

DISTRACTION-RELATED FATAL COLLISIONS, 2000-2016

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Introduction

In recent years, distracted driving has been increasingly prioritized in road safety planning in Canada. Some Canadian jurisdictions have reported that distracted driving fatalities have surpassed impaired driving fatalities, although some of this growth may be due to improvements in data collection (Robertson et al. 2017).

This fact sheet, sponsored by Desjardins, examines the magnitude and trends regarding the role of driver distraction in motor vehicle fatalities in Canada from 2000 to 2016. Data from TIRF's National Fatality Database were used to prepare this fact sheet which explores trends in the role of driver distraction among fatally injured victims, and the characteristics of fatally injured distracted drivers.¹ Other topics that are examined include characteristics of distraction-related crashes resulting in fatalities such as time of day, day of week, season, and the number of vehicle occupants.

A fatality is defined as distraction-related if at least one of the drivers in the crash (either dying or surviving) was considered to be distracted. Distraction can be based upon either police-reported collision data or coroner/medical examiner narrative information. A fatally injured distracted driver is a person who dies in a collision and was considered to have been distracted just prior to,

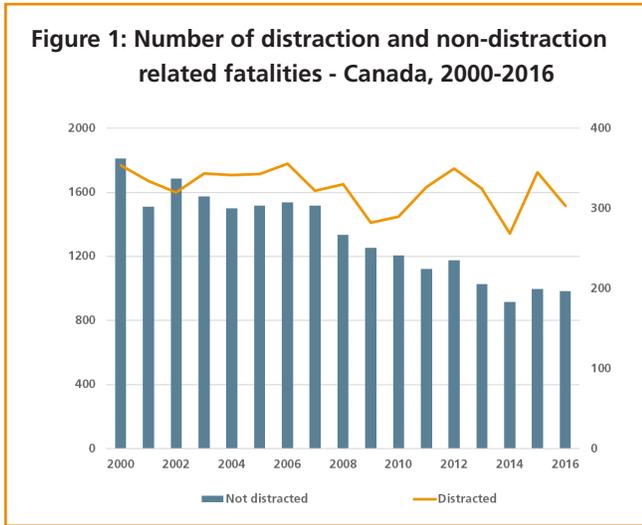
or during, the collision. In this fact sheet, TIRF's reporting upon the role of distraction refers to its presence and does not suggest that distraction was the primary or sole cause of the collision.

Distracted driving has routinely been associated with phoning or texting. However, other behaviours or events that distract a person from the driving task include being engaged with entertainment or communication devices, engaging with passengers in the vehicle, or eating, smoking or personal grooming while driving. It should be noted that an investigating officer may code a driver's condition as 'distracted, inattentive'. This suggests that there was a general lack of attention exhibited by the driver but there was no specific behaviour identified by the officer.

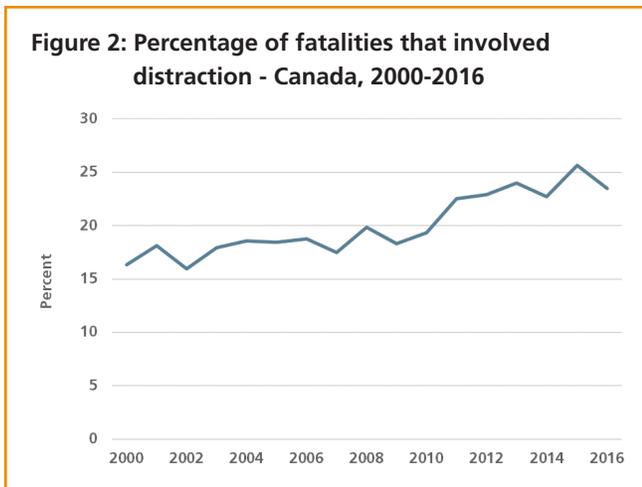
Distracted driving trends over time among all fatally injured victims

The number of distraction and non-distraction-related fatalities in Canada between 2000 and 2016 is shown in Figure 1. Non-distraction-related fatalities are represented by the vertical bars and plotted against the axis on the left while distraction related fatalities are represented by the solid line and plotted against the axis on the right. During this 17-year period, the number of distraction-related fatalities gradually decreased from 354 in 2000 to a low of 269 in 2014, rose to 345 in 2015, and

decreased again to 303 in 2016. On the other hand, there were 1,813 non-distraction-related fatalities in 2000 and this decreased consistently to 985 in 2016. This steady decline in non-distraction-related fatalities is in contrast to the fluctuating increases and decreases in the number of distraction-related fatalities in the past ten years. Using non-distraction-related fatalities as a comparison group indicates that fatalities involving distracted driving is an increasing problem.

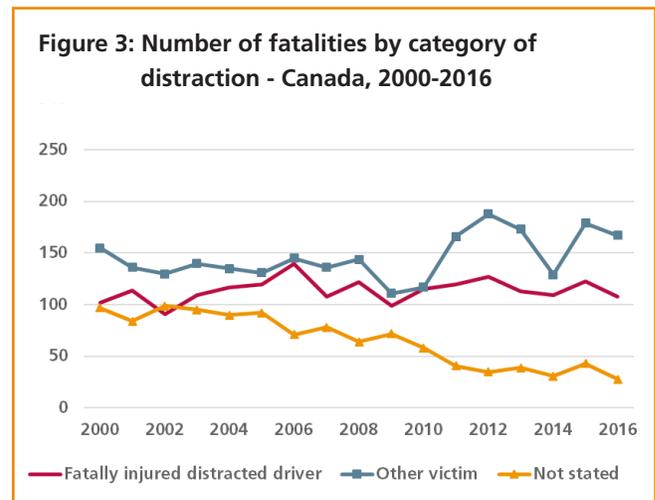


The percentage of motor vehicle fatalities from 2000 to 2016 that involved a distracted driver, regardless of whether it was the distracted driver who died in the crash, is shown in Figure 2. In 2000, 16.3% of fatalities involved at least one distracted driver. This percentage peaked in 2015 when one-quarter (25.7%) of fatalities was distraction-related. In 2016, the percentage decreased slightly to 23.5%.



The number of distraction-related fatalities from 2000 to 2016 is shown in Figure 3 and is presented according to three categories of distraction-related fatalities. These include cases in which:

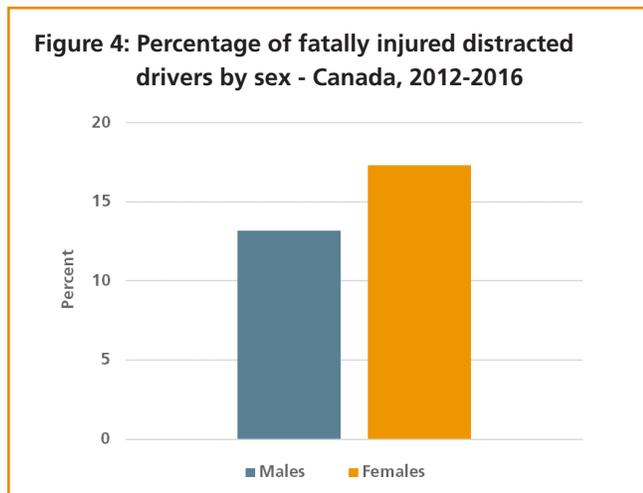
- > The fatally injured victim was the distracted driver ("fatally injured distracted driver");
- > The fatally injured victim was not the distracted driver ("other victim"). These victims include non-distraction drivers colliding with a vehicle driven by a distracted driver, passengers dying in a crash where at least one of the drivers was distracted, or pedestrians who were struck by a distracted driver; or,
- > It cannot be determined which driver was distracted or which person in the vehicle was the distracted driver ("not stated").



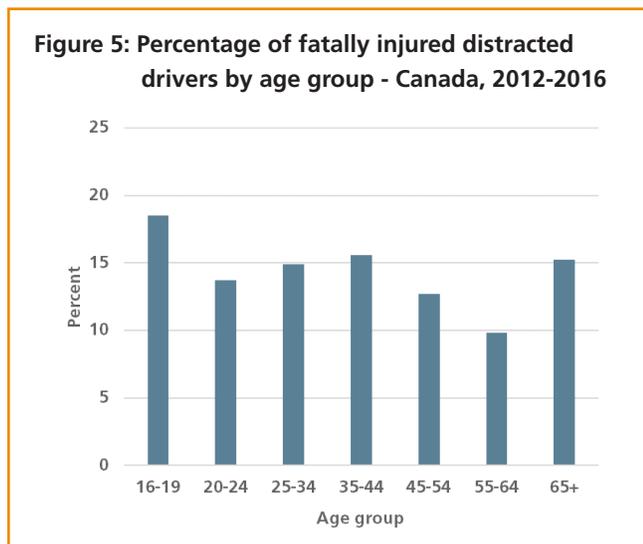
The number of fatalities in which the fatally injured driver was distracted increased from 102 in 2000 to a high of 140 in 2006 before decreasing to 108 in 2016. For almost the entire 17-year period, most fatalities occurred in crashes in which the surviving driver was distracted. To illustrate, in 2000, 155 distraction-related fatalities were due to the other – surviving – driver, peaking at 188 in 2012, and eventually decreasing to 167 in 2016. The number of fatalities where it was not determined which driver was distracted generally decreased from 97 in 2000 to 28 in 2016. This could be due, in part, to more complete data that are available on the role of distraction by specific drivers in more recent years.

Characteristics of fatally injured distracted drivers

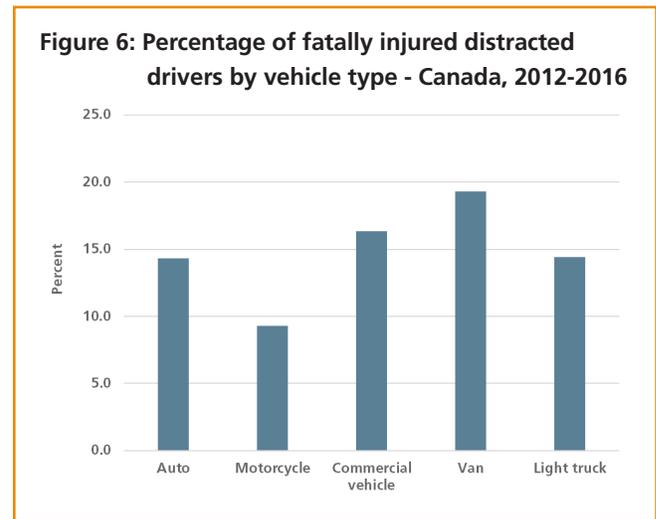
This section examines the demographic characteristics of fatally injured drivers to gauge any variation in terms of driver distraction based on driver sex, age group, and vehicle type. The results are based on data from five years (2012 to 2016) for fatally injured drivers in highway collisions. Figure 4 shows that 13.2% of fatally injured male drivers were distracted compared to 17.3% of fatally injured female drivers.



The percentage of fatally injured drivers in each age group who were distracted is shown in Figure 5. Drivers aged 16-19 (18.5%), 35-44 (15.6%), and 65 and older (15.2%) were the most likely to have been distracted. Conversely, 9.8% of fatally injured drivers aged 55 to 64 were distracted.



The prevalence of distraction among fatally injured drivers based upon the type of vehicle that was driven is shown in Figure 6. Fatally injured van drivers (19.3%) were twice as likely to have been distracted as motorcyclists (9.3%). It should be noted that among fatally injured drivers of commercial vehicles (heavy trucks and tractor-trailers), 16.4% were distracted during this five-year period.



Collision characteristics of distraction-related fatalities

This section examines prevalence of distraction-related fatalities based upon various crash characteristics. These characteristics include time of day that the crash occurred, day of week, season, and number of vehicle occupants for fatal collisions during the same time period (2012-2016).

The percentage of distraction-related fatalities by time of day is presented in Figure 7. The time of day for distraction-related fatalities has been re-grouped into three-hour increments (e.g., midnight to 2:59 am). A smaller percentage of distraction-related fatalities resulted from crashes which occurred during the two time increments between midnight and 6:00 am. A larger percentage of distraction-related fatalities occurred throughout the workday. The time period when the largest percentage of persons died in distraction-related collisions (29.1%) was between 3:00 pm and 5:59 pm (15:00-17:59). There was a smaller percentage of distraction-related fatalities after 6:00 pm.

Figure 7: Number of distraction-related fatalities by time of day - Canada, 2012-2016

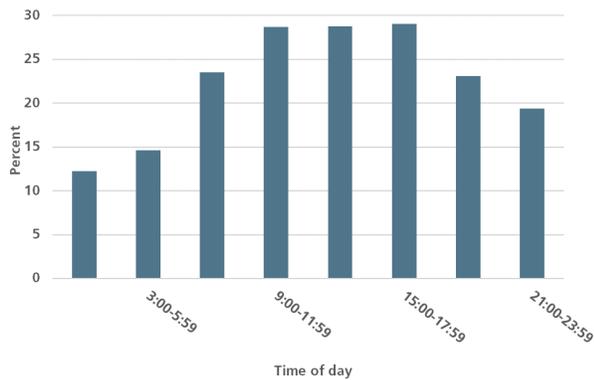
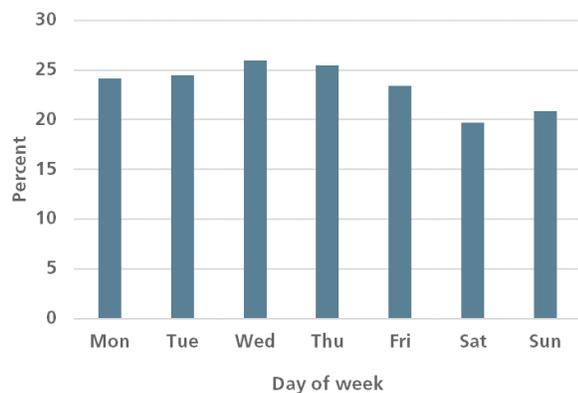


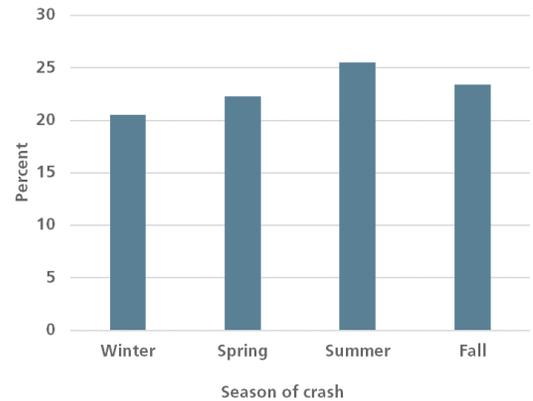
Figure 8 shows the percentage of fatalities that were distraction-related according to day of the week. The percentage of fatalities that were distraction-related generally increased from 24.2% on Mondays to 25.9% on Wednesdays. There was a steady decrease until Saturdays when 19.7% of fatalities were distraction-related.

Figure 8: Percentage of distraction-related fatalities by day of week - Canada, 2012-2016



The percentage of fatalities that were distraction-related by season is shown in Figure 9. Seasons are grouped as Spring (March-May), Summer (June-August), Fall (September-November), and Winter (December-February). The largest percentage of distraction-related fatalities occurred in the Summer (25.5%), compared to 23.4% in the Fall, 22.3% in the Spring, and 20.5% in the Winter.

Figure 9: Percentage of distraction-related fatalities by season of crash - Canada, 201-2016



The percentage of distraction-related driver and passenger fatalities by the number of vehicle occupants is presented in Figure 10. Fatally injured victims in a vehicle with two occupants (25.5%) were the most likely to be involved in a distraction-related crash. Among fatally injured victims who were the sole occupants, 21.0% died in a distraction-related crash. The lowest incidence for distraction-related crashes was for fatally injured victims in a vehicle with five or more occupants (19.8%).

Figure 10: Number of distraction-related fatalities by number of occupants - Canada, 2012-2016



Conclusions

Although the number of distraction-related fatalities has not increased substantially from 2000 to 2016, the percentage of all fatalities where distraction was a contributing factor has increased. This is largely attributable to a decrease in the number of non-distraction-related fatalities (i.e., the denominator to calculate the percentage). In other words, the positive trend among non-distraction-related fatalities is not evident in the trend among distraction-related fatalities. Also, throughout this 17-year period, there have consistently been more distraction-related fatalities resulting from the other driver being distracted as opposed to fatalities where the fatally injured driver was distracted. Unlike alcohol-impaired drivers, distracted drivers more often kill other road users in crashes than kill themselves.

Among fatally injured drivers, a larger percentage of females than males were distracted during a five-year period (2012-2016). This is perhaps surprising as self-reported data reveal that females are typically less likely to engage in distracted driving behaviour (cf. Lyon et al. 2019). It is possible that since more fatally injured male drivers than female drivers test positive for alcohol, distraction may not be coded as a contributing factor in crashes with males where alcohol impairment is already present (Robertson et al. 2017). This coding practice could bias the data and make it appear as if more females were killed in distraction-related crashes.

It would be expected that drivers aged 16 to 19 may be more prone to distraction due to a lack of driving experience and that drivers aged 65 and over may be more prone to cognitive-related distractions. Although distraction was higher than average among fatally injured drivers aged 16 to 19 and 65 and older, fatally injured drivers aged 35 to 44 also had a large percentage of distraction. This middle-age group would be expected to be less overwhelmed by the driving task than either the youngest or older drivers. A possible explanation is that drivers aged 35 to 44 face greater exposure to distraction-related collisions since they drive more often than younger and older drivers. Further monitoring is needed to see whether this age group remains over-represented among fatally injured distracted drivers. Similarly, additional scrutiny is needed to explore whether van drivers

continue to be over-represented among fatally injured drivers and to determine why.

A larger percentage of distraction-related fatalities occurred during late afternoon compared to other times of day. Also, distraction-related fatalities were more prevalent during the week than during weekends. There may be a greater potential for drivers to be distracted by other priorities during working hours than at other times. Alternatively, since there are more alcohol-related crashes at night and on weekends, distraction may be more commonly cited as a contributing factor in fatal crashes that occur at other times. Finally, having two, three or four passengers in the vehicle appears to increase one's risk for being involved in a distraction-related crash, although the difference between single drivers and drivers with one or more passengers dying in a distraction-related crash is not that pronounced. This suggests that irrespective of the number of occupants in the vehicle, drivers should be aware of the potential risks associated with distracted driving.

In conclusion, distracted driving collisions exhibit specific patterns that are different from other types of collisions. For example, they do not occur at the same time of day or day of week as alcohol-related collisions. Also, the demographic characteristics of distracted drivers and drinking drivers do not necessarily correspond with one another. Accordingly, enforcement activities and education initiatives to combat distracted driving ought to be tailored to the target audience based on these patterns.

References

Lyon, C., Vanlaar, W., Robertson, R. (2019). Distracted Driving Attitudes and Practices, 2004-2018. Results from TIRF's 2018 Road Safety Monitor. Ottawa, ON.: Traffic Injury Research Foundation.

Robertson, R.D., Bowman, K., Brown, S.W. (2017). Distracted Driving: A National Action Plan. Ottawa, ON.: Traffic Injury Research Foundation; and Drop It And Drive®.

¹ Fatality data from British Columbia from 2013 to 2016 were not available at the time that this fact sheet was prepared. As a result, Canadian data presented have been re-calculated to exclude this jurisdiction and make equitable comparisons.

Traffic Injury Research Foundation

The mission of the Traffic Injury Research Foundation (TIRF) is to reduce traffic-related deaths and injuries. TIRF is a national, independent, charitable road safety institute. Since its inception in 1964, TIRF has become internationally recognized for its accomplishments in a wide range of subject areas related to identifying the causes of road crashes and developing programs and policies to address them effectively.

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