

DRINKING AND DRIVING

You've just left a relative's house after dinner and are half-way into the short drive back home. You notice that you are having some difficulty staying on the right side of the road, and you suspect that the two drinks you had at your relative's house may be affecting your ability to drive. Traffic is light, so you accelerate slightly through the winding suburban streets to try to make it home faster. As you negotiate a turn, the honk of an oncoming car alerts you to the fact that you are driving in the middle of the road. You turn the steering wheel sharply to get out of the way of the oncoming vehicle, but you turn it too far. You over-steer and careen into a vehicle parked in the street. Both vehicles sustain noticeable bumper damage. The owner of the vehicle you crashed into comes outside as you stumble from your car. They want an explanation of what just happened.



In a recent public opinion survey by the Traffic Injury Research Foundation (TIRF), 7.5% of Canadian drivers said that they would be likely or very likely to drink and drive if they knew that their vehicle was equipped with modern safety features. This number becomes even more concerning when the focus is concentrated on drivers from Quebec and Ontario,

wherein 16.6% and 9.5% respectively reported that they would be likely to drink and drive with vehicle safety features. Despite vigorous campaigns against drinking and driving, impaired drivers continue to be overrepresented in fatal crashes. Not only does alcohol-impairment significantly detract from overall road safety, but drivers who are impaired also limit the extent to which they may benefit from vehicle safety features.

WHAT IS DRINKING AND DRIVING?

Drinking and driving means getting behind the wheel of a vehicle after you have consumed any amount of alcohol. However, for the purposes of penalizing drinking drivers and in order to provide clear guidelines concerning the effects of alcohol on driver performance, this simple definition of drinking and driving is refined further.

To be over the legal limit of alcohol consumption under federal law, drivers must register a blood alcohol concentration (BAC) equal to or over 0.08mg. This means that in order to be considered legally impaired, a driver's blood must contain 80 milligrams of alcohol for every 100 millilitres of blood. Provinces and Territories have additional administrative limits of 0.04 in Saskatchewan and 0.05 in most other jurisdictions (except Quebec where it is 0.08). This means that drivers who register a BAC of 0.05 in a province where this is the administrative limit will face the consequences set by that province. In addition, many provinces have implemented zero-tolerance policies for young and new drivers. For more information on these policies, you can visit the Traffic Injury Research Foundation's Young and New Driver Resource Centre (www.yndrc.tirf.ca).

DOES "BUZZED" DRIVING STILL COUNT AS DRINKING AND DRIVING?

Yes. You do not have to register a BAC above federal or provincial limits to be charged with impaired driving. Drivers are still at risk of impairment at lower BACs. Low BACs translate to a smaller risk of being in a serious crash compared to high BACs, but the elevated risk compared to sober drivers is still present. A BAC of 0.03 is associated with about a two- to three-fold increase in risk, while a BAC of 0.05 is associated with between a 6 and 17 times increase in risk of being in a serious collision (TIRF 2010).

It is difficult to predict how your own body will react to alcohol. Your weight, body composition (e.g., percentage of body fat or water), sleep patterns, mood, and food consumption are all factors that affect your BAC. In general, it takes less than two hours for one drink to be processed through the body, so any alcohol consumed within two hours of the first drink may begin to take effect after you have already climbed in the driver's seat. Given the range of different variables and conditions that can affect your level of impairment, your safest bet is to avoid driving all together after drinking.

HOW DOES IMPAIRED DRIVING AFFECT TRAFFIC SAFETY?

Drinking and driving has well-known effects on traffic safety. Alcohol-impaired drivers suffer from a variety of limits to their performance: they commit sloppy driving errors, have significantly reduced situational awareness, and overall may be more likely to make unsafe decisions behind the wheel. The greater the level of impairment, the more likely it is that the driver will be involved in a collision. Studies

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confirmed that driving with even a small amount of alcohol in your system greatly increases the risk of collision (Blomberg et al. 2009). Every drink that a person consumes has the ability to slow their reaction time, which can also be hindered by the other effects of alcohol including blurred vision and drowsiness.

The inevitable results of alcohol-impaired driving are vehicle crashes and fatalities. In 2009, 27.7% of fatal crashes in Canada involved a drinking driver (down from 33.6% in 2008) (Vanlaar et al. 2012). This number has remained relatively constant over the past ten years, with the rate of alcohol-involvement in fatal road crashes hovering around one-third (Vanlaar et al. 2012). That year, 714 Canadians were killed in a crash involving a drunk driver.

ARE CANADIANS CONCERNED ABOUT DRINKING AND DRIVING?

Over the past 25 years, unprecedented gains have been made in reducing the number of alcohol-impaired drivers on the road and crashes involving drinking drivers. These gains are largely due to the combination of influential social programs and effective legislation used to reduce alcohol-impaired driving, such as escalating penalties, treatment programs, the implementation of technological devices such as interlocks, and visible deterrents like sobriety checkpoints (Williams 2006).

Public opinion polls have also consistently demonstrated widespread concern among Canadians about drinking drivers as a road safety issue. In TIRF's 2011 survey, 80.9% of Canadian drivers viewed drinking and driving as a very or extremely serious problem (Vanlaar et al. 2012). While this statistic reveals that Canadian drivers still take drinking and driving very seriously, the number of people citing drinking drivers as a significant road safety issue seems to have stabilized and even decreased in recent years. This trend in respect to concern

over drinking drivers is also consistent with recent research showing stabilization in crash rates and arrests of alcohol-impaired drivers (Williams 2006). The reasons behind this stabilization are still in need of thorough investigation; however it is nevertheless still clear that drinking drivers are a priority concern among Canadians.

WHAT ARE THE LAWS IN CANADA AGAINST DRINKING AND DRIVING?

One of the reasons why campaigns against alcohol-impaired driving are so effective was the introduction of highly visible enforcement efforts that worked to raise awareness of the severity of alcohol-impairment as a road safety issue, and to deter drivers from drinking and driving. Currently in Canada, there are both federal and provincial/territorial laws in place against alcohol-impaired driving.



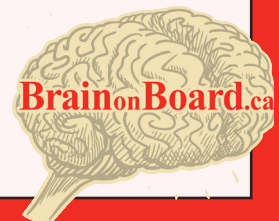
The Federal Criminal Code of Canada (CCC) contains two laws that address drinking and driving. Section 253a prohibits the operation of a vehicle while impaired by drugs or alcohol, and Section 253b prohibits the operation of a vehicle with a BAC of 0.08 or higher. It is also an offense to refuse to provide a breath sample if asked to do so by a police officer, or to cause an impaired driving crash involving serious injuries or death.

Provincial and territorial governments are responsible for driver licensing and have the authority to create administrative offenses and to impose penalties

for drinking and driving through the provincial/territorial Motor Vehicles Acts. Almost all jurisdictions in Canada have chosen to set a lower BAC that ranges from 0.04 to 0.08. This means that provinces/territories are able to impose driver licence suspensions and other penalties on drivers with a BAC that is below the criminal limit of 0.08%. In addition to any criminal penalties imposed by the Courts, penalties can also be imposed by the driver licensing agency in each province/territory. Penalties often include roadside licence suspension, administrative licence suspension, and other penalties that escalate with multiple offenses.

HOW MANY DRIVERS DRINK AND DRIVE?

When asked about driving after consuming any amount of alcohol in the past thirty days, 19.2% of Canadians admitted to doing this in 2011. In addition, 5.4% admitted to drinking and driving when they thought they were over the legal limit in the past 12 months (TIRF 2011). Finally, also in 2011, 3.8% of Canadian drivers reported that they often drink and drive. This number is consistent with the United States National Highway Transportation Safety Administration's (NHTSA) findings on the prevalence of drinking and driving. In 2008, NHTSA found that one in five (20%) persons of driving age in the United States reports driving a vehicle within two hours of drinking (NHTSA 2008).



WHO IS MOST LIKELY TO DRINK AND DRIVE?

Drinking drivers do share some common characteristics including the tendency to drink and drive, but this does not mean that these offenders are all the same. The reality is that some people drive after drinking infrequently, while others do it often; some are at a relatively low risk of causing a collision, while others are at a very high risk. Impaired drivers are one of the most heterogeneous offender populations in the justice system and they come from all walks of life.

The majority of impaired drivers are men, however the issue of female impaired drivers is increasingly a growing concern. Impaired drivers also represent different age groups, levels of education, and professional achievement. The socio-economic status and criminal activity of these offenders also varies greatly. The truth is that the problem has many different parts to it and includes many different segments of the population. As such, it is essential to have a broad range of strategies or countermeasures available to create a comprehensive approach to address the problem.

WHAT EFFECT DOES ALCOHOL HAVE ON MY ABILITY TO BENEFIT FROM VEHICLE SAFETY FEATURES?

Your ability to benefit from vehicle safety features is significantly reduced with every alcoholic drink you consume before driving. This is because in order to maximize the benefit of safety features drivers must interact appropriately with their vehicle; a task that alcohol-impairment renders virtually impossible. Interacting appropriately with your vehicle involves more than just providing timely and effective braking and steering commands (although this is certainly an important part). Appropriate interaction also requires

that you are aware of your surroundings and notice changes in speed limits, monitor traffic behind you, keep an eye on traffic in front of you, and recognize potential hazards on or near the road. This kind of awareness is referred to as situational awareness. Combining situational awareness with driving skill is the best way to make sure that your safety features are able to provide you with maximum protection and security.

However, with every alcoholic drink, your ability to perform your crucial role as a driver diminishes. As you become more impaired, it becomes more difficult to retain the level of situational awareness necessary to prevent you or someone else from being involved in a collision. Common effects of impairment include disorganized thoughts, blurry vision, drowsiness, poor judgement, and perception deficits. These effects seriously undermine your awareness. In addition to these effects, alcohol-impairment also significantly reduces hand-eye and foot-eye coordination, so that even if you do spot a hazard on the road, you are less able to safely avoid it by steering or braking.

Your vehicle safety features cannot perform at their best if you as the driver cannot perform at your best. No matter how advanced vehicle safety features are, they cannot be relied on to replace you in any way. If you choose to drive after drinking alcohol, you are running the risk of being unable to interact appropriately with your vehicle and its safety features.

A concerning 7.5% of Canadian drivers polled in 2011 reported that they would likely drink and drive if their vehicle had safety features. However, given the ways in which driver impairment also impairs the driver's ability to benefit from safety features, drivers who drink and drive because they have safety features on their vehicle are actually less protected than a sober driver.

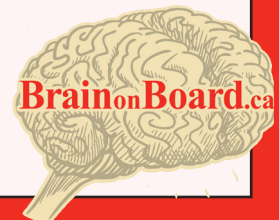
WHAT SAFETY FEATURES ARE DIRECTLY AFFECTED BY DRINKING AND DRIVING?

One of the effects of alcohol-impairment is delayed reaction time, which has sweeping effects on the functioning of all safety features. If you brake too late, safety features that help you stop sooner – including brake assist and electronic brake-force distribution (EBFD) - will have less time to work. If you steer erratically, safety features that help you maintain stability and control – including anti-lock braking systems (ABS) and electronic stability control (ESC) - may be overwhelmed and fail to work at their best.

In addition to a delayed reaction time, alcohol has impairing effects on coordination and information processing. You will be less able to respond to safety systems that warn you of impending collisions or accidental lane departures. Finally, the benefits of safety systems designed to improve visibility are negated by declines in your ability to see clearly due to the effects of alcohol.

WHERE CAN I FIND MORE INFORMATION ABOUT DRINKING AND DRIVING?

Drinking and driving has been the subject of extensive research and public awareness programs. As such, a wide variety of resources are readily available that aim to increase knowledge and awareness of the scope of the drinking and driving problem, both currently and historically. TIRF has been conducting research on the drinking and driving problem in Canada for more than four decades, and is a proven leader in the



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alcohol-impaired driving field. Every year, TIRF publishes a Road Safety Monitor (RSM) dedicated to gauging public attitudes towards drinking and driving. The RSM also measures the level of concern over drinking and driving, and the number of Canadian drivers who admit to driving after consuming alcohol. In addition to the RSM, TIRF maintains Canada's National Fatality

& Serious Injury Databases which report on the alcohol-crash problem in Canada. TIRF has played a leading role in assessing the effectiveness of various countermeasures against drinking and driving, with a particular emphasis on administrative penalties, ignition interlocks, and remedial driver licensing programs. Finally, TIRF's Change the Conversation program continues to inform drivers about the effects of alcohol, magnitude of the drinking and driving problem in Canada, and the consequences of impaired driving. These reports and many others can be accessed via TIRF's website, at www.tirf.ca and www.changetheconversation.ca.

TIRF has collaborated with other leaders in road safety to further address drinking and driving in Canada. Organizations like ArriveAlive (www.arrivealive.org) and the Brewers Association of Canada (www.brewers.ca) have partnered with TIRF to develop and disseminate resources aimed at raising awareness of Canada's drinking and driving problem. In addition, Transport Canada (www.tc.gc.ca) and the Canadian Council of Motor Vehicle

Administrators (CCMTA) (www.ccmta.ca) have partnered with TIRF in the past and produced a variety of publications and education tools available online.

In addition, NHTSA has conducted research for many years in the United States on the drinking and driving problem. NHTSA's publications are available at www.nhtsa.gov. Finally, public awareness campaigns like Mothers Against Drunk Driving (www.madd.ca) and Students Against Drunk Driving (www.sadd.org) have educational links available on their websites.

REFERENCES

Visit www.brainonboard.ca/program_resources/references.php for a full list of references.

WANT TO LEARN MORE?

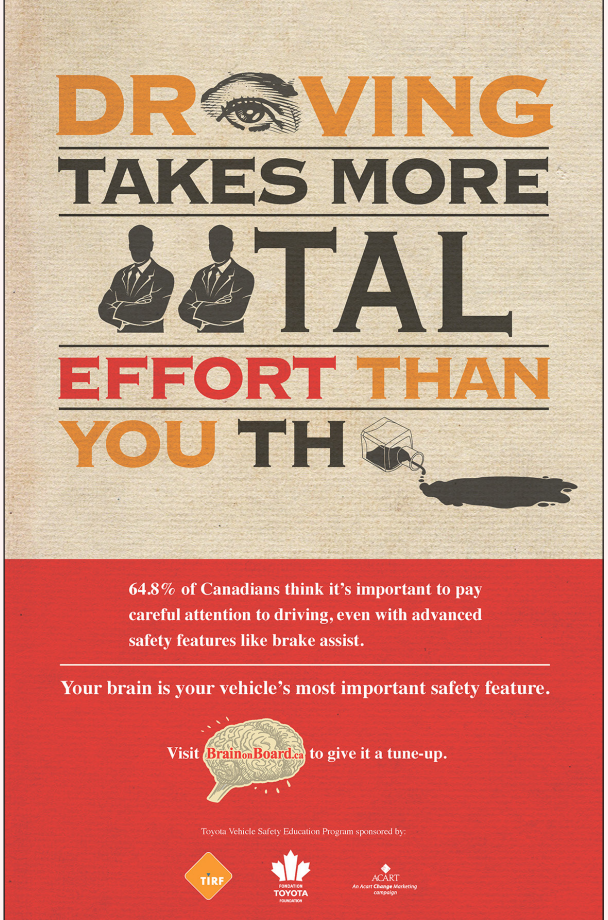
Visit www.brainonboard.ca to learn more about vehicle safety features:

- Active Safety Features
- Passive Safety Features
- Driver Assistance Technologies
- Safety Technologies in Development

Driving instructors, road safety educators, car dealers and service providers can download and order program resources and materials through the Brain on Board website. www.brainonboard.ca/program_resources/.

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DRIVING TAKES MORE VITAL EFFORT THAN YOUTH

64.8% of Canadians think it's important to pay careful attention to driving, even with advanced safety features like brake assist.

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