



# REPORTER

The Newsletter of the International Council on Alcohol, Drugs & Traffic Safety

## TABLE OF CONTENTS

Message from the ICADTS President .....P.1

Retooling Our Thinking.....P.2

ATRI Report on Marijuana Impaired Driving.....P.3

Pedestrian Fatalities in the U.S....P.3

Mandatory Alcohol Testing in Canada .....P.4

Evaluation of Lowered BAC in Scotland.....P.4

Evaluation of Lowered BAC Limit in the U.S.....P.5

Comprehensive Review of Drug Impaired Driving.....P.5

## MESSAGE FROM THE ICADTS PRESIDENT

Dear ICADTS members,

In the three years since the launch of Vision Zero, the City of Edmonton has made great progress towards eliminating traffic fatalities and serious injuries. Since 2015 serious injuries from motor vehicle collisions dropped 17% and traffic fatalities declined 41%. We congratulate Edmonton on this achievement and rest assured that the city is making similar progress towards our shared vision of a successful T2019. With only a few months to go, much of the attentional resources of the ICADTS board, the Scientific Committee and the Local Organizing Committee have been allocated to T2019.

The organisers in Edmonton have selected Young Scientists and researchers from Low and Middle Income Countries (LMIC) to receive stipends that will be awarded by ICADTS and the City of Edmonton to attend T2019. We received 12 applications from a wide variety of countries. Most of the applications are very impressive indeed and we are very confident that the funds will be well invested in these colleagues.

In addition a ‘Late Breaking’ call for abstracts was announced in March. Late breaking abstracts will be accepted for a short presentation or poster. The deadline for submission passed on April 21. Late breaking abstracts must clearly demonstrate why they should be considered "late breaking." The Scientific Committee expects to accept a limited number of abstracts and will work with a small number of reviewers to turn this around quickly. Over the past month, the 21 members of the Scientific Committee were asked to review 13 abstracts each. In addition, they evaluated a significant amount of working papers submitted for review. Their contribution to T2019 has been indispensable and secured a high quality standard for all submissions. Many thanks to all member of the Scientific Committee! We hope you can enjoy a spring break to recover from any over-burdening.

We have been contacted by Professor Ray Liu, who is editor of the journal *Forensic Science Review*. He has graciously offered to contribute copies of a special issue on alcohol, drugs and driving to T2019 attendees. Several ICADTS (board) members contributed to this special issue that will provide an historical overview of government policies to counteract DUI and updates of current legislative, forensic and research approaches to evaluate and control the risks of driving under the influence of alcohol and drugs. We are very grateful for this wonderful offer!

T2019 promises to be another interesting and exciting edition in a long series of ICADTS meetings since 1950. We very much look forward to your contributions and to spend time among friends and colleagues who are helping to move the field forward.

Kind regards to all,  
Jan Ramaekers  
ICADTS President

[www.icadtsinternational.COM](http://www.icadtsinternational.COM)

The International Council on Alcohol, Drugs & Traffic Safety (ICADTS) is an independent nonprofit body whose only goal is to reduce mortality and morbidity brought about by misuse of alcohol and drugs by operators of vehicles in all modes of transportation.

## RETOOLING OUR THINKING: MESSAGE FROM T2019 ORGANIZERS IN EDMONTON

As we go about our everyday living, do we take the time to recognize the impacts of traffic safety? We know that traffic safety is on top of our minds year after year and especially ever present when our city council is seeking election or reelection through door to door conversations. Edmonton has been focused on reducing our collision carnage which was the highest in Canada in 2006. Speeding and alcohol have on average contributed to 50% of our fatalities each year. While progress has been made, the adoption of Vision Zero has put a new perspective on our approach. Vision Zero advocates for the elimination of fatalities and serious injuries from motor vehicle collisions which Edmonton has committed to by 2032.

As my criminal law instructor pressed us to retool our thinking on policing (involving community and stakeholders), perhaps it's time to do the same on how and who we partner with to reduce and eliminate the impacts of alcohol and drugs involved in traffic safety. It has taken a generation of drivers to accept that seatbelts actually help prevent death and injuries when involved in a motor vehicle collision. Yet each year, passengers and drivers are ejected from their vehicles and succumb to their injuries. A small percentage of the population will resist change, make mistakes and suffer serious consequences. How many vehicles will not operate if the seatbelt is not fastened, they only buzz, yet we don't demand car manufacturers make it impossible to operate a car if all occupants are not fastened?

We have traditionally relied on families who have experienced the loss or permanent disability of a loved one to advocate for changes in law and educate others on the horrific consequences of motor vehicle collisions involving alcohol and drugs. These are important education needs no doubt; however, voices for traffic safety provide nowhere near the volume needed to make a permanent difference. There are many reasons for this but we need to add more to the arsenal to make the changes we desire.

What we have learned from Vision Zero is that everyone can play a part, even those who we may have not traditionally invited for support. We have generally excluded partners who are involved in manufacturing alcohol products and now cannabis. Yet we see in our work in Vision Zero that the community and those involved in the manufacturing of vehicles have a role to play and that they can and do add more value to safety when they are involved. A mother with young children advocating for reduced speeds and livability tugs at the heart strings of the community and politicians. Automobile manufacturers who build vehicles that can well exceed the speed limit are now offering Intelligent Speed Adaptive control, software that confirms road speeds and an array of built in safety features to detect and mitigate collisions. Should we now bring in companies that are legally allowed to sell their products to the public to help solve some of the problems associated with their misuse or resulting mistakes? Vision Zero acknowledges that humans make mistakes and we need to ensure that the systems in place can reduce the impact of those mistakes so no one dies or is seriously injured.

We have taken the first step in becoming involved in a traffic safety forum with a major manufacturer of alcohol who has a strong interest in supporting traffic safety. From a traditional perspective, we questioned the wisdom of supporting their initiative. Yet, from an experiential perspective they are best suited to understand the impact of their product and marketing. The end result was a forum that supported the company's interest in the safe use of their product, clearly highlighted the risks and consequences of using alcohol and opened the door for their involvement in helping traffic safety. An added benefit was their association with a major car manufacturer who allowed participants to drive their vehicles and experience the safety features.

There are many examples of companies making changes to improve the safety of their products and reduce risks to their users. A major drug company quickly retooled their product for public consumption after the product had been tampered with and rendered unsafe. More and more fleet owners provide notification that their fleet will operate at the speed limit through GPS monitored notification stickers or by including a number to call if the vehicle operator is not driving safely. Whether the companies involved do so for civil liability reasons, occupational health and safety or just to demonstrate corporate responsibility we welcome their contribution which in turn makes our safety culture visible and increases its effectiveness.



Editors:  
Kathryn Stewart  
Email: [kgbstewart@gmail.com](mailto:kgbstewart@gmail.com)  
James Fell  
Email: [fell-jim@norc.org](mailto:fell-jim@norc.org)

[www.icadtsinternational.com](http://www.icadtsinternational.com)  
**The Reporter is published quarterly by ICADTS. This publication is available free upon request. Contents may be reproduced with attribution.**

While there are always many sides to these discussions and debates, people will continue to use alcohol and drugs which when combined with driving, cycling or walking increase the risk for death or serious injury. Is it time to retool our thinking and bring companies involved in the legal sale of alcohol and drugs to the traffic safety conversation?

Join us at T2019 in Edmonton to learn more.

Gerry Shimko, City of Edmonton

## AMERICAN TRANSPORTATION RESEARCH INSTITUTE REPORT ON MARIJUANA IMPAIRED DRIVING

The American Transportation Research Institute (ATRI) conducts research focused on the role of trucking in a safe, secure and efficient transportation system. Given the changing legal environment in the U.S. and elsewhere regarding marijuana, they selected this as a top research priority. The potential safety impact of marijuana consumption is concerning to the trucking industry considering the large percentage of truck-involved crashes caused by the actions of car drivers. Further exacerbating this concern is the difficulty faced by law enforcement in deterring marijuana-impaired driving. While there exist accurate tools to test for and prosecute drunk driving, widely tested and accepted tools and methods are not currently available for marijuana impairment testing. As a result, truck drivers in many states now face the significant risk of having legal marijuana users drive impaired (and illegally) alongside their trucks.

The report points to a number of areas in which further work is needed in order to improve safety in an environment in which marijuana use may be more prevalent. These areas include:

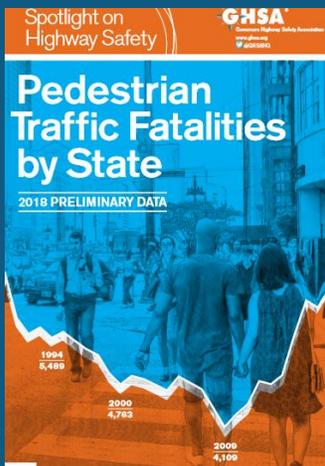
- Documenting the prevalence of drug-impaired driving, which is critical to understanding the magnitude of this issue. Whether or not the federal government recognizes the legality of marijuana, it should take the lead on related federal data collection programs. Key to this role is identifying and conveying standards for state- and local-level data collection by law enforcement and the criminal justice system.
- Educating the public on the dangers of marijuana-impaired driving, and of the legal consequences. Marijuana users may not perceive marijuana as having an impact on driving safety.
- Law Enforcement Training. Unlike alcohol, THC levels in blood are not reliable indicators of driver impairment. Without clear toxicology standards for marijuana-impaired driving, law enforcement officer training and observations become critical for identifying, prosecuting and convicting marijuana-impaired drivers.
- Funding. Currently, recreational marijuana tax revenue is typically allocated for state General Funds, marijuana regulatory agencies, law enforcement agencies, and drug treatment/prevention programs. These state tax revenues represents an opportunity to provide law enforcement with the funds needed to combat drug-impaired driving.

To view the full report, go to <https://truckingresearch.org/2019/03/12/marijuana-legalization-and-impaired-driving-solutions-for-protecting-our-roadways/>

## PEDESTRIAN FATALITIES IN THE U.S.: STATE BY STATE REPORT

A recent report published by the U.S. Governors Highway Safety Association examines pedestrian fatalities in the U.S. With respect to fatalities involving alcohol and other drug impairment, it was reported that impairment on the part of the driver or the pedestrian occurred in about half of traffic crashes that resulted in pedestrian fatalities in 2017. An estimated 32 percent of fatal pedestrian crashes involved a pedestrian with a Blood Alcohol Concentration (BAC) of 0.08 grams per deciliter (g/dL) or higher; an estimated 17 percent of drivers involved in these crashes had a BAC of 0.08 or higher, with some cases involving both an impaired driver and an impaired pedestrian. Of the fatally injured pedestrians tested for drugs, 18% were positive with the most commonly-reported drug being methamphetamine.

To view the full report, go to [https://www.ghsa.org/sites/default/files/2019-02/FINAL\\_Pedestrians19.pdf](https://www.ghsa.org/sites/default/files/2019-02/FINAL_Pedestrians19.pdf)



## MANDATORY ALCOHOL TESTING IN CANADA

The Canadian Centre on Substance Use and Addiction recently published a policy brief on a change in the Canadian laws on mandatory alcohol testing for drivers. The use of breath testing become a standard procedure in the enforcement of impaired driving laws in many countries around the world. Over the past four decades in Canada, if a police officer had a reasonable suspicion that a driver had consumed alcohol, they could demand the driver provide a sample of breath for analysis using an approved screening device. Changes to the *Criminal Code* of Canada in 2018 removed the requirement for the officer to have suspicion of alcohol use as the basis for demanding an alcohol test. Hence, on December 18, 2018, mandatory alcohol screening (MAS) became law in Canada, giving police the authority to demand a breath test of any driver, even in the absence of suspicion or cause.

When used as part of a year-round intensive enforcement campaign supported by an ongoing program of public awareness, MAS is believed to increase the perceived and actual probability of drinking drivers being apprehended, both of which are key factors in general deterrence. Increased deterrence is expected to have a demonstrably positive impact on the prevalence of drinking and driving, and alcohol-related crashes. However, in both Canada and the United States, MAS is often dismissed as a violation of the right to freedom from unwarranted search and seizure. The successful implementation of MAS in Canada will have to balance the potential reduction in deaths and injuries against an apparent infringement of rights.

Although the threshold for suspicion typically permitting an alcohol test is not high (e.g., the smell of alcohol or an admission of drinking is usually sufficient), police officers vary considerably in their ability to detect the signs and symptoms of alcohol use. For example, in a study where researchers collected voluntary breath samples immediately downstream from a police checkpoint, it was determined that the police failed to detect more than 50% of drivers with a BAC in excess of 80 mg/dL and more than 90% of drivers with BACs greater than 50 mg/dL. Rather than discrediting the work of the police, this observation merely illustrates that the detection of alcohol can be a difficult task, particularly in a brief interaction at the side of the road. Nevertheless, if an impaired driver escapes detection at a roadside alcohol checkpoint, it serves to reinforce the behaviour and increases the likelihood of its reoccurrence. A more efficient and effective means of detection would undoubtedly prove beneficial. MAS is one such approach.

The report concludes that although there are concerns about potential Canadian *Charter of Rights and Freedoms* violations, MAS has the potential to enhance deterrence and reduce the incidence of impaired driving. The magnitude of the impact of MAS will depend on how it is implemented. MAS should be subject to a comprehensive process and impact evaluation.

To view the full brief, go to <http://www.ccsa.ca/Resource%20Library/CCSA-Mandatory-Alcohol-Screening-Policy-Brief-2019-en.pdf>

## EVALUATION OF LOWERED BAC LIMIT IN SCOTLAND

Scotland lowered its BAC limit for drivers from 0.08 g/dL to 0.05 g/dL in December 2014. A recent study evaluated the effects of this change on traffic crashes and alcohol consumption.

The study authors used an observational, comparative interrupted time-series design by use of data on crashes and alcohol consumption in Scotland (the interventional group) and England and Wales (the control group). The analysis found no significant change in weekly crash rates. Relative to road traffic accidents (RTAs) in England and Wales, where the reduction in BAC limit for drivers did not occur, there was a 7% increase in weekly crash rates in Scotland after this reduction in BAC limit. Similar findings were observed for serious or fatal crashes and single-vehicle night-time RTAs. The change in legislation in Scotland was associated with no change in off-premises alcohol consumption but a small decrease in on-premises consumption.

The authors posited that one plausible explanation is that the legislative change was not suitably enforced—for example with random breath testing measures.

For a different view of lowering the BAC limit, see the article below on research in the U.S.

Source: An evaluation of the effects of lowering blood alcohol concentration limits for drivers on the rates of road traffic accidents and alcohol consumption: a natural experiment H. Haghpanahan, et al, *The Lancet*, [http://dx.doi.org/10.1016/S0140-6736\(18\)32850-2](http://dx.doi.org/10.1016/S0140-6736(18)32850-2)



## Upcoming Events

### T2019

18-21 August 2019

Edmonton, Alberta, Canada

[www.t2019.org](http://www.t2019.org)

### Governors Highway Safety Association Annual Meeting

Anaheim, California, USA

August 24-28, 2019

[www.ghsa.org](http://www.ghsa.org)

### Gemeinsames Symposium der Deutschen Gesellschaft für Verkehrspsychologie e. V. (DGVP) und der Deutschen Gesellschaft für Verkehrsmedizin e. V. (DGVM)

10-12 October 2019

Bonn, Germany

[www.verkehr-symposium.de](http://www.verkehr-symposium.de)

### 63<sup>rd</sup> Annual Scientific Conference of the Association for the Advancement of Automotive Medicine

15-18 October 2019

Madrid, Spain

[www.aaam.org](http://www.aaam.org)

To view past issues of the Reporter, go to

<http://www.icadtsinternational.com/pages/icadts-reporter.php>



## EVALUATION OF THE LOWERED BAC LIMIT IN THE U.S.

In contrast to the Scottish study described above, a recent study evaluated the effects of lowering the blood alcohol concentration (BAC) limit from 0.10 g/dL to 0.08 g/dL across all 50 states and the District of Columbia (DC) in the United States. The objectives were to (a) estimate the effects of the 0.08 g/dL BAC limit on drinking driver fatal crash rates; (b) compare the effects from early-adopting states to the effects of late-adopting states; (c) determine the effects on drivers with low BACs (0.01-0.07 g/dL) and high BACs (0.08+g/dL); and (d) estimate the lives saved since 1983 due to the adoption of 0.08 g/dL BAC laws. The study authors examined annual data from the Fatality Analysis Reporting System (FARS) for each jurisdiction from 1982 through 2014. The basic outcome measure was the ratio of drinking drivers (BAC  $\geq$  0.01 g/dL) to non-drinking drivers (BAC = 0.00 g/dL) in these fatal crashes. Covariates included when .10 BAC laws, administrative license revocation (ALR) laws, seatbelt laws, and minimum legal drinking age (MLDA) laws were adopted in the states. Other covariates were beer consumption and unemployment rates. Autoregressive integrated moving average (ARIMA) models were utilized for each state, where the implementation date of the law was modeled as a zero-order transfer function in the series, in addition to any extant trends that may have been occurring simultaneously. Before determining the specific impact of the implementation of 0.08 g/dL BAC laws, the researchers conducted a time-series analysis for each state and tested for between-state mediating factors relating to our covariates.

A total of 38 of the 51 jurisdictions (the 50 states plus DC) showed that lowering the BAC limit was associated with reduced drinking driver fatal crash ratios, with 20 of those reductions being significant. The total effects showed a 10.4% reduction (95% CI: 8.6% - 12.2%) in annual drinking driver fatal crash rates, which is estimated to have saved an average of 1,736 lives each year between 1983 and 2014 and 24,868 lives in total. Implementing a BAC limit of 0.08 g/dL had significant impacts on both high and low BAC fatal crash ratios. Though early-adopting jurisdictions (16 states plus DC between 1983-1999) demonstrated a larger decrease in fatal drinking driver crash ratios than did late-adopting jurisdictions (34 states between 2000-2005), the results were not statistically significant ( $p > .05$ ). While a few states (Idaho, Iowa, Kentucky, and South Carolina) showed an increase in the fatality ratio associated with the adoption of a 0.08 g/dL BAC limit, none of these were statistically significant. This research provides strong evidence of the relationship between lowering the BAC limit for driving and the general deterrent effect on impaired-driving fatal crash rates.

Source: Scherer, M, Fell, JC (2019). Effectiveness of Lowering the Blood Alcohol Concentration (BAC) Limit for Driving from 0.10 to 0.08 grams per deciliter in the United States. *Traffic Injury Prevention*, Vol. 20:1, 1-8. <https://doi.org/10.1080/15389588.2018.1508836>

## COMPREHENSIVE REVIEW OF DRUG IMPAIRED DRIVING

A recent comprehensive review of drug impaired driving was authored by Maude Marillier and Alain G. Verstraete. In the review, they point out that driving under the influence of drugs is a very complex matter, which requires a multidisciplinary approach. There is increasing knowledge regarding the influence of drugs on performance, and the prevalence of drugs other than alcohol in road traffic. It has now been established that drug impaired driving increases crash risk (by a factor of 2–10), but to a much lesser extent than alcohol. Drug combinations and combinations with alcohol are much more dangerous. Medicinal drugs, used chronically according to prescription, increase risk by approximately 20–40%. Research indicates that if no one drove under the influence of medicinal drugs and cannabis, the number of crash victims would decrease by 3 and 4% approximately. Authorities should decide whether this is a priority, in comparison to the much higher risks of driving under the influence of alcohol.

Regarding DUID legislation, the authors conclude that there is a clear move towards “per se” legislation. Roadside drug testing on oral fluids have made enforcement of DUID legislation much easier, and the number of apprehended drivers has increased in many jurisdictions. Despite the progress in knowledge and technology and increased enforcement, the number of people killed and injured by impaired drivers is not decreasing fast enough. There is still a place for prevention, either by general campaigns, or secondary prevention in order to decrease the very high-recidivism rate. For medicinal drugs, prescribing and dispensing support tools can help in choosing the least impairing drug.

Source: Marillier M, Verstraete AG. Driving under the influence of drugs. *WIREs Forensic Sci.* 2019; e1326. <https://doi.org/10.1002/wfs2.1326>