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Distraction

It's Monday morning and you're late for work. You didn't have enough time to brew your morning coffee at home, so the coffee you bought is sitting in your cup holder. It's the morning rush hour on the highway but the speed of traffic has picked up since you passed a busy exit. You look down and notice your coffee is sloshing around in the cup and threatening to spill over the edges. Reaching down to secure your coffee cup forces you to briefly take your eyes off the road, so you do not notice that traffic has started slowing down again. When you finally look back at the road, your vehicle is dangerously close to the one ahead. You firmly push down on your brake pedal, but it's not enough. Your coffee spills as you strike the bumper of the car ahead, causing a noticeable dent.

Distracted driving is a significant road safety issue that warrants the increased concern and attention it has received in the past few years. In a 2021 survey of Canadian knowledge of and attitudes about the perceived danger of distracted driving, TIRF reported a concerning 13.3% of Canadian respondents said they agreed they can drive safely while texting. This is problematic because of the misperception that vehicle safety features can mitigate the risks of distracted driving which simply isn't true.

In fact, driving while distracted has the opposite effect and seriously undermines the performance of your safety features. So, although drivers believe they are more protected with modern safety features – and are therefore more willing to drive while distracted – the result is they may actually be less protected than they would be if they had no safety features but were not distracted.

What is distracted driving?

Distracted driving is a diversion of the driver's attention away from the driving task. In other words, any time an object, person, task, or event not related to driving takes your attention away from the road, you are driving while distracted.

A lot of the early focus on distracted driving was generated by concerns over cell phone use. For much of the driving public, distracted driving is synonymous with cell phone use, but the reality is that this is just one small part of the problem (TIRF, 2021). Whenever a driver engages in a non-driving activity, this has the potential to distract them from the primary task of driving (NHTSA, 2021). Any task a driver performs while driving is called a secondary task (Tasca, 2005). Examples of secondary task distractions include eating/drinking; grooming; using and adjusting in-vehicle technology devices; using a cell phone; observing pedestrians; and talking with passengers.

What types of distractions are common among drivers?

Drivers face many different types of distractions. Given the large variety it is not surprising that road safety researchers have categorized sources of distraction differently. One useful way of grouping different kinds of distraction is based on the location of the distraction:

- **Internal distractions:** these distractions occur in the vehicle and can involve the driver performing a secondary task. Some examples include talking to passengers, eating/drinking, smoking, or manipulating in-vehicle technological systems.
- **External distractions:** these distractions can be anything outside of the vehicle. External distractions include construction zones, cyclists, billboards advertisements, crashes, animals, and pedestrians.

Your brain is your vehicle's most important safety feature.

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How do distractions affect traffic safety?

Distracted driving represents a significant road safety risk. According to the National Highway Traffic Safety Administration (NHTSA), distracted driving contributed to 3,308 fatalities and 289,310 injuries during 2022, or 8% of all traffic fatalities and 12% of injuries (NCSA, 2024). Among the 3,308 fatalities, 621 (18.8%) were active road users.

A survey published by the Traffic Injury Research Foundation (TIRF) in 2022 revealed about 1 in 3 (31.7%) of Canadians reported often talking on their hands-free phone while driving and 13.1% reported often texting on their phone while driving (Robertson et al., 2022). This is a significant 173% increase in the percentage of respondents who reported they often texted on their phone while driving occurred between 2010 and 2021. According to Transport Canada, distracted driving resulted 19.9% of fatal collisions in 2022 (Transport Canada, 2024).

Distracted drivers also commit a wide variety of driving errors, from wandering/weaving, irregular speed, to loss of situational awareness, and following too close, sign/signal disobedience. These errors increase the likelihood of being involved in or causing crashes. For example, California crash data show unsafe speed was the primary crash factor in 26.9% of fatal distracted driving crashes in 2021. This was followed by improper turning (24.5%) and not following traffic signals and signs (7.5%) (California Department of Transportation, 2021). A 2022 study of in California, Oregon, and Washington from 2015-2019 examined and compared monthly rear-end crash rates to states with with improved texting bans in place (Colorado & Idaho). Results revealed monthly crash rates per 100,000 people dropped substantially in Oregon and Washington after adopting a well written ban. Compared with Colorado and Idaho, monthly rear-end injury crash rates dropped 9% in Oregon and 11% in Washington (Reagan et al., 2023).

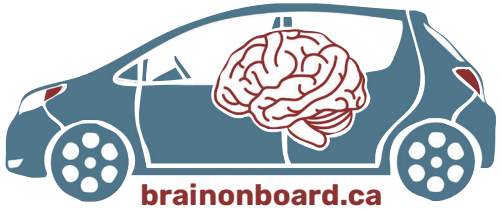
How does driver distraction influence crash risk?

Distraction contributes significantly to crash risk. An examination of 2021 national data in Canada collected by TIRF revealed that driver distraction was a factor in about 1 in 4 (28.8%) of fatal crashes (TIRF, 2024). Researchers have shown when a secondary task is added during driving the brain redirects attentional resources away from visual processing, increasing the possibility of incorrect, dangerous or risky behavioural responses (Palmiero et al., 2019).

Are there laws against distracted driving in Canada?

The focus of Canadian distracted driving legislation on distracted driving has been on the use of cell phones and other electronic communication devices. Except for Nunavut where its Motor Vehicles Act is under review, Canada has banned the use of handheld communication devices and enforces the ban with fines ranging from $100 in Newfoundland and Labrador to between $575-$1,275 in Prince Edward Island (**https://tirf.ca/diad/e-hub/legislation-data**). In addition to fines, Canadians caught using handheld devices are issued between three and five demerit points and in some provinces face cumulative fines and demerits for repeat offenders within a specific time frame.

Penalties for using a handheld electronic communication device can be even more serious. Depending on the circumstances, Canadian drivers may also be charged



with fines, careless driving or dangerous driving, and face licence suspensions and/or jail time (Transport Canada, 2022). Most jurisdictions first implemented distracted driving legislation more than a decade ago. Since 2014, many licensing authorities across Canada have moved to institute harsher provincial penalties for distracted drivers in response to a growing problem:

- Alberta: Distracted driving laws are stricter compared to other provinces as they include more than cellphone use, such as operating electronic devices (laptops, cameras, etc.), entering information on a GPS, reading, writing, and personal grooming (i.e., flossing, putting makeup on, clipping nails, shaving, etc.). As of 2021, distracted drivers faced a $300 fine and three demerit points.
- British Columbia: Implemented a $368 fine and four penalty points for distracted driving offences in 2020.
- Manitoba: As of November 2018, distracted drivers face a $672 fine, five demerit points, and a three-day licence suspension on the first offence and a seven-day suspension on the second offence.
- New Brunswick: In 2019 the fine for distracted driving increased to $172.50 in addition to three demerit points.
- Newfoundland and Labrador: As of 2019 drivers face a $300-500 fine for a first distracted driving offence and four demerit points.
- Nova Scotia: In 2020 the province increased distracted driving fines to $233.95-578.95, depending on the number of distracted driving offences, in addition to four demerit points.
- Ontario: As of January 2020, drivers convicted of their first distracted driving offence face a $615-1,000 fine, three demerit points, and a three-day licence. Subsequent convictions face increased fines, demerit points, and licence suspensions.
- Prince Edward Island: In 2015 increased maximum penalties to $1,200 and five demerit points.
- Quebec: As of 2018 distracted drivers face a $300-600 fine and five demerit points.
- Saskatchewan: In 2020 fines for distracted driving were increased to $580 for a first offence and included four demerit points. Subsequent offenses include increased fines and vehicle seizure.

How many motorists drive while distracted?

Distracted driving is a very difficult problem to measure, and data sources are limited for a couple of reasons. People may under-report the extent to which they engage in distracting activities, distraction may not be reported to the police or noted in crash reports, and distractions can be difficult to directly observe in traffic. Nevertheless, the results of a TIRF survey published in 2021 of Canadian drivers showed Canadians frequently engaged in many distracting activities while driving:

- 1 in 3 (31.7%) talk on their hands-free phone
- 1 in 6 (14.1%) talk on their handheld phone
- More than 1 in 10 (13.1%) text message

Who is most likely to drive while distracted?

While distractions can affect drivers of any age and experience level, distracted driving seems to pose an elevated crash risk for younger drivers. TIRF reported that for every 10-year increase in age, drivers were 44% less likely to text, 38% less likely to use a handheld phone, and 28% less likely to use a hands-free phone (Lyon et al., 2021).

Studies conducted in the United States confirmed younger drivers were more at risk when distracted. In the U.S., 368 drivers under the age of 21 were involved in a distracted driving-related fatal crash in 2021 (NCSA, 2023). This is 11% of all drivers involved in a crash, yet young drivers make up just 6% of the driving population. In comparison, during the same period, 408 drivers over the age of 65 were reported to be involved in a crash caused by distracted driving (NCSA, 2023).

Though younger drivers are involved in more distracted-driving crashes, adult drivers seem to have more distractions to deal with when they drive, including taking care of children and thinking about marital,

family, or financial problems. One reason why adult drivers crash less despite coping with increased distractions is that adult drivers tend to slow down when distracted, while younger drivers tend to maintain the same speed (Smiley, 2008).

How does distraction affect my ability to benefit from my safety features?

Distracted drivers commit a wide variety of driving errors that limit their ability to benefit from vehicle safety features. Many safety features rely heavily on you to supply the right kind of braking and steering input at the right time. Your ability to supply this input is hindered if you are distracted by something inside or outside of your vehicle. To illustrate, if you are looking at something on the side of the road, you may not notice a car that is attempting to move into your lane. By the time you do notice this car and hit your brakes, it may be too late for your brake assist to help you stop in time and avoid a collision. A distraction that causes a delay in brake application may result in being involved in a collision that, had there been no distraction, could have been avoided with the help of safety features.

Another consequence of distraction that impacts your ability to use your safety features is the loss of situational awareness. This means that when you are distracted, your field of view shrinks and you are less able to see the big picture of what is going on around you. You may not notice speed limit signs, pedestrians waiting to cross, cars pulling out of driveways, or other potential hazards. Since you are unable to anticipate possible dangers, losing sight of the big picture may make your reactions slower. A delayed reaction time limits your ability to supply the appropriate, timely brake and steering input that your safety features rely on to work properly.

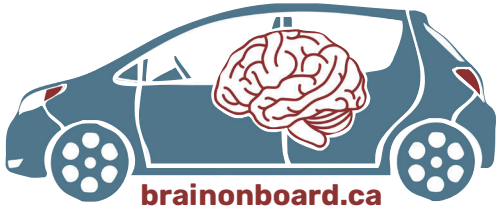
What safety features are directly affected by distraction?

The performance of every active safety feature currently available is diminished to some extent by driver distraction. Features that rely on brake and steering input – including anti-lock braking systems (ABS), electronic stability control (ESC), brake assist, and electronic brake-force distribution (EBFD) – may not be able to help you as much if you are distracted because of slower braking and exaggerated steering commands.

Adaptive headlights assist you by making you aware of potential hazards or obstacles that you would not normally have been able to see. If you are distracted, however, you may not react to illuminated hazards as quickly as you would have if you had not been distracted. Even if you are looking at the road, simply letting your mind wander and thinking about things that are not driving-related could cause you to react more slowly to an obstacle illuminated by adaptive headlights, and a collision may be unavoidable. In these cases, although the technology worked properly, being distracted may undermine the potential benefits of having the technology in the first place.

Finally, even warning systems that sound alarms when a possible danger presents itself (like forward-collision warning and lane-departure warning systems) are undermined if you are distracted. In order to avoid a dangerous situation, you must react quickly to these indicators. However, if you are distracted, you will be slower to react and may not be able to avoid a collision. If you are distracted, you will require time to assess the reason why the indicator went off. Your loss of situational awareness adds an extra step between hearing the indicator and reacting to the sound. This extra step takes up precious seconds that could mean the difference between avoiding a collision or not.

Many of the crashes that result from distraction are rear-end crashes. However, many safety features have design limitations that prevent their activation in the types of situations that result in rear-end crashes. Specifically, brake-related safety features (ABS, brake assist, EBFD) and forward-collision warning systems do not activate below certain speeds. This means that none of your safety features are designed to help in a situation where, for example, you are expecting a line of cars at a traffic light to start moving and, while changing the radio station, you hit the car ahead of you. Low-speed, rear-end collisions are a common result of distracted driving that safety features are not designed to help



you prevent. The best way to ensure you are not involved in these types of crashes is to pay attention to driving and nothing else.

Where can I find out more information about distracted driving?

In recent years distracted driving has garnered growing media attention and rapidly emerged as one of the most high-profile, talked-about issues in road safety today. As such, there is a significant amount of research available on distracted driving.

Every year, the Traffic Injury Research Foundation (TIRF) publishes the Road Safety Monitor (RSM), a survey designed to gauge public opinion on a range of key road safety issues. TIRF regularly releases RSMs and National Fatality Database fact sheets dedicated to distracted driving. In 2016, TIRF established a Canadian Coalition on Distracted Driving (CCDD), wrapping up its 5-year National Action Plan in 2021. The CCDD launched a web-based information hub at **diad.tirf.ca/ehub** designed as a resource with tools to help governments and interested stakeholders develop effective strategies to reduce distracted driving. The hub contains the latest research, stats and data on distracted driving, laws and penalties in Canada, and a variety of educational tools and resources. TIRF also has an award-winning education program for workplaces, communities and youth which delivers interactive workshops: **tirf.ca/diad**.

The National Highway Traffic Safety Administration (NHTSA) in the United States has also published extensively on distracted driving. NHTSA's resources on distracted driving have been compiled and are available at **nhtsa.gov/risky-driving/distracted-driving**. Finally, Transport Canada has researched the prevalence of distracted driving and effective countermeasures. This information, as well as more information about Canadian laws against distracted driving, can be found online at **tc.canada.ca**.

References

Visit **brainonboard.ca/program-resources/references** for a full list of references.

Want to learn more?

Visit **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: **brainonboard.ca/program-resources**.

An education program

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