behaviours by thinking before they act, remembering to exercise preventative measures at all times whether on the road, at work, home, play or in water.

To learn more about road safety and preventable injuries, visit www.preventable.ca

Yvonne Chiang
Jive Communications

THE COMMUNITY AGAINST
preventable
INJURIES

Call for abstracts

June 10-13, 2012, Banff, Alberta

The organizing committee for the 22nd Canadian Multidisciplinary Road Safety Conference is inviting authors to submit abstracts on a road safety topic for presentation at next year's meeting. The conference is aimed at everyone who works in road safety including health professionals, engineers, government officials, crash reconstructionists, insurers, researchers, enforcement, and more. International delegates are particularly encouraged to attend this conference. The theme for the conference is 'Safe roads for everyone – Coming together from all directions'. The theme emphasizes the importance of sharing strategies whose aim is safe roads for all road users by focusing on lowering crashes among over represented groups. Through our different viewpoints delegates can address the issue of road safety 'coming from different directions'. The theme will be highlighted at the conference by means of panel.

Abstract submission

Send your abstract (maximum 500 words) in the body of an email message or as an attached file in Microsoft Word, using the following headings:

- Purpose
- Method
- Results
- Conclusions
- Each author's name and organization

Authors and presenters may wish to consider and describe how their work relates to the theme of the conference - Safe roads for everyone - Coming together from all directions.

Please include your contact information including:

- Name
- Organization
- Mailing address
- Phone number
- Email address

Email this information to info@carsp.ca by October 31, 2011.

Topics

Abstracts are welcome on any aspect of road safety, including, but not limited to, the topics listed below. Please note that the sub-topics are merely examples. Furthermore, we encourage the submission of both scientific and technical papers in addition to application-based papers.

Traffic Engineering/Road Design

- Impact of road design
- Traffic operations and traffic control devices
- Intelligent transportation systems
- Speed limit setting/monitoring

(Continued on page 36)

The organizing committee for the 22nd Canadian Multidisciplinary Road Safety Conference is inviting authors to submit abstracts on a road safety topic for presentation at next year's meeting.



(Continued from page 35)

Injury Prevention

- Occupant protection
- Biomechanics of injury crashes
- Automotive medicine

Enforcement/Legal Issues

- Enforcement strategies
- Alcohol and drugs
- Legal aspects of crashes

Safety Initiatives

- Safety promotion programs
- Community and partnership engagement
- Integrated road safety strategies

Policy Development

- Societal costs of crashes
- Application of policies
- Application of legislation/regulations

Road Users/Behavioural Issues

- Epidemiology of crashes or injuries
- Specific road users approaches/ research (e.g. pedestrian, cyclist, motorcyclist)
- Human factors and traffic psychology

Vehicles and Vehicle Systems

- Collision avoidance
- Collision protection
- Commercial vehicle safety
- Off-road vehicle safety
- Crash investigation and reconstruction

Important Deadlines

Those papers accepted* for presentation at the conference will be published in the Conference Proceedings. In order that the proceedings may be available at the conference, abstracts and the manuscripts of accepted papers must be received by the deadlines indicated below:

- Abstracts by October 31, 2011
- Notification of acceptance by November 30, 2011
- Manuscripts must be submitted by February 10, 2012
- Reviewers' comments to authors by March 23, 2012
- Final papers must be submitted by April 6, 2012

* Please note that for the full paper to be accepted and published in the conference proceedings, the presenting author must be pre-registered for the conference.

Registration information will be available on the conference website at www.cmrsc.ca.

General Information

Instructions for the preparation of manuscripts will be provided to authors whose abstracts are accepted. Prospective authors should note that the Scientific Pro-

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gramme Committee reserves the right to reject any final manuscript that does not conform to the abstract, has not been prepared in the specified format, or does not meet the deadlines required for the printing of the proceedings.

For further information, contact:

Brenda Suggett, MSc.

Co-Chair, Scientific Programme Committee

E-mail: info@carsp.ca



canadian multidisciplinary
ROAD SAFETY
CONFERENCE



LA CONFÉRENCE
canadienne multidisciplinaire en
SÉCURITÉ ROUTIÈRE



Demande de résumés

10 au 13 juin 2012, Banff, Alberta

Le comité organisateur de la 22e Conférence canadienne multidisciplinaire en sécurité routière invite les auteurs à soumettre leurs résumés sur un sujet touchant la sécurité routière afin d'en faire la présentation à la réunion de l'année prochaine. Cette conférence s'adresse à tous ceux qui travaillent en sécurité routière, y compris les professionnels de la santé, les ingénieurs, les employés du gouvernement, les spécialistes en reconstruction d'accidents, les assureurs, les chercheurs, les forces policières, et plusieurs autres encore. Les délégués internationaux sont particulièrement encouragés à assister à cette conférence.

Le thème de la conférence est « La sécurité routière pour tous – un rassemblement provenant de toutes les directions ». Ce thème souligne l'importance de partager des stratégies dont l'objectif est la sécurité routière pour tous les usagers de la route en mettant l'accent sur la réduction des accidents parmi les groupes surreprésentés. En raison de leurs différents points de vue, les délégués pourront aborder la question de la sécurité routière en « venant de différentes directions ». Le thème sera mis en évidence au moyen de tables rondes et de sessions plénières.

Soumettre votre résumé

Envoyez votre résumé (maximum 500 mots) sous la forme d'un courriel ou dans un document attaché, en format Microsoft Word, en utilisant les titres suivants :

- Objet
- Méthode

- Résultats
- Conclusions
- Noms des auteurs et de leurs organisations respectives

Les auteurs et les présentateurs peuvent prendre en compte et décrire en quoi leurs travaux ont rapport avec le thème de la conférence « La sécurité routière pour tous – un rassemblement provenant de toutes les directions ».

Prière d'inclure vos coordonnées comprenant :

- Nom
- Organisation
- Adresse postale
- Numéro de téléphone
- Adresse courriel

Faites parvenir ces informations à info@carsp.ca avant le 31 octobre 2011.

Thèmes

Les résumés sont les bienvenus sur tous les aspects touchant la sécurité routière, y compris, mais sans s'y limiter, les sujets énumérés ci-dessous. Veuillez noter que les sous-thèmes sont énumérés à titre d'exemples. Par ailleurs, nous encourageons la soumission d'articles scientifiques, de documents techniques en plus d'articles axés sur l'application.

Ingénierie du transport / conception des routes

- Impact de la conception des routes
- Opérations de circulation et dispositifs de contrôle du trafic

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- Systèmes de transport intelligents
- Limitation de vitesse : établissement / surveillance

Prévention des blessures

- Protection des occupants
- Biomécanique des blessures
- Médecine et automobile

Application de la loi / Questions juridiques

- Stratégies en matière d'application de la loi
- Alcool et drogues
- Aspects légaux reliés aux accidents

Initiatives en matière de sécurité routière

- Programmes de sécurité routière
- Mobilisation des communautés et des partenaires
- Stratégies intégrées en matière de sécurité routière

Élaboration des politiques

- Coûts reliés aux traumatismes routiers
- Application des politiques
- Application des lois et des règlements

Usagers de la route / enjeux liés au comportement routier

- Épidémiologie des accidents ou des blessures
- Approches ou recherches à l'égard d'usagers de la route spécifiques (piétons, cyclistes, motocyclistes, etc.)
- Facteurs humains et psychologie de la circulation

Véhicules et systèmes à bord des véhicules

- Prévention des collisions
- Protection en cas de collision
- Sécurité des véhicules lourds
- Sécurité des véhicules hors route
- Enquête et reconstitution de collisions

Le compte rendu de la conférence

Les communications qui seront acceptées* pour être présentées à la conférence seront publiées dans le compte rendu de la conférence. Afin que ce compte rendu puisse être disponible pour la conférence, les résumés et les manuscrits des communications acceptées devront être reçus avant les échéances ci-dessous :

- Résumés avant le 31 octobre 2011
- Avis d'acceptation d'ici le 30 novembre 2011
- Manuscrits d'ici le 10 février 2012
- Commentaires aux auteurs d'ici le 23 mars 2012
- Manuscrits finals d'ici le 6 avril 2012

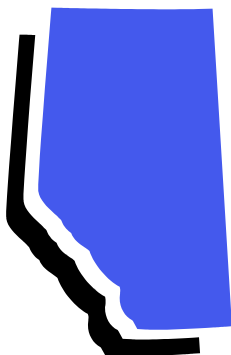
* Veuillez s.v.p. prendre note que, pour qu'un article soit admis et publié dans le compte rendu de la conférence, l'auteur qui livrera la communication orale doit s'inscrire à l'avance à la conférence.

Les informations concernant l'inscription seront disponibles sur le site de la conférence www.carsp.ca/cmrcs_f.htm.

Renseignements généraux

Les directives pour la rédaction des manuscrits seront fournies aux auteurs

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dont les résumés sont acceptés. Les auteurs éventuels doivent prendre note du fait que le comité scientifique se réserve le droit de rejeter tout manuscrit final qui n'est pas conforme au résumé, qui n'a pas été préparé selon le format précisé ou qui ne respecte pas les échéances requises pour l'impression des comptes rendus.

Pour plus d'information, s.v.p. contactez :

Brenda Suggett, MSc.

Co-Chair, Scientific Programme Committee

E-mail: info@carsp.ca

Pour plus d'information, consultez le site Internet www.carsp.ca/cmrrsc_f.htm.



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LA CONFÉRENCE
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SÉCURITÉ ROUTIÈRE



New Road Safety Research Network

The importance of road safety as a public health issue is well known, road crashes being one of the leading causes of premature death, injury or loss of health from disability. Research has contributed to the development of road safety measures that have greatly improved the road safety record in recent decades; however many problems remain unresolved and new issues have arisen such as:

- aging road users
- the introduction of new technologies,
- automated devices for traffic enforcement, etc.

Clearly, the gains remain fragile and efforts should continue to support research in road safety.

To foster research and innovation in road safety, the Ministry of Transport (MTQ) and the Société de l'assurance automobile du Québec (SAAQ), in partnership with the Research Funds of Quebec - Nature and Technology, Health, Society and Culture - finance the infrastructure of a road safety research network created in spring 2010. The Network is comprised of researchers, stakeholders and experts from public and private sectors. The Network enables the development and sharing of new knowledge to meet the road safety needs of society. More than thirty academic researchers in Quebec from a wide variety of disciplines are members of the Network. The main challenges are to ensure the continuity of road safety research, strengthen the excellence and quality of research, promoting interdisciplinary research, to facilitate collaboration between researchers and institutions, and train the next generation of experts and researchers in the field.

The goal of the Network is to achieve development and knowledge transfer to assist in the formulation and implementation of programs and public policies to improve road safety. The objectives are:

- to bring together researchers, partners and users to properly identify road safety research needs;
- to act as a clearing house and broker, matching research experts to the needs expressed by partners and users;
- to promote networking among researchers;
- to encourage and support the transfer of knowledge to decision makers and

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The importance of road safety as a public health issue is well known, road crashes being one of the leading causes of premature death, injury or loss of health from disability.



Eleven research projects in road safety were funded in 2011 for a period of two to three years for a total of \$1.5 million.



(Continued from page 41)

- others working in the field of road safety;
- to participate proactively in the public dissemination of scientific results of research conducted by the Network members.

The creation of the network was accompanied by a first round of calls for research proposals. Eleven research projects in road safety were funded in 2011 for a period of two to three years for a total of \$1.5 million (the list of funded projects can be found here:

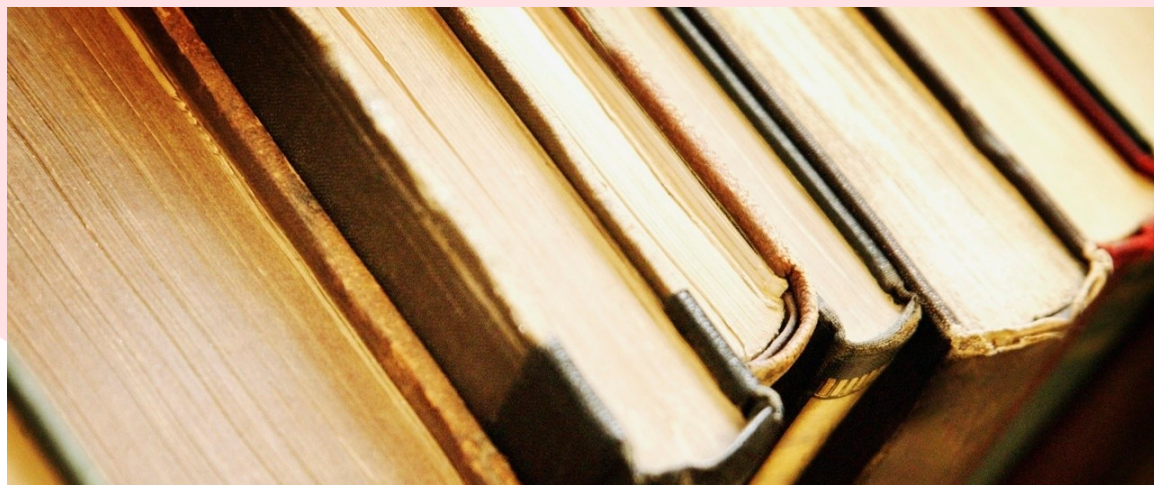
http://www.fqrnt.gouv.qc.ca/partenariatsInnovation/resultats/Volet1_Resultats/SR_1er_concours.pdf

and

http://www.fqrsc.gouv.qc.ca/fr/recherche-expertise/projets/projets-actions-concertees.php#Securite_routiere

The network holds an annual conference where researchers meet with partners and users of research results. The first conference took place May 13, 2011 in Sherbrooke. The next conference will be held in the spring of 2012; anyone interested is welcome. For more information about the Network visit the website: <http://rrsr.ca/>.

Francois Bellavance
HEC Montreal



Nouveau réseau de recherche en sécurité routière

L'importance de la sécurité routière comme problème de santé publique est notoire, le bilan routier constituant l'une des principales causes de diminution du nombre d'années de « vie en bonne santé ». Les résultats de la recherche universitaire ont eu des effets certains sur les politiques publiques en matière de prévention des accidents de la route au Québec et au Canada puisqu'ils ont permis d'améliorer la compréhension que pouvait avoir les instances décisionnelles de diverses problématiques de sécurité routière. La recherche a ainsi contribué au développement de mesures de sécurité routière qui ont grandement amélioré le bilan routier au cours des dernières décennies. Cependant, plusieurs problèmes demeurent non résolus et de nouvelles questions ont surgi ici comme ailleurs. C'est le cas par exemple de la problématique du vieillissement des usagers de la route, de l'introduction des nouvelles technologies, des comportements déviants – notamment en matière de vitesse inadaptée, du potentiel des dispositifs de contrôles automatisés, etc. À l'évidence, les gains demeurent fragiles et les efforts doivent se poursuivre, renforçant de surcroît la pertinence de soutenir la recherche en sécurité routière.

Pour promouvoir la recherche et l'innovation en sécurité routière, le Ministère des transports (MTQ) et la Société de l'assurance automobile du Québec (SAAQ), en partenariat avec les fonds de recherche du Québec - Nature et technologies, Santé, et Société et culture, financent l'infrastructure d'un réseau de recherche en sécurité routière créé au printemps 2010. Le réseau rassemble les chercheurs universitaires au Québec qui œuvrent dans le domaine et les principaux partenaires publics et privés concernés. Le réseau est donc un regroupement des intervenants et des experts des secteurs public et privé et des chercheurs qui s'organisent afin de permettre le développement et le partage de nouvelles connaissances afin de répondre aux besoins de la société en matière de sécurité routière dans le but d'améliorer le bilan routier. Plus d'une trentaine de chercheurs universitaires québécois provenant d'une grande variété de disciplines sont membres du réseau. Les principaux enjeux sont d'assurer la continuité de la recherche en sécurité routière, de renforcer l'excellence et la qualité de la recherche, de promouvoir la recherche interdisciplinaire, de faciliter les collaborations entre les chercheurs et les institutions, et de former la relève.

(Continued on page 44)

L'importance de la sécurité routière comme problème de santé publique est notoire, le bilan routier constituant l'une des principales causes de diminution du nombre d'années de « vie en bonne santé ».



Onze projets de recherche en sécurité routière ont été subventionnés en 2011 pour une période de deux ou trois ans pour un montant total de 1,5 M \$.



(Continued from page 43)

Les objectifs spécifiques du réseau sont:

- rassembler les chercheurs, les partenaires et les utilisateurs afin de bien identifier les besoins de recherche;
- agir comme lieu de courtage et de jumelage entre l'offre de recherche et les besoins exprimés par les partenaires et les utilisateurs;
- favoriser le réseautage entre les chercheurs;
- encourager et soutenir le transfert de connaissances vers les décideurs en position de gouvernance et de toute personne œuvrant dans le domaine de la sécurité routière;
- participer pro-activement à la diffusion publique des résultats scientifiques des recherches menées par les membres du réseau et contribuer à leur vulgarisation.

La création du réseau a été accompagnée d'une première ronde d'appels de propositions de recherche. Onze projets de recherche en sécurité routière ont été subventionnés en 2011 pour une période de deux ou trois ans pour un montant total de 1,5 M \$ (suivre les liens suivants pour voir la liste des projets subventionnés :

http://www.fqrnt.gouv.qc.ca/partenariatsInnovation/resultats/Volet1_Resultats/SR_1er_concours.pdf

et

[http://www.fqrsc.gouv.qc.ca/fr/recherche-expertise/projets/projets-actions-concertees.php#Securite_routiere\)](http://www.fqrsc.gouv.qc.ca/fr/recherche-expertise/projets/projets-actions-concertees.php#Securite_routiere)

Le réseau organise un colloque annuel où se rencontrent les chercheurs, les partenaires et les utilisateurs des résultats de la recherche. Le premier colloque annuel du réseau a eu lieu le 13 mai 2011 à Sherbrooke. Le prochain colloque aura lieu au printemps 2012; toute personne intéressée est bienvenue. Pour plus d'information sur le réseau visitez le site web : <http://rrsr.ca/>.

Francois Bellavance
HEC Montreal

Attention Students – Scholarships and Awards are Now Available!

Information on scholarships and awards applicable to the field of road safety, offered by a variety of Canadian organizations, is now available on CARSP's Notice Board.

The CARSP website will now be an ongoing source of information on scholarships and awards for students wishing to conduct research on a road safety topic. CARSP members, particularly those associated with universities, are encouraged to send scholarship information to info@carsp.ca for posting.

To view the latest scholarship and award information please [click here](#)

Avis aux étudiants – des bourses d'études et des prix sont maintenant

De l'information est maintenant disponible sur le site de l'ACPSEER concernant des bourses d'études et des prix dans le domaine de la sécurité routière. Ces bourses et prix sont offerts par diverses organisations canadiennes.

Le site de l'ACPSEER sera désormais une source d'information sur les bourses d'études et prix présentement disponibles pour les étudiants désirant mener des recherches dans un domaine de la sécurité routière. Nous encourageons les membres de l'ACPSEER, particulièrement ceux associés à une université, à soumettre toute information portant sur des bourses d'études à l'adresse info@carsp.ca pour diffusion.

Pour accéder aux plus récentes informations sur les bourses d'études et les prix, veuillez suivre [ce lien](#) (en anglais).

Information on scholarships and awards applicable to the field of road safety, offered by a variety of Canadian organizations, is now available on CARSP's Notice Board.

Recent Publications

CARSP members have recently published the following papers:

Kattan L, Tay R and Acharjee S; Managing speed at school and playground zones; *Accid. Anal. Prev.*; Vol. 43 No. 5; pp. 1887-1891; September, 2011

Lord D and Geedipally SR; The negative binomial-Lindley distribution as a tool for analyzing crash data characterized by a large amount of zeros; *Accid. Anal. Prev.*; Vol. 43 No. 5; pp. 1738-1742; September, 2011

Wickens CM, Mann RE, Stoduto G, Ialomiteanu A and Smart RG; Age group differences in self-reported aggressive driving perpetration and victimization; *Transp. Res. F Traffic Psychol. Behav.*; Vol. 14 No. 5; pp. 400-412; September, 2011

De l'information est maintenant disponible sur le site de l'ACPSEER concernant des bourses d'études et des prix dans le domaine de la sécurité routière.

Acknowledgements

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Alex Lee — Insurance Corporation of British Columbia, North Vancouver, BC

Dan Mason — University of New Brunswick, Fredericton, NB

Kevin McClafferty — Southwestern Collision Analysis, London, ON



Next issue

The theme of the next issue of the Safety Network will be impaired driving (either alcohol or drugs). If you have any articles of interest on this topic, please forward them to Jeff Suggett (jeffrey.suggett@hdrinc.com) by January 16th. Articles should be between 300 – 500 words and accompanying pictures/graphics are encouraged.

Prochain numéro

La prochaine édition du Réseau-Sécurité portera sur la conduite avec facultés affaiblies (par l'alcool, les médicaments ou les drogues). Si vous avez un article sur le sujet ou êtes intéressés à en écrire un, vous êtes invités à envoyer vos contributions à Jeff Suggett (jeffrey.suggett@hdrinc.com) avant le 16 janvier 2012. Les articles devraient avoir entre 300 et 500 mots, et des photos ou graphiques les accompagnant sont les bienvenus.