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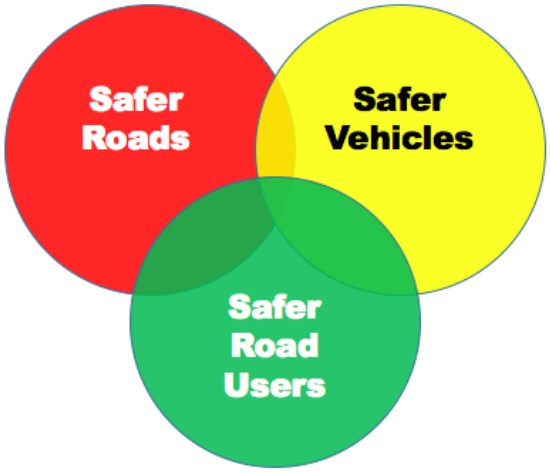
The Safety Network/ Le Réseau-Sécurité



Safe Systems Approach to Road Safety

Issue 4 2018 – Road Traffic System Management

IN THIS ISSUE

Editorial

On September 13, 1899 Henry Hale Bliss was exiting a streetcar at West 74th Street and Central Park West in New York City when he was struck and killed by a taxi driver. This was the first fatal automobile collision to occur in North America. The taxi driver, Arthur Smith, was arrested and charged with manslaughter. After the trial, he was acquitted on the grounds that he had no malicious intent, nor was he negligent. From that moment forward, there was an intentional shift to limit driver liability in motor vehicle collisions. Through heavy government lobbying by auto manufacturers and auto clubs and the development of auto insurance programs, driver liability was greatly limited to support the proliferation of the automobile. Over the course of a century of auto dominance, society adopted the idea that road deaths are an acceptable cost of mobility.

The Joker once said, "Nobody panics when things go *according to plan*. Even if the plan is horrifying!"[1] The humanity of road deaths was systematically eroded in the name of economic and cultural progress. Death on our roads became normalized. We accepted their occurrence. We began to care less. Not unlike the horrors of gun violence plaguing the US right now, road deaths became the "new normal".

The good news is that change is underway. Road safety engineering over the past three decades has been responsible for a steady reduction in road deaths. Techniques like traffic calming are now commonplace. Post-war traffic engineers would roll over in their graves to see a large bump in the road slowing down traffic in their system, which they designed "perfectly" for speed and efficiency.

Instead of simply viewing roads as vehicular conduits, we started looking at problems on our roads. We looked at where collisions were happening - first as an absolute measure, then as a function using traffic volume as the measurement known as a collision rate. This step helped us improve the system location by location. It was then found that using collision rates alone was not proving effective. Some locations performed better or worse based on their attributes. For instance, a large signalized intersection may have a higher collision rate than an all-way stop but may be less amenable to engineering improvements.

This earlier understanding gave way to a new, more sophisticated way of further improving the road system - Network Screening. This technique is often viewed as very complex. It is. In essence though, Network Screening is quite simple; it is a tool used to compare collision performance of similar road segments and intersections to identify locations with the highest potential for engineered safety improvement. For example, if we were to examine 100 intersections within a road network with similar attributes (e.g. signalized, single approach lanes, exclusive left-turn lanes, exclusive right-turn lanes, etc.) and then chart the collision experience of each one, a trendline could be drawn (let's call this a Safety Performance Function). If the number of collisions at an intersection falls above the trendline it is performing poorly in comparison to it's peers and may be amenable to engineering improvements to perform better (let's call this a Potential for Safety Improvement). This detailed, location specific understanding has led to an excellent review process to improve deficiencies within a road system. It allows the road authority to identify the most poorly performing locations and improve them.

Although this approach can improve the engineering of a road network from a structural standpoint, it can only be done by considering <u>all</u> collisions (injury and non-injury alike). If this approach followed the Vision Zero way, meaning that only fatal and severe injuries are considered, it would have far fewer collisions to work from and there wouldn't be a statistical basis for location improvements. For instance, a death or severe injury may only occur at a specific location once every 10, 20, 30 years…or it may never happen again. When <u>all</u> collisions are considered, they provide a population of data that is significant enough to analyze and develop specific recommendations for each location.

Simplistic methodologies have led to the belief in the field of transportation safety that fatal and severe injury collisions are random, unpredictable and too few to be statistically significant. Using these methodologies, this is true. However, if you look at fatal and severe injury collisions collectively and disregard the specific location of each, there are trends that can be detected on a high level. For instance, a fatal collision involving a pedestrian struck by a right-turning vehicle crossing at a signalized intersection may only occur at a specific location once in a lifetime. However, the same collision may occur at several locations throughout a larger network every year. Remedying this issue could represent a major percentage reduction in road deaths for a municipality but would be entirely missed using the Network Screening methodology.

If we are to truly honour the principles of Vision Zero, we need to start looking at the rich data available which encompasses fatal and severe injury collisions. We need to start considering solutions that fall outside of the realm of engineering based on hard evidence. We need to look from the public health lens and start making planning-level changes. We need to think back to the 1899 and reassess the basic premise. What if instead of dismissing the lost life of Henry Hale Bliss by claiming it was a blameless accident, we consider the larger picture? Other factors like the system that allowed it to happen? That might have been a tall order more than a century ago, but by now, some 120 years later, we surely must have the capability to think differently and preserve life on all our roads.

Adam Bell
National Vision Zero Lead & Team Leader,
Traffic & Safety Planning and Advisory
WSP

1. *The Dark Knight*, Directed by Christopher Nolan, Warner Bros. Pictures, 2008

Éditorial

Le 13 septembre 1899, Henry Hale Bliss sortait d'une voiture au coin de la West 74th Street et de la Central Park West, à New York. Il fût heurté et tué par un chauffeur de taxi. Ceci était la première collision mortelle à survenir en Amérique du Nord. Le chauffeur de taxi, Arthur Smith, a été arrêté et accusé de meurtre. Après son procès, il fût acquitté sur la base d'une absence de négligence et d'intentions malveillantes. Depuis cet instant, un nouveau paradigme est apparu, limitant l'imputabilité des conducteurs lorsqu'une collision mortelle survient. À travers le puissant lobby des constructeurs et des clubs automobiles, ainsi qu'avec le développement des programmes d'assurance, la responsabilité des conducteurs a été largement réduite, assurant ainsi la prolifération des voitures personnelles. Au cours d'un siècle complet de domination automobile, la société en est arrivée à accepter l'idée que les décès routiers sont un coût acceptable de la mobilité.

Le Joker a déjà dit, « personne ne panique lorsque les choses suivent *le plan établi*. Même si le plan établi est terrifiant! »[1] L'aspect humain lié aux décès routiers a été systématiquement érodé au nom de la prospérité économique et culturelle. Les mortalités sont devenues la norme. Nous avons accepté leur présence et avons commencé à moins nous en préoccuper. Non sans trop se distinguer de la violence par armes à feu qui afflige actuellement les États-Unis, les décès routiers sont devenues la « nouvelle réalité ».

La bonne nouvelle, c'est qu'un changement s'opère. L'ingénierie et les efforts déployés en sécurité routière ont été responsables d'une diminution constante du nombre de décès au cours des trois dernières décennies. Les approches telles que les mesures d'apaisement sont devenues monnaie courante. Les ingénieurs d'après-guerre se tourneraient dans leur tombe s'ils voyaient un dos d'âne ralentir les automobiles dans leur système, qu'ils ont conçu à la perfection pour favoriser la vitesse et la fluidité.

Au lieu de considérer la route comme un conduit véhiculaire, nous avons commencé à regarder les problèmes, notamment le lieu de collision. L'approche par sites a d'abord été une mesure absolue, puis fonction d'un système plus global, où le taux d'accident était estimé en fonction d'un volume de circulation. Cette évolution a permis d'améliorer le système, un site à la fois. Ensuite, il a été découvert que le taux de collision ne peut prédire à lui seul le lieu de survenue d'une collision. Certains sites performaient plus ou moins bien en fonction de leurs caractéristiques. Par exemple, une intersection large et munie de feux de circulation peut avoir un plus haut taux de collision qu'une intersection à quatre arrêts, mais également être moins sujette à des améliorations.

Ces concepts ont pavé la voie à une nouvelle façon, plus sophistiquée, de considérer les améliorations potentielles au réseau routier : le dépistage de sites à haut potentiel d'amélioration. Ce dépistage est souvent perçu comme très complexe. Il l'est. En essence du moins, car c'est en fait assez simple; c'est un outil utilisé pour comparer la performance de sections et d'intersections similaires, dans le but d'identifier les endroits à plus haut potentiel d'amélioration. Par exemple, pour un réseau composé d'une centaine d'intersections aux caractéristiques similaires (ex. avec feux, une voie par approche, voies de virage à gauche et de virage à droite, etc.) une charte des collisions peut être tracée pour chacune et un indicateur moyen peut être établi (appelons ceci la fonction de performance). Si le nombre de collisions à une intersection se situe au-dessus de la moyenne, elle performe moins bien que ses pairs, puis

devient sujette à une amélioration au moyen de mesures d'ingénierie (appelons ceci le potentiel d'amélioration en sécurité routière). Cette approche détaillée a permis d'établir un excellent suivi, menant à des améliorations notables du réseau routier. Elle permet aux autorités d'identifier les endroits qui performent moins bien en termes de sécurité pour pouvoir ultimement les améliorer.

Malgré que cette approche de sécurité routière améliore le design d'un réseau d'un point de vue structurel, elle ne peut être utilisée qu'en considérant l'ensemble des collisions (avec ou sans blessure). Si cette approche était vue sous l'angle de la Vision Zéro, impliquant que seules les collisions graves et mortelles étaient considérées, il y aurait beaucoup de « petits nombres ». Il serait impossible d'inférer des seuils statistiques pour valider l'amélioration des sites. Par exemple, une collision mortelle peut survenir seulement une fois aux 10, 20 ou 30 ans … et elle peut ne jamais survenir de nouveau à cet endroit. Lorsque toutes les collisions sont considérées, cela donne suffisamment d'informations pour analyser et formuler des recommandations spécifiques à chaque site.

Ces méthodes ont donc mené à la croyance que les collisions graves et mortelles sont aléatoires, non prédictibles et trop rares pour être statistiquement significatives. D'un point de vue méthodologique, oui. Toutefois, si on regarde collectivement et en dehors de la logique de site, il y a des patterns qui émergent et qui peuvent être détectés à un plus haut niveau. Par exemple, un piéton tué par un conducteur effectuant un virage à droite, à une intersection, peut survenir à un endroit spécifique une seule fois au cours de la durée de vie d'un réseau. Toutefois, ce même genre de collision peut survenir plusieurs fois, chaque année, à plusieurs autres sites d'un réseau plus vaste. Remédier à cette problématique de façon globale permet à une municipalité de réduire significativement son bilan mortel, or la situation passerait totalement sous le radar si l'approche par sites à haut potentiel d'amélioration était la seule à être employée.

Si l'objectif est de véritablement honorer les principes de la Vision Zéro, nous devons commencer à utiliser l'information riche et spécifique que nous avons pour les cas de collisions graves et mortelles. Nous devons considérer des solutions en dehors des méthodes classiques, basées sur des preuves statistiques. Nous devons poser un regard de santé publique et commencer à faire des changements dès la planification des infrastructures. Nous devons reconsidérer les prémisses du jugement de 1899 et redéfinir nos priorités. Et si nous considérions la mort d'Henry Hale Bliss comme non acceptable, plutôt qu'un banal accident sans faute, nous pourrions avoir une vision élargie ? Incluant d'autres facteurs, tels que le système qui a permis que cela arrive ? Ceci aurait été une grosse commande il y a un siècle, mais maintenant, plus de 120 années plus tard, nous avons sûrement la capacité de voir les choses différemment et de préserver nos vies sur les routes.

Adam Bell
National Vision Zero Lead & Team Leader, Traffic & Safety Planning and Advisory
WSP

Translation by Jean-François Bruneau

1*The Dark Knight*, Directed by Christopher Nolan, Warner Bros. Pictures, 2008

Safe Systems Approach

By Mavis Johnson

Mavis Johnson has been involved in road safety in the UK and Canada for 50 years. In the last fifteen years, she has undertaken many international road safety projects, particularly in low and middle-income countries. Her major focus is in comprehensive, strategic and operational road safety planning. She also works part-time for the Traffic Injury Research Foundation (TIRF) in developing their community learning centre.

The Safe System Approach was first introduced to Canada in 2007 as one of the recommendations in CCMTA's Road Safety Vision 2010 – Mid-term review.[1] Yet, it is disappointing that twenty years later, there has been limited support within the provinces, territories and municipalities for implementation. This holistic approach is based on these principles:

- Humans make errors and are vulnerable to injury;
- Responsibility is shared among all sectors;
- No death nor serious injury is acceptable; and
- It combines Proactive and Reactive approaches.

The basic premise for survivability is that when a *five star driver* (obeying the law, sober and not distracted), is driving a *five star vehicle* on a *five star road and road side* with a *five star speed limit* for the crash risk on that section of road, then any road user in or outside the vehicle should not be subjected to a crash of such severity that they lose their life if they or the driver make a simple mistake or error of judgement. It also assumes that:

- crash analysis and ongoing development of better understanding of crash causes is a mainstream and continuing activity of road safety agencies;
- adequate road rules to provide safe travel and the necessary enforcement of those rules to achieve high levels of road user compliance are in place (both areas of great opportunity);
- that an adequate driver licensing system exists; and,
- that an informed and aware community is very supportive of the settings required to achieve and maintain an increasingly safe road transport system.

What it means, quite simply, is that we have to reduce the impact on human trauma through multiple measures involving:

- Land Use Planning - Road safety policy should be integrated into city and urban planning
- Safe roads - That are predictable & forgiving of mistakes
- Improved Mobility choices - Fostering a range of safe and comfortable transportation choices reduces the number of people traveling by private motorized vehicle, which in turn reduces the risk of traffic deaths
- Safe speeds - Travel speeds suit the function & level of road safety
- Safe vehicles- That prevent crashes & protect road users
- Safe road users - Road users who are skilled & competent, alert and unimpaired. They comply with road rules and take steps to improve safety

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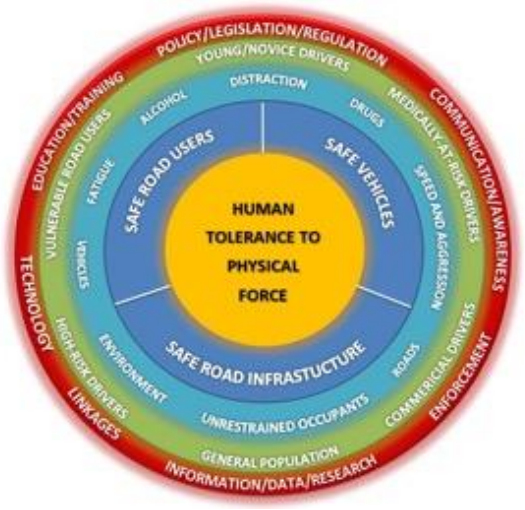
- Post crash response

Figure 1.1 Source: This diagram is a Canadian version adapted from the 2009 WHO report on the Global Status on Road Safety which was in turn modified from work commissioned by the Government of Western Australia



Traditional Approach vs Safe System Approach[2]

Traditional Approach	Safe System Approach
Focus on crashes Aim to reduce risk of crashes Road user has primary responsibility Change individual road user behaviour Safety is "optimised" once mobility and accessibility objectives have been achieved Roads are made as safe as reasonably practical	Focus on injuries Aim to eliminate death and serious injury System designers have primary responsibility Change the environment (safe roads, safe vehicles, safe speeds). Safety is a fixed parameter with threshold levels that cannot be exceeded. Roads are self-explaining and forgiving of mistakes

Recently the World Resources Institute conducted analysis of traffic fatalities in 63 countries between 1994 and 2015 which revealed that countries that have adopted a Safe System Approach have both the lowest rates of fatalities (per 100,000) and the fastest rate of change in fatality rates[3].

As road users are human, crashes are always likely to happen even though there is a continuing focus on prevention. The Safe System Approach is the process through which Vision Zero can be achieved, by providing a powerful platform for the development, adoption and implementation of a comprehensive and integrated road safety strategy. Without this, Vision Zero will remain a "polite wish-list", to quote my esteemed colleague, Eric Howard from Australia.

[1]ccmta.ca/images/publications/pdf/rsv2010_midtermreport_final.pdf
[2]Matts-Åke Belin, Per Tillgren & Evert Vedung (2012) Vision Zero – a road safety policy innovation, International Journal of Injury Control and Safety Promotion
[3]Sustainable & Safe: A Vision and Guidance for Zero Road Deaths. World Resources Institute - 2018

Safe Systems Approach

By Mavis Johnson (translation by Martin Lavallière)

Mavis Johnson est impliquée dans la sécurité routière au Royaume-Uni et au Canada depuis 50 ans. Au cours des quinze dernières années, elle a entrepris de nombreux projets internationaux de sécurité routière, en particulier dans les pays à revenu faible et intermédiaire. Ses domaines de prédilection sont la planification globale, stratégique et opérationnelle de la sécurité routière. Elle travaille également à temps partiel pour la Fondation de recherches sur les blessures de la route (TIRF) dans le développement de leur centre d'apprentissage communautaire.

L'approche des systèmes sûrs (Safe System Approach) a été introduite au Canada en 2007 en tant que recommandation pour la sécurité routière du CCATM 2010[1]. Il est toutefois décevant que vingt ans plus tard, l'appui à la mise en œuvre dans les provinces et les territoires ou dans les municipalités soit encore limité.

Cette approche holistique repose sur les principes suivants;

- Les humains font des erreurs et sont vulnérables aux blessures ;
- La responsabilité est partagée entre tous les secteurs ;
- Aucun décès ni blessure grave n'est acceptable ;
- Il combine des approches proactives et réactives.

Le principe de base de la surviabilité est que lorsqu'un conducteur « cinq étoiles » (obéissant à la loi, sobre et non distrait) conduit un véhicule « cinq étoiles » sur une route à « cinq étoiles » et sur le bord de la route avec une limitation de vitesse à « cinq étoiles » pour le risque de collision sur cette section du réseau routier, qu'aucun utilisateur de la route à l'intérieur ou à l'extérieur d'un véhicule ne devrait être impliqué dans un collision d'une gravité telle qu'il perde la vie si lui-même ou le conducteur commet une simple erreur ou une erreur de jugement. Il suppose également que:

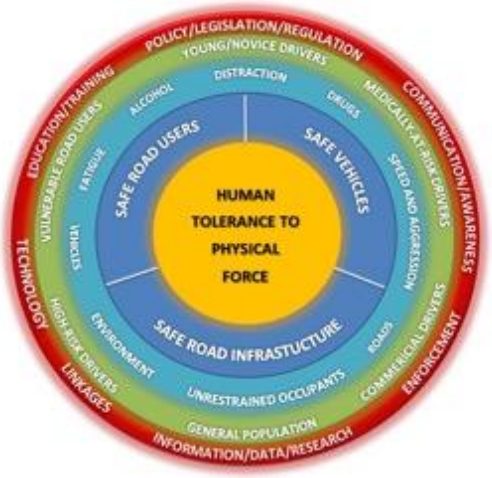
- L'analyse des collisions et le développement continu d'une meilleure compréhension des causes de celles-ci constituent une activité principale et continue des agences et organismes oeuvrant sécurité routière ;
- des règles de circulation adéquates pour assurer la sécurité des déplacements et l'application nécessaire de ces règles pour atteindre un niveau élevé de conformité des usagers de la route sont en place (les deux domaines offrent de grandes opportunités) ;
- qu'il existe un système de délivrance et de maintien du permis de conduire adéquat, et ;
- qu'une communauté informée et consciente apporte son soutien aux paramètres nécessaires pour atteindre et maintenir un système de transport routier de plus en plus sûr.

Simplement, cela signifie que nous devons réduire l'impact sur les traumatismes humains au moyen de multiples mesures comprenant:

- Aménagement du territoire - Les politiques de sécurité routière devrait être intégrée à la planification urbaine
- Des routes sûres, prévisibles et pardonnant les erreurs humaines
- Choix de mobilité améliorés - Le fait de proposer une gamme de moyens de transport sûrs et confortables réduit le nombre de personnes voyageant en véhicule motorisé privé, ce qui réduit le risque de décès sur les routes.
- Vitesses sûres - Les vitesses de déplacement s'adaptent à la fonction et au niveau de la sécurité routière
- Des véhicules sûrs: qui empêchent les accidents et protègent les usagers de la route

- Usagers de la route sûrs - Usagers de la route qualifiés et compétents, alertes et ayant tous leurs moyens (absence de capacités affaiblies). Ils respectent le code de la route et prennent des mesures pour améliorer la sécurité de tous
- Système intégéré de réponse suite aux collisions

Figure 1.1



Source: This diagram is Canadian version adapted from the 2009 WHO report on the Global Status on Road Safety which was in turn modified from work commissioned by the Government of Western Australia

Approche traditionnelle vs approche de système sûr [2]

Approche Traditionnelle	Approche de Système Sûr
Focus sur les accidents Viser à réduire le risque d'accident L'utilisateur de la route a la responsabilité première Changer le comportement des usagers de la route La sécurité est «optimisée» une fois les objectifs de mobilité et d'accessibilité atteints Les routes sont sécurisées dans la mesure du possible	Focus sur les blessures Viser à éliminer la mort et les blessures graves Les concepteurs de systèmes sont les premiers responsables Changer l'environnement (routes sécuritaires, véhicules sécuritaires, vitesses de sécurité). La sécurité est un paramètre fixe dont les seuils ne peuvent pas être dépassés. Les routes s'expliquent d'elles-mêmes et pardonnent les erreurs

Récemment, le World Resources Institute a mené une analyse des collisions de la route dans 63 pays entre 1994 et 2015, qui a révélé que les pays qui ont adopté une approche de système sûr (Safe System Approach) présentent à la fois les taux de décès les plus faibles (pour 100 000 habitants) et le taux de changement le plus rapide d'amélioration de leur bilan routier[3]. Comme les usagers de la route sont des êtres humains, il est toujours probable que des accidents se produisent, même si la prévention est au centre des préoccupations. L'approche des systèmes sûrs est le processus par lequel la Vision Zéro peut être réalisée en fournissant une plate-forme puissante pour l'élaboration, l'adoption et la mise en œuvre d'une stratégie de sécurité routière complète et intégrée. Sans cela, la Vision Zéro restera une «liste de souhaits polis – vœux pieux», pour citer mon estimé collègue australien, Eric Howard.

[1]ccmta.ca/images/publications/pdf/rsv2010_midtermreport_final.pdf
[2]Matts-Åke Belin, Per Tillgren & Evert Vedung (2012) Vision Zero – a road safety policy innovation, International Journal of Injury Control and Safety Promotion
[3]Sustainable & Safe: A Vision and Guidance for Zero Road Deaths. World Resources Institute - 2018

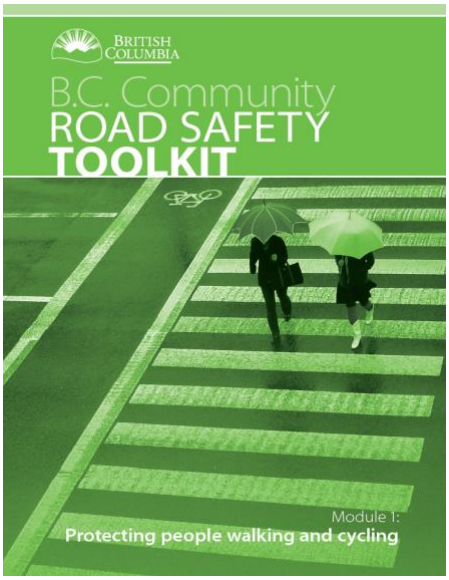
The BC Community Road Safety Toolkit

Article provided by RoadSafetyBC
RoadSafetyBC is the lead government agency responsible for road safety in the province. Through the BC Road Safety Strategy, RoadSafetyBC works in partnership with law enforcement agencies, researchers, professional organizations, government agencies, non-governmental organizations and community groups to improve road safety for drivers, passengers, pedestrians, cyclists and other road users.

Résumé
La trousse à outils communautaire de sécurité routière de la Colombie-Britannique (BC Community Road Safety Toolkit) est une série de ressources développée par le Comité de travail sur la sécurité des routes et des communautés (SRACWC) dans le cadre de la stratégie de sécurité routière de la Colombie-Britannique (BCRSS). Cette boîte à outils est facilement accessible, agit comme point de référence pour les intervenants, et inclut des stratégies spécifiques en sécurité routière afin d'aider les municipalités à améliorer leur bilan routier.

The BC Community Road Safety Toolkit (Toolkit) is a series of resources developed by the Safe Roads and Communities Working Committee (SRACWC), as part of the BC Road Safety Strategy (BCRSS). The Toolkit is an easily-accessible knowledge hub that includes specific road safety strategies to help municipalities improve road safety outcomes in their communities. The Toolkit was developed as a response to road safety issues and challenges identified by nearly 80 communities throughout the province that participated in the 2015 BC Communities Road Safety Survey conducted by RoadSafetyBC.

The Toolkit advances key road traffic systems management principles by helping communities identify the most cost-effective traffic management functions and services, as well as address the parts of the road network where these measures should be applied. The inclusion of these principles helps to minimize human errors, as well as reduce serious injuries and traffic fatalities. The application and implementation of these principles will help communities across the province in advancing Vision Zero and the elimination of traffic related fatalities and serious injuries on our roads.



The *Introduction to the BC Community Road Safety Toolkit* provides a review of the underlying themes and concepts contained in the Toolkit, such as the role of local governments in road safety, the goal of *Vision Zero* and the Safe Systems Approach.

VISION ZERO
ZERO FATALITIES
BRITISH COLUMBIA
ROAD SAFETY STRATEGY

Module 1: Protecting People Walking and Cycling focuses on safe road designs for vulnerable road users. The road traffic management systems principles explored in this module helps communities build and develop road infrastructure that supports and encourages the use of active transportation.

Module 2: Safe Roadway Designs to Protect All Road Users describes roadway design strategies aimed at improving road safety outcomes for all road users by promoting reduced vehicle speeds, safe road designs and traffic engineering strategies.

Module 3: Implementation Tools and Strategies introduces implementation tools and strategies aimed at helping communities plan their road safety activities and efforts more effectively.

Since the Toolkit's official launch at the Canadian Association of Road Safety Professionals (CARSP) Conference in June 2018, it has played an influential role in helping communities adhere to key road traffic management systems principles within their own road safety plans. For example, the City of Surrey has recently used principles outlined in the Toolkit to guide the development of road safety measures in their community.

The Toolkit is a collaborative effort involving many contributing authors from various representatives from municipal and provincial government, road safety agencies, health authorities, universities, and advocacy groups throughout British Columbia.

The BC Community Road Safety Toolkit was the topic of a CARSP webinar that aired on September 19, 2019 and featured Raheem Dilgir of TranSafe Consulting Ltd., Vancouver, BC as the presenter. The slides used in this webinar can be downloaded from the members-only area of the CARSP web site (http://www.carsp.ca)

Implementing a Safe System Approach – results of a successful program from Belize, Central America

By Mavis Johnson

Mavis Johnson has been involved in road safety in the UK and Canada for 50 years. In the last fifteen years, she has undertaken many international road safety projects, particularly in low and middle-income countries. Her major focus is in comprehensive, strategic and operational road safety planning. She also works part-time for the Traffic Injury Research Foundation (TIRF) in developing their community learning centre.

Résumé

Le Projet de Sécurité Routière du Belize (Belize Road Safety Project) a démontré avec succès les avantages d'une approche où les partenaires en sécurité routière travaillent en collaboration en utilisant des interventions de type "Safe System" sur un axe routier principal. Le présent article jette une vue d'ensemble sur les objectifs de ce projet et décrit ses résultats préliminaires.

Background
Belize is a small country (population of almost 400,000) in the northern part of Central America. Based on the recommendations from the International Road Assessment Programme (iRAP) and a Road Safety Management Capacity Review in 2012, Caribbean Development Bank (CDB) loaned the Government of Belize (GOBZ) US$11.835m with GOBZ contributing US$2.51m. Project implementation commenced in February, 2013 and concluded in July, 2018.

The Belize Road Safety Project has successfully demonstrated the benefits of all road safety partners working collaboratively using Safe System interventions on the corridor between Belize City and Belmopan (80 km/50 miles), including the Belmopan Ring Road.

Aims and Objectives
The aim of the project was to achieve a 20% reduction in traffic-related injuries and fatalities.
The objectives of the program were to:

- Implement evidence-based "quick wins" with a focus on high crash locations and behaviours
- Foster cooperation between the primary stakeholders
- Encourage integration of engineering, enforcement and education initiatives
- Implement an effective road safety management program
- Implement recommendations from the iRAP Belize assessment and the Road Safety Management Capacity Review.

Primary outputs

- ✓ Developed the National Road Safety Committee and an Operational Steering Committee
- ✓ Implemented the recommendations of the iRAP report
- ✓ Deployed two Highway Patrol Units and two Type 3 Ambulances
- ✓ Provided training and equipment for enforcement and emergency medical personnel
- ✓ Developed a School Road Safety Curriculum integrated into the National Curriculum and provided

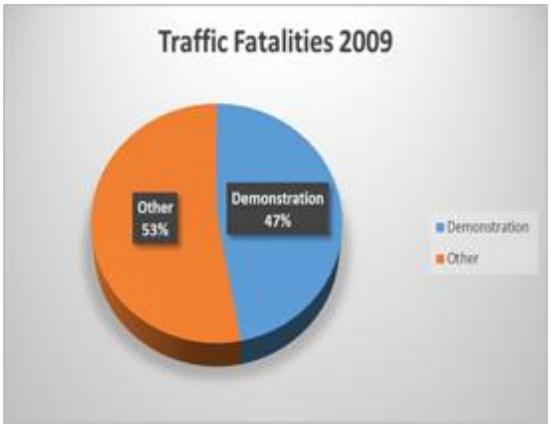
road safety materials for schools – this included training teachers to use the materials
- ✓ Developed a communications strategy that included media messages and advertising on a variety of key topics
- ✓ Provided a variety of training courses and seminars

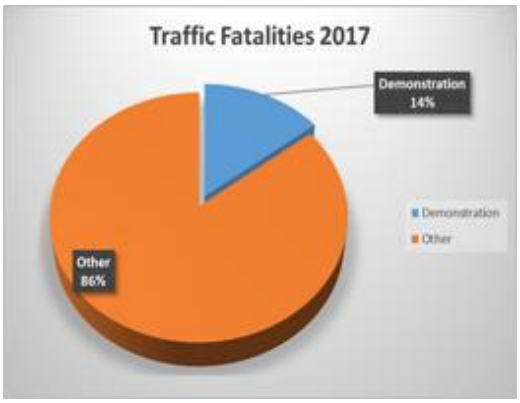
In addition:
- ✓ Developed a long-term Master Plan for Road Safety to 2030 which included five-year Operational Plans for the key line ministries and nine municipalities
- ✓ Assisted in the development of the new Safe Driver Manual

Primary outcomes

Fatality reductions on the Demonstration Corridor

2009 (base)	2015	2016	2017	2018 (to date)
33	6	7	13	2





These two charts indicate that, in 2009, 47% of all traffic fatalities in Belize occurred along the demonstration corridor. The gradual decrease during the project indicates that, in 2017, just 14% of all fatalities took place on the demonstration corridor.

The Belize Road Safety Project was a relatively complex project which was designed to address several key factors contributing to road collisions as recognized in the Safe System approach, i.e. road users, road infrastructure, safer vehicles and equipment.

Since 2013, the *Belize Road Safety Project* has successfully demonstrated the benefits of all road safety partners working collaboratively on a high-collision corridor. To quote CEO Ms Y. Hyde – "*This project has been transformational and a new standard has been set as to how we plan, design and rehabilitate our highways that include measures addressing climate change and road safety*".

The next phase, Road Safety Masterplan 2030 (known now as RSP2) will build on the lessons learned during the Demonstration Corridor project and further enhance the capacity of the various partners and stakeholders.

What is ISO and why does it care about global road safety?

By Dr. Gordon Lovegrove
Dr. Gordon Lovegrove is the Vice President, Technical Programs at the Canadian Society for Civil Engineering, Principal Investigator of the Sustainable Transport Safety Research Laboratory and Associate Professor in the University of British Columbia's School of Engineering, with research focus in Sustainable Community planning and design

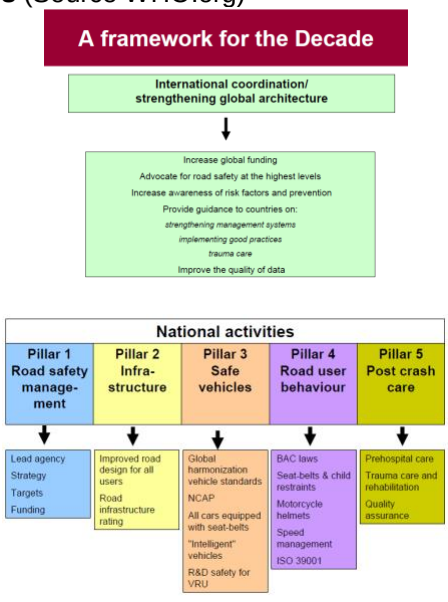
Résumé
L'ISO est le plus grand développeur mondial de normes internationales volontaires, en tant qu'organisme qui facilite le commerce mondial en fournissant des standards communs entre les pays. Le comité technique (TC) 241 de l'ISO s'occupe des systèmes de gestion de la sécurité routière. Leurs normes soutiennent la technologie sur laquelle nous comptons et garantissent la qualité attendue.

In 1946 delegates from 25 countries met at the Institute of Civil Engineers in London and decided to create a new international organization 'to facilitate the international coordination and unification of industrial standards'. ISO is the world's largest developer of voluntary international standards and facilitates world trade by providing common standards between nations. It was one of the first organizations granted general consultative status with the United Nations Economic and Social Council. ISO has published over 22,407 International Standards covering almost all aspects of technology and manufacturing.

The organization adopted ISO as its abbreviated name in reference to the Greek word isos (ίσος, meaning "equal"), as its name in the three official languages (English, Russian, French) would have different acronyms. More than 135 people work full time for ISO's Central Secretariat in Geneva, Switzerland. ISO standards are developed through a consensus process. Experts from all over the world develop the standards that are required by their sector. This means they reflect a wealth of international experience and knowledge. ISO has members from 162 countries and 786 technical committees and subcommittees. They develop standards on the requirements, specifications, guidelines or characteristics necessary to ensure that materials, products, processes and services are fit for their purpose, no matter where in the world they are made – similar to expecting the same quality and composition when ordering a Double Double at Timmies in Vancouver or in Dubai! Bringing real and measurable benefits to almost every sector imagineable, standards underpin the technology that we rely on and ensure the quality that we expect.

ISO technical committee (TC) 241 deals with road traffic safety (RTS) management systems. TC 241 was created in 2008 to support the WHO and its Decade of Road Safety initiative, which included ISO 39001 as one of its pillar actions toward improving road safety worldwide (ISO):

Figure 1 Decade of Action framework & pillars (Source WHO.org)



The TC 241 secretariat is the Swedish Standards Institute – the home of Vision Zero – which is no coincidence. The ISO TC 241 scope is standardization in the field of RTS, management standards, and needs, and its membership consists of 29 participating member countries (including Canada and the USA, but not Mexico), and 21 observing member countries. One ISO standard has been completed, 39001 in 2012 on RTS management systems -- Requirements with guidance for use. Its import has been directly linked by the UN to support its Sustainable Development Goals, including: # 3 (Good Health & Wellbeing), #11 (Sustainable Cities & Communities), and #12 (Responsible Consumption & Production). One further standard (39002) is under development - Good practices for implementing commuting safety management.

ISO 39001, 39002 and others have been invoked by the WHO to monitor road user behavior, since we know that education and enforcement and engineering strategies all need valid data, and that 95% of crashes are typically due to driver error. A reduction in traffic accidents is one of the immediate effects of the systematization of road safety management based on 39001. Of course, reducing accidents also implies additional benefits:

- Reduction in customer claims for services
- Cost reduction in administrative management / lawsuits with insurance companies
- Reduced labour absenteeism
- Improved productivity through reduced interruptions to various services
- Reduced costs for vehicle repairs
- Increased employee commitment and working environment improvements
- Improved company image and reputation in its community, customers, and stakeholders

Although having an ISO 39001 management system is not necessary to qualify for public or private tenders condition, it is expected that it will be in the not too distant future. Being certified will therefore be a key competitive advantage for sectors such as transport and logistics.

Current Canadian ISO TC 241 committee members are:

- Kwei Quaye, Chai, – Saskatchewan Government Insurance
- Paul Boase – Transport Canada, Motor Vehicle Safety
- Gord Lovegrove – School of Engineering, UBC Okanagan
- Geoff Ho - G. Ho Engineering Consultants Inc.
- Eric Craig - Transport Canada

Send Us Your Article

Want to be a published author? Have a synopsis of your current work or recently-completed project included in the next issue of The Safety Network. Articles on any aspect of road and motor vehicle safety are being requested for submission to the Editorial Board for our winter edition.

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

Envoyez-nous votre article

Voulez-vous être un auteur publié? Faites figurer dans le prochain numéro de The Safety Network un synopsis de votre travail actuel ou de votre projet récemment terminé. Des articles sur tous les aspects de la sécurité des routes et des véhicules à moteur sont demandés pour être soumis au comité de rédaction de notre édition d'hiver.

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

Safety Network Newsletter (SNN) Editorial Committee Members

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

Mary Chipman

Mary Chipman, now Professor Emeritus at the Dalla Lana School of Public Health, University of Toronto, studied Mathematics and Physics at the University of Toronto (Trinity College). After completing graduate work in Statistics, also at the University of Toronto, she began her academic career at Dalhousie University, teaching Statistics to medical students and doing statistical consulting on a variety of research projects. After five years she returned to Toronto, and remained there, retiring in 2007.

Her research interests centre around injury, its causes and its prevention, primarily, but not exclusively, in traffic crashes. She has conducted many studies on topics such as the role of demerit points in predicting drivers' risks of future crashes, the importance of exposure – measured either as distance driven or time spent driving – in drivers' risks of crashes, the role of fatigue in traffic crashes, and the effectiveness of bicycle helmets.

She was the first editor of The Safety Network (1985-92), served as President of CARSP 1993-95, and was made an honorary Life Member of the organization in 2008. She returned to serve on the editorial board of The Safety Network and continues in this capacity.

Pierre-Olivier Sénéchal

Titulaire d'une maîtrise en histoire de l'Université du Québec à Montréal, Pierre-Olivier Sénéchal est conseiller expert en sécurité routière à la Direction de la recherche et du développement en sécurité routière (DRDSR). Depuis son arrivée à la Société de l'assurance automobile du Québec en 2006, il travaille au développement de programmes de sécurité routière et a été responsable de plusieurs dossiers, notamment ceux de la vitesse, de la courtoisie et de la distraction. Récemment, il s'est vu confier le dossier des véhicules autonomes à la DRSDR. Au cours des dernières années, il a assuré, au sein de la DRDSR, la coordination des travaux de la consultation publique sur la sécurité routière et des modifications au Code de la sécurité routière introduites par le projet de loi 165.

The Editorial Board extends their sincere appreciation and acknowledgement of the eight (8) years that Pierre-Olivier has dedicated to The Safety Network Newsletter, writing articles, and contributing editing and translation services. Thank you and best wishes for the future!

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Editorial Board
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Mary Chipman, University of Toronto, Toronto, ON
Pamela Fuselli (Chief-Editor), Parachute, Toronto, ON
Alan German, Road Safety Research, Ottawa, ON
Martin Lavallière, Université du Québec à Chicoutimi, Chicoutimi, QC
Rebecca Peterniak, Winnipeg, MB
Pierre-Olivier Sénéchal, Société de l'assurance automobile du Québec, Quebec
Javier Zamora, Lanamme, University of Costa Rica, San Jose, Costa Rica

Guest Contributors
Adam Bell, WSP
Mavis Johnson
RoadSafety BC
Dr. Gordon Lovegrove, UBC Okanagan

NEXT ISSUE

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

SUBMISSION CONTACT
Pamela Fuselli at
pfuselli@parachutecanada.org

PROCHAIN NUMÉRO

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

CONTACTER
Pamela Fuselli at
pfuselli@parachutecanada.org