The Road Safety Monitor 2007

Excessive Speeding

TRAFFIC INJURY RESEARCH FOUNDATION

A DRIVING FORCE FOR SAFETY

The 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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September 2008

Traffic Injury Research Foundation
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ISBN: 978-0-920071-77-9

The Road Safety Monitor 2007

Excessive Speeding

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Financial support provided by:

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Executive Summary

- *The Road Safety Monitor* (*RSM*) is an annual public opinion survey conducted by the Traffic Injury Research Foundation (TIRF) and sponsored by Transport Canada, the Brewers Association of Canada and Toyota Canada Inc. The survey takes the pulse of the nation on key road safety issues by means of a telephone survey of a random, representative sample of Canadian drivers.
- The annual results of the *RSM* are released in a series of reports (available at: www.trafficinjuryresearch.com) – the present one focuses on excessive speeding.
- Although the majority of drivers exceed the posted speed limit, excessive speeders are more likely to be young drivers, and in particular male drivers.
- Over 20% of collisions in Canada involve excessive speed or driving too fast for conditions. In 2006, such collisions have resulted in about 800 fatalities and about 3,000 serious injuries in Canada.
- More than two thirds of Canadians (67.9%) appear to view excessive speeding as a very important road safety issue. In fact, this issue received the fourth highest rating of perceived seriousness, after drinking drivers (87.1%), running red lights (70.2%), and street racing (68.7%).
- 81.1% of Canadians believe that excessive speeding will likely result in a crash.
- With regards to crash severity, 92.7% indicated that a crash resulting from excessive speed would be fairly to extremely severe.
- 81.7% of respondents perceived other Canadians to be highly concerned about excessive speeding.
- On average, Canadians estimate that 42.2% of all drivers speed excessively.
- 24% of Canadians or an estimated 5.4 million drivers in Canada indicated that they drive well over the speed limit.
- An estimated 895,200 drivers reported that they had to brake or steer to avoid a crash due to excessive speeding in the past month on Canadian roads. The majority of those had to do so on multiple occasions.
- 80.4% of respondents indicated that they often see other drivers exceeding the speed limit.
- Most people who speed excessively seem to be pretty confident about maintaining control over their vehicle.
- With regards to the use of various measures for dealing with the issue of excessive speeding, 65.9% agree that speeding should be a higher priority for enforcement efforts, 52.8% agree that vehicles should be equipped with devices to prevent excessive speeding, and 45.6% agree that the penalties for speeding should be equal to those for drinking and driving.

Introduction

The Road Safety Monitor (*RSM*) is an annual public opinion survey developed and conducted by the Traffic Injury Research Foundation (TIRF) to take the pulse of the nation on key road safety issues. The survey examines:

- what Canadians see as priority road safety issues and how concerned they are about them;
- their views about how to deal with these problems;
- what they know and do not know about safe driving practices; and
- how they behave on the highways.

The *RSM* includes a core set of questions that are asked each year to provide information on trends in attitudes, opinions and behaviours. This is supplemented each year by a set of questions that probe more deeply into special, topical, and emerging issues. This report describes the findings from the 2007 *RSM* regarding the issue of excessive speeding.

Method

The seventh edition of the *RSM* contained 95 items designed to probe the knowledge, attitudes, and concerns of Canadians with respect to a range of road safety issues, and to obtain information on their driving practices. The survey required an average of 15 minutes to complete.

The survey was administered by telephone to a random sample of Canadian drivers who have driven in the past 30 days and have a valid driver's licence. The sample was stratified by province and weighted according to gender and age to avoid bias. Opinion Search Inc. fielded this survey in September, 2007. Among the 11,625 households contacted in which a person was asked to participate, 8,800 (76%) refused and 885 (7.6%) were not qualified.

A total of 1,238 drivers completed the interview. The data were analyzed taking account of the stratified and weighted sampling design (see StataCorp. 2007 for information about the modeling procedures), using both univariate and multivariate approaches. Based on a sample of this size, on average, the results can be considered accurate within 2.8%, 19 times out of 20.

Background

Speeding is defined as driving any amount over the posted speed limit or driving too fast for conditions (IIHS, 2003; CCMTA, 2007; NHTSA, 2008). While the majority of drivers exceed the posted limit (although they remain within 20% of the limit), "excessive speeding" is less frequent (Beirness & Simpson, 1997). Excessive speeding, however, is not always defined, and many times the definition varies across studies. Beirness & Simpson (1997) defined excessive speeding as exceeding the speed limit by 25 km/h or more. Similarly, Williams et al. (2006) defined excessive speeders as drivers of vehicles travelling at least 15 mph (about 25 km/h) over the speed limit, and slower drivers were defined as those travelling no more than 5 mph (about 8 km/h) above the posted limit. For the purpose of this introduction, excessive speeding is defined as exceeding the posted speed limit by at least 25 km/h.

How does speed affect traffic safety?

Speed can affect traffic safety in two ways. First, speed can affect the risk of crashing – research shows that higher speeds increase the risk of being in a crash. Second, speed can affect the severity of a crash – research shows that increased speed is also associated with both increased crash and injury severity. Both will be explained in more detail in the following sections.

How does speed affect crash risk? There is very strong evidence to support the idea that speed affects crash risk. Specifically, as speed increases, so does the risk of being involved in a collision (Evans, 2006; Aarts & van Schagen, 2006; OECD, 2006).

Both absolute speed, and speed variance have been shown to affect the likelihood of having a crash. The theory of absolute speed states that an increase in speed corresponds with an increase in crash risk, as well as an increase in the severity of sustained injuries and crash outcome. The theory of speed variance suggests that both lower and higher speeds can lead to higher crash rates.

Absolute speed. One theory on speeding suggests that an increase in speed, in and of itself (i.e., absolute speed) corresponds with an increase in crash risk. This theory is

based on the effects of speed on different relevant factors such as stopping distance, reaction times, decreased manoeuvrability, as well as environmental factors such as roadway configuration and weather conditions (Aarts & van Schagen, 2006).

At high speeds, "the time to react to changes in the environment is shorter, the stopping distance is larger, and manoeuvrability is reduced" (Aarts & van Schagen, 2006, p.215). Speed increases the distance a vehicle travels while the driver reacts to changes in the environment, and extends the distance necessary to stop a vehicle; i.e., vehicles travelling at faster speeds require a larger stretch of road to gradually come to a safe stop. Speed also reduces a driver's ability to steer safely around curves and objects on the road (NHTSA, 2008).

Several studies have looked at different indicators to investigate the influence of speed on crash risk. For example, some studies (Maycock et al, 1998; Quimby et al, 1999; Fildes et al, 1991; Kloeden et al, 1997, 2001) have concluded that fast-moving vehicles have a greater crash rate than slow-moving vehicles. Conversely, slower vehicles have a lower crash risk (Aarts & van Schagen, 2006). A small increase in speed can result in a large increase in crash risk. For example, an increase in speed by only 1% can increase fatality risk by 4%-12%. On the other hand, a 3% reduction in speed can reduce crash risk by 13%. To illustrate, the reduction in risk due to decreased speed is greater than, for example, reductions due to frontal airbags (Evans, 2006). On average, a 1% decrease in speed is associated with a 2% decrease in injury collisions, a 3% decline in serious injury collisions, and a 4% decrease in fatal collisions (Aarts & van Schagen, 2006; Elvik et al., 2004). Similarly, it has been estimated that a reduction in speed by 1 km/h is equal to a 3% reduction in crash frequency (Finch et al., 1994).

Small changes in speed are typically associated with very large changes in the number of traffic fatalities.

Others have shown that an increase in average speed by as little as 1% has been associated with increases in crash liability ranging from 8% (Maycock et al., 1998) to 13% (Quimby et al., 1999).

Finally, when speed goes down, the number of crashes or injuries goes down 95% of the time, and when speed goes up, the number of crashes or injuries goes up 71% of the time (Elvik et al., 2004).

In sum, when speed increases, crash rate increases by an equal or greater amount. Likewise, “a reduction in speed will almost always improve road safety” (Elvik et al., 2004, p.iii).

Speed variance. Another important theory about speeding is the theory of speed variance. Speed variance is defined as “the variability around average speeds” (Evans 2006, p.215) which means that some vehicles will be moving at a lower speed and others at a higher speed compared to the average speed. This theory involves the idea that it is not the speed per se that affects crash risk, but rather it is the *difference* in speeds between individual vehicles that affects crash risk. This occurs because it creates an environment in which drivers are passing or attempting to pass other vehicles. The theory of speed variance is often used to explain increased crash risk at lower speeds as well as increased crash risk at higher speeds (also known as the U-shaped distribution of crash risk; Evans, 2006).

Many studies have examined the relationship between individuals who drive faster or slower than surrounding traffic and their risk of being involved in a crash. Two studies conducted in the 1960’s (Solomon, 1964; Cirillo, 1968), and a more recent study from 1990 (Harkey et al., 1990), demonstrated that both high *and* low speeds were associated with a greater risk of being in a crash. In fact, the studies reported that the risk of a crash was *greater* for vehicles travelling at *low* speeds. However, these studies have been criticised for methodological weaknesses leading to biased results. Of interest, one study (RTI, 1970) that replicated the earlier studies from the 1960’s has shown that almost half of the crashes at low speeds were manoeuvre-related crashes (e.g. making turns), which, by definition, involve low speed. Once this mediating factor was controlled for, the increased crash risk associated with low speeds was much smaller. More recent research from the late 1990’s to the early 2000’s (Davis et al., 2006; Kloeden et al., 1997, 2001, 2002) using a stronger research design has confirmed that a higher crash risk is associated with higher speed, but there was no increased crash risk found at lower speeds.

How does speed affect crash severity? Speed not only affects crash risk, but is also related to crash severity. When a crash occurs, increased speed is associated with increased crash severity as well as increased injury severity (Evans, 2006). More

precisely, “[o]nce a crash occurs, the relationship between the speed and the outcomes of a crash is directly related to the kinetic energy that is released during a collision” (Aarts & van Schagen, 2006, p. 215). In other words, excessive speed increases the amount of crash energy that needs to be absorbed by the vehicle and safety devices such as seat belts and air bags. The higher the speed, the more likely that the safety thresholds of the vehicle and safety devices will be exceeded in the event of a crash, limiting the protection given to vehicle occupants (IIHS, 2008).

Put another way, at high speeds, safety devices such as seatbelts and airbags are less effective at reducing the amount of force that is placed on vehicle occupants (IIHS, 2008). In high-speed crashes, it is more difficult for the vehicle structure to withstand the impact and maintain enough space in the vehicle compartment to ensure the survival of occupants (IIHS, 2008). The risk of injury or death increases according to the degree to which ‘crash energy’ exceeds that of the restraint systems, and roadway hardware such as barriers and impact attenuators (which are cushion-like devices designed to minimize the amount of damage caused to a vehicle) (IIHS, 2008).

To illustrate, studies conducted in the United States found that higher posted speed limits were associated with an increase in road *fatalities* (IIHS, 2003; Evans, 2006). States that have increased their speed limits from 55 mph to 65 mph have consistently experienced an approximate 10% increase in *fatality* rates (Evans, 2006). Another study reported a 35% increase in traffic *deaths* per million miles travelled following this speed limit increase (IIHS, 2003). Similarly, a speed limit increase to 75 mph (approximately 120 km/h) resulted in a 38% increase in traffic *death*s per million miles travelled (IIHS, 2003).

Characteristics of speeders

Excessive speeders, i.e., drivers who exceed the speed limit by at least 25 km/h, are more likely to be young drivers (Janke et al., 2003, cited in Williams et al., 2006; Lawpoolsri et al., 2007; NHTSA, 2008; Norris et al., 2000; Williams et al., 2006) and in particular, male drivers (Janke et al. 2003, cited in Williams et al., 2006; Lawpoolsri et al., 2007; NHTSA, 2008). However, this does not mean that the problem of speeding is isolated to young males. A survey of drivers conducted across multiple states in the U.S.

found that average driving speeds were typically higher than the posted speed limits (Williams et al., 2006). According to these data, approximately two-thirds of drivers reported exceeding the speed limit to some extent in the past week, while one-third reported that they 'sometimes' or 'often' drive more than 10 mph (approximately 16 km/h) over the posted speed limit (Williams et al., 2006). These findings suggest that the majority of drivers exceed posted speed limits and speeding is commonplace.

In Canada, differences have been found between collision-involved and collision-free teens. Collision-involved teens were less likely to obey the speed limit, and generally more likely to take part in risky driving behaviour. They were more likely to intentionally commit highway code violations and aggressive violations and more likely to have a conviction on their driving record. They also have more tickets and more convictions from intentional driving errors, namely speeding and careless driving (Mayhew et al., 2006).

Studies have found that previous speeding violations and convictions for excessive speeding are predictive of crash involvement (Gerbers & Peck, 2003, Mesken et al., 2002, cited in Lawpoolsri et al., 2007; Williams et al., 2006). Williams et al. (2006) found that excessive speeders (defined as drivers of vehicles travelling at least 15 mph over the speed limit) were more likely to drive newer vehicles and have more violations on their records for speeding and other traffic violations. They also had 60% more crashes than slower drivers, defined as those travelling no more than 5 mph. Furthermore, it has been found that drivers who speed excessively are a high-risk group with overall poor driving behaviours including alcohol consumption, driving with an invalid licence, and not wearing a seatbelt (Williams et al., 2006; NHTSA, 2008).

Speeding in Canada

In 2006 (the most recent year for which data are available), about 800 individuals were killed on Canadian roads in collisions involving excessive speed or driving too fast for conditions, and about 3,000 were seriously injured. It is estimated that over 20% of collisions involve excessive speed or driving too fast for conditions (CCMTA, 2007). In Canada, speed has been shown to be a contributing factor in up to 18% of fatal and personal injury crashes (Beirness & Simpson, 1997). This corresponds to about 4,000

deaths and injuries that can be attributed to speed each year in Canada (Beirness et al., 2001). The effects of speed on collision risk can be particularly striking in Canada during the wintertime, where slippery road surfaces and poor visibility can add to the risks associated with excessive speed (ICBC, 2007).

In Canada, about 4,000 deaths and injuries can be attributed to speed each year.

In the 2002 RSM, Canadians were asked about their attitudes and opinions regarding speeding. It was found that 60% of the Canadian population viewed speeding as a serious or extremely serious problem (Beirness et al., 2002). In the 2006 RSM, this figure was slightly higher at 66% (Vanlaar et al, 2006). In 2002, younger drivers (those under the age of 30) viewed speeding as a less serious problem than older drivers (those aged 60 or older), with less than half of the younger drivers viewing speeding as a serious or extremely serious problem compared to 70% of older drivers (Beirness et al., 2002). In 2002 and 2006, Canadians were also asked how often they see certain aggressive driving behaviours including speeding. Among Canadians, excessive speeding was the most frequently observed aggressive driving behaviour compared to behaviours such as tailgating, weaving in traffic, unsafe passing, and running red lights (Beirness et al., 2002; Vanlaar et al., 2006; 2008a).

A recent report from Transport Canada (2007) based on a survey of 2,002 drivers conducted in 2005, found that most Canadians view driving over the speed limit as dangerous and believe that it leads to an increased risk of a crash, injury or death. Despite this fact, seven out of ten Canadians admit to driving over the speed limit anyway. Moreover, they believe they are not speeding in a way that endangers either themselves or others (EKOS Research Associates Inc, 2007). Self-reported frequencies of aggressive driving behaviours were also examined in the 2006 RSM which indicated that about 2.7 million drivers admitted to often driving well over the speed limit (Vanlaar et al., 2006; 2008a).

Conclusion

There is very strong evidence that speed affects crash risk. Specifically, as speed increases, so does the risk of being involved in a collision. In fact, small changes in speed are typically associated with large changes in the number of traffic crashes.

When a crash occurs, increased speed is associated with increased crash severity as well as increased injury severity. The higher the speed, the more likely that the safety thresholds of the vehicle and safety devices will be exceeded in the event of a crash, limiting the protection given to vehicle occupants.

Although the majority of the public exceed posted speed limits, young, male drivers in particular compose a high-risk crash group. Furthermore it has been found that drivers who speed excessively are a high-risk group with overall poor driving behaviours including alcohol consumption, driving with an invalid licence, and not wearing a seatbelt.

In Canada, it is estimated that over 20% of collisions involve excessive speed or driving too fast for conditions. Such collisions have resulted in about 800 fatalities and about 3,000 serious injury collisions in Canada in 2006 (CCMTA 2008).

In sum, speed remains a significant factor in traffic crashes and injuries. Moreover, the relationship between speed and traffic safety holds true across places and time and is not dependent on the country or the environment in which the relationship is being evaluated (Elvik et al., 2004).

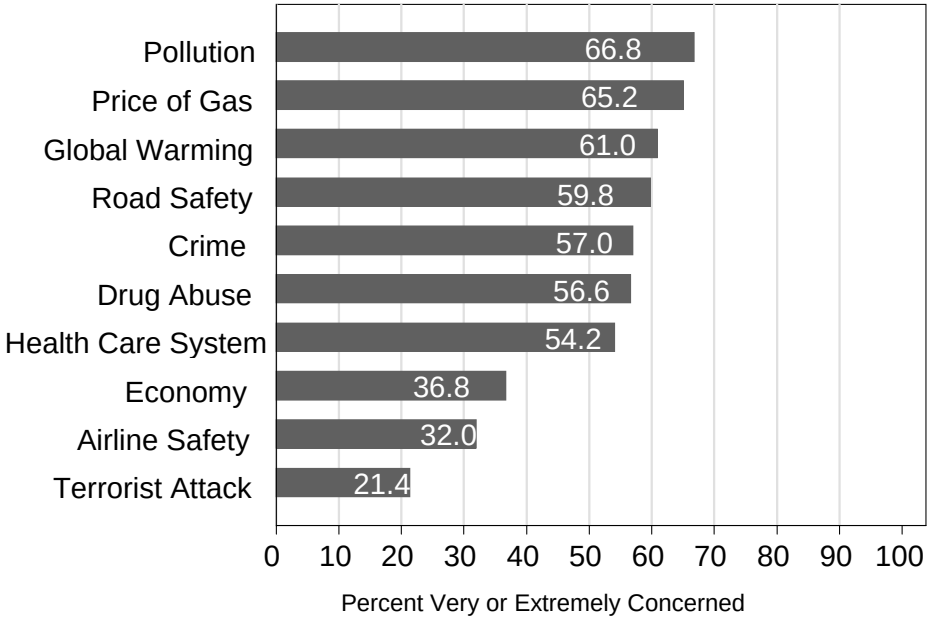
Perceptions of Excessive Speeding

Where does the issue of road safety sit on the public agenda?

To gauge Canadians' general attitudes towards excessive speeding, and to place this issue in a broader social and road safety context, the *RSM* polled Canadians on how concerned they are about a variety of societal issues. Figure 1 shows the percentage of respondents who said they were concerned about these various issues, rated on a scale from 1 (not at all concerned) to 6 (extremely concerned); for scoring purposes, respondents were coded as being concerned about an issue if he or she chose a 5 or 6. A clear majority of Canadians (59.8%) were very or extremely concerned about road safety, behind pollution (66.8%), the price of gas at the pumps (65.2%), and global warming (61%). Respondents were more concerned about road safety than about crime (57%), drug abuse (56.6%), the state of the health care system (54.2%), the economy (36.8%), airline safety (32%), or the threat of a terrorist attack (21.4%).

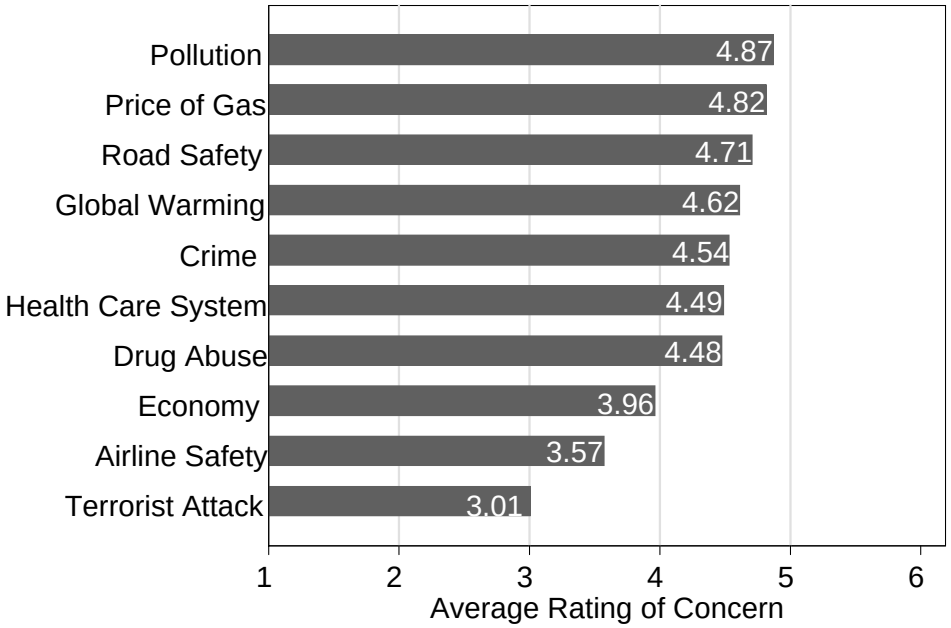
It warrants mentioning that not all the differences between these social issues are statistically significant. Further analysis revealed that a distinction can be made between three groups of issues. First, the percentage of Canadians who are very or extremely concerned about pollution is significantly higher than for road safety; this forms the first group. The second group comprises the following issues: the price of gas at the pumps, global warming, road safety, crime, drug abuse, and the state of the health care system. The percentage of Canadians who are very or extremely concerned about each of these issues is more or less the same. Finally, significantly fewer Canadians are concerned about the economy, airline safety, and terrorist attacks – together, they comprise the third and final group. Another recent study revealed a comparable pattern and concluded that "the safety of road travel is seen [by the public] as a mid-level priority, with 54 percent expressing concern about this issue" (EKOS Research Associates Inc., 2007, p. iii).

Figure 1. Percentage Very or Extremely Concerned About Various Social Issues



Looking at the average rating of concern for the various social issues, the general pattern of results is only slightly different (see Figure 2). On average, road safety was ranked third in terms of concern instead of fourth, but the overall pattern remains the same.

Figure 2. Average Ratings of Concern for Various Social Issues

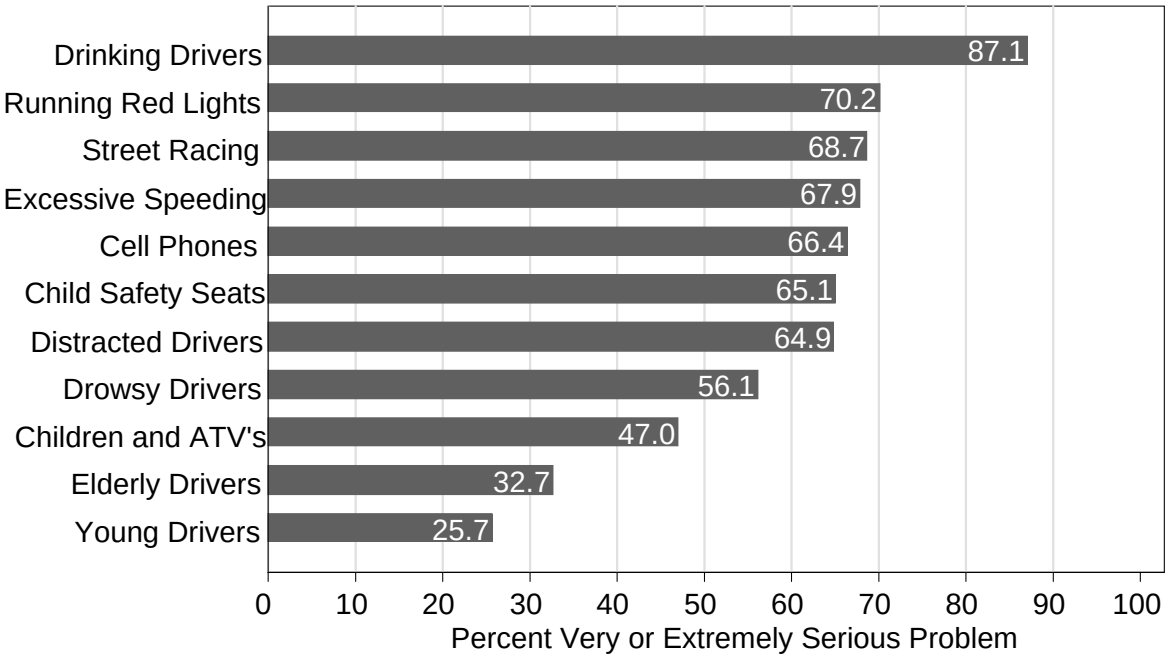


Is excessive speeding a major road safety concern for Canadians?

Canadians were also asked about a series of specific road safety concerns and about how serious they perceive those problems to be, ranging from 1 (not a problem at all) to 6 (an extremely serious problem). As can be seen in Figure 3, excessive speeding was considered a very or extremely serious problem (i.e., respondents selected a 5 or 6) by 67.9% of participants. This issue received the fourth highest rating of perceived seriousness, after drinking drivers (87.1%), running red lights (70.2%), and street racing (68.7%). Note that only the difference between excessive speeding and drinking and driving is significant. The remaining road safety issues rated as very or extremely serious problems were as follows: 66.4% for the use of (hand-held or hands-free) cellular telephones while driving, 65.1% for children being improperly secured in safety seats, 64.9% for distracted drivers, 56.1% for drowsy or fatigued drivers, 47% for children and all-terrain vehicles (ATV's), 32.7% for elderly drivers, and 25.7% for young drivers. The difference between excessive speeding and the last four items is significant.

More than two thirds of Canadians view excessive speeding as a very or extremely important road safety issue.

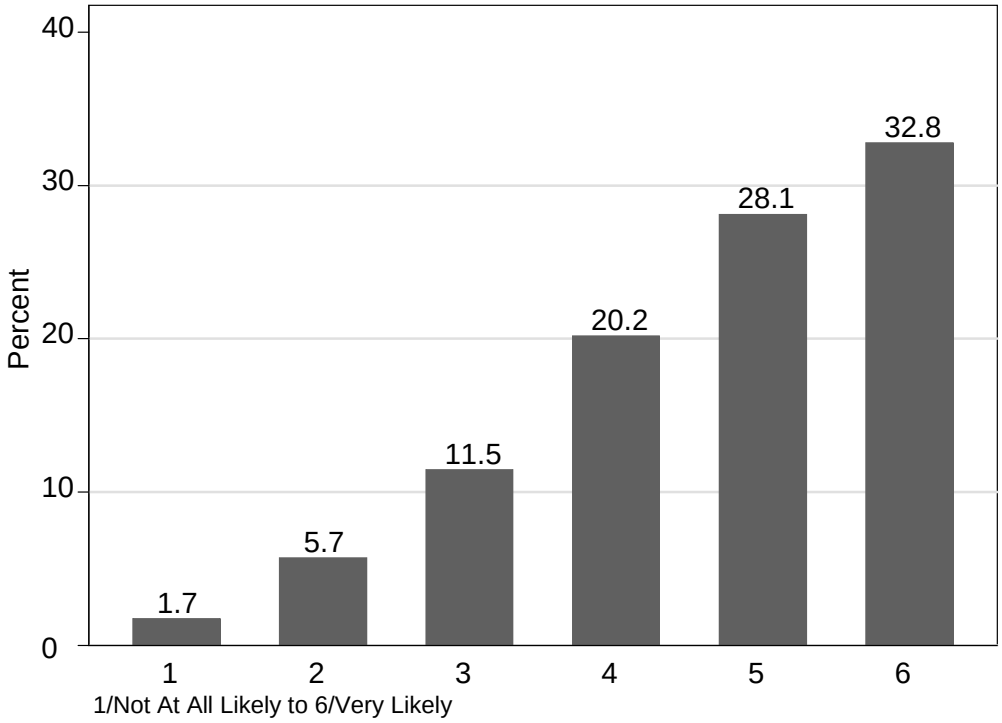
Figure 3. Percentage Very or Extremely Concerned About Various Road Safety Issues



How likely do Canadians think excessive speeding is to cause a crash?

Canadians were asked how likely they felt excessive speeding is to cause a crash (see Figure 4), on a scale from 1 (not at all likely) to 6 (very likely). Answers were recoded into two categories: not likely (1 – 3), and likely (4 – 6). It was found that 81.1% of respondents felt that excessive speeding is likely to cause a crash, while only 18.9% of respondents felt that excessive speeding was not likely to cause a crash, and this difference is significant. These figures indicate that the majority of Canadians think that it is likely or very likely that excessive speeding is associated with a greater risk of a crash.

Figure 4. How Likely Do Canadians Think Excessive Speeding is to Cause a Crash?



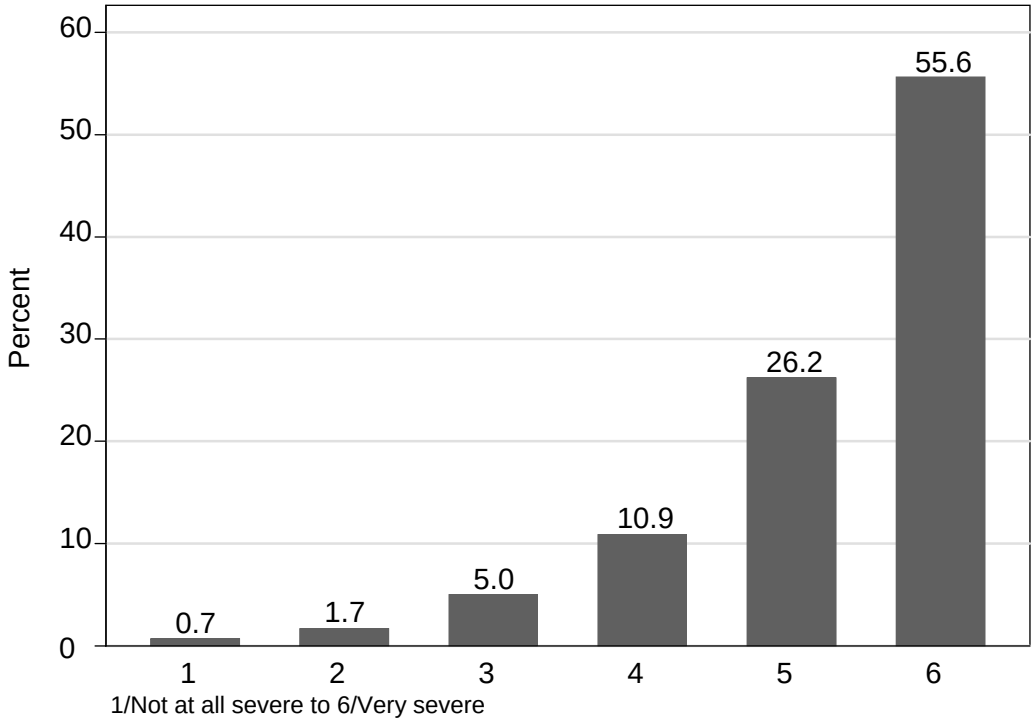
81.1% of Canadians think that excessive speeding is likely to cause a crash.

How likely do Canadians think excessive speeding will increase the severity of a crash?

Participants were also asked to estimate the severity of crashes caused by excessive speeding, using a scale of 1 (not at all severe) to 6 (very severe). As shown in Figure 5, the majority of Canadians (92.7%) believe excessive speeding affects the severity of

crashes selecting a four, five, or six. The opinion of the majority of Canadians is consistent with research findings which confirm that excessive speeding is associated with increased crash severity.

Figure 5. How Severe Do Canadians Think Crashes Due to Excessive Speed Are?



How large is the problem of excessive speeding according to Canadians?

Canadians were also asked to estimate the percentage or proportion of drivers who speed excessively, compared to all of the drivers on the road. On average, Canadians estimate that 42.2% of drivers speed excessively.

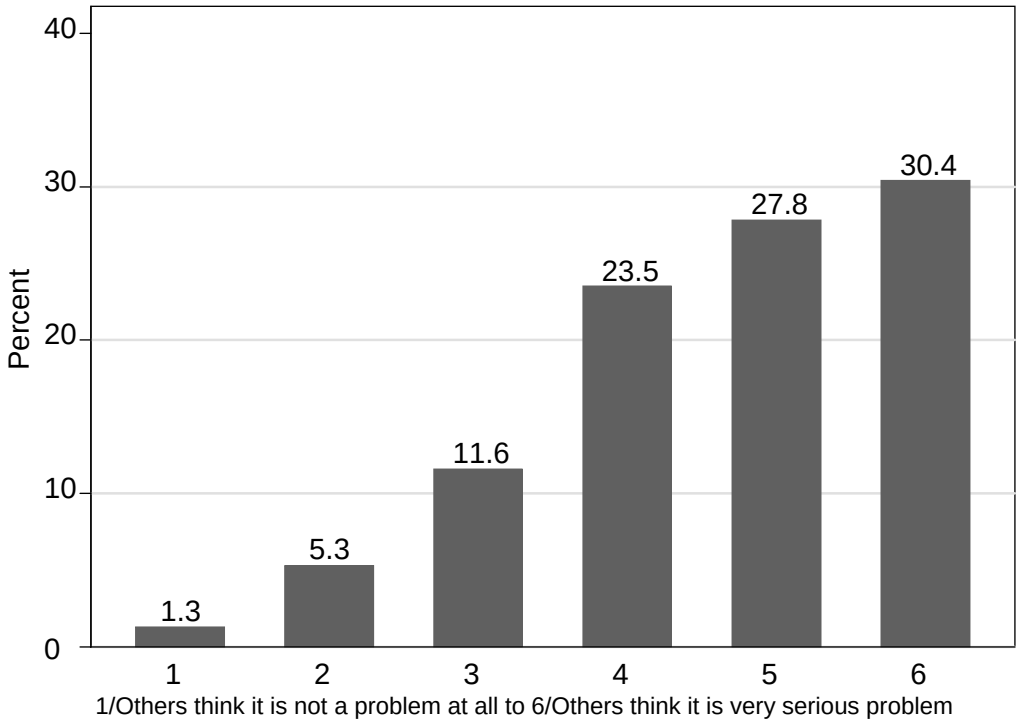
More specifically, a quarter of respondents think that up to 15% of drivers on the road are speeding excessively, half of respondents think that up to 40% of drivers on the road are speeding excessively, and three quarters of respondents think that up to 65% of drivers on the road are speeding excessively. Incidentally, a small percentage of the respondents (1%) think that all of drivers on the road are speeding excessively.

How concerned do Canadians think others are about excessive speeding?

In addition to gauging their own views on excessive speeding, Canadians were asked to rate how concerned they perceived *others* to be about the problem of excessive speeding, using a scale from 1 (others do not think it is a problem at all) to 6 (others think it is an extremely serious problem). This dimension (i.e., how concerned people think others are) has been shown to have an important influence on people's own level of concern and can be described as a 'bandwagon effect' (see Vanlaar et al., 2008b).

As shown in Figure 6, a clear majority of respondents (81.7%) perceive other Canadians to be highly concerned about excessive speeding (ratings 4-6). Only 18.2% of respondents indicated that they believe others have low levels of concern about excessive speeding (ratings 1-3). This difference (18.2% vs. 81.7%) was found to be significant.

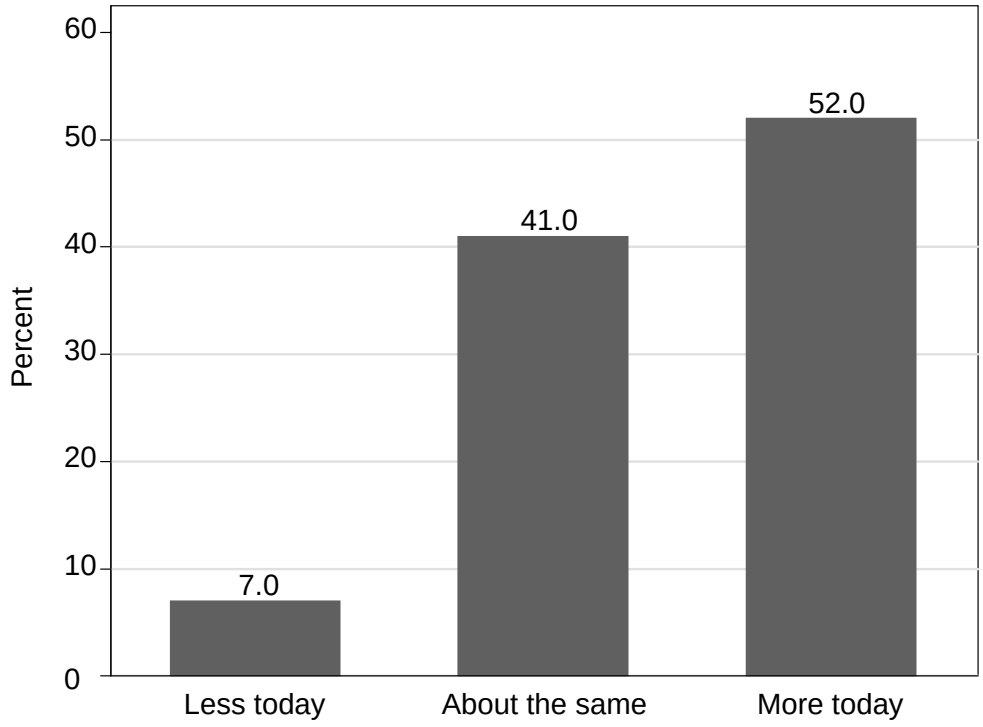
Figure 6. Perceived Concern of Others Regarding Excessive Speeding



Do Canadians think the issue of excessive speeding is increasing or decreasing?

Canadians were asked whether they thought that people are speeding excessively more today compared to five years ago, less than five years ago, or about the same. As presented in Figure 7, the majority of Canadians (52%) feel that people are speeding excessively more today compared to five years ago. A substantial minority (41%), nevertheless, feel that people are speeding excessively to about the same extent as five years ago, while only 7% feel that there is less excessive speeding today than five years ago.

Figure 7. Excessive Speeding: Today versus 5 Years Ago?



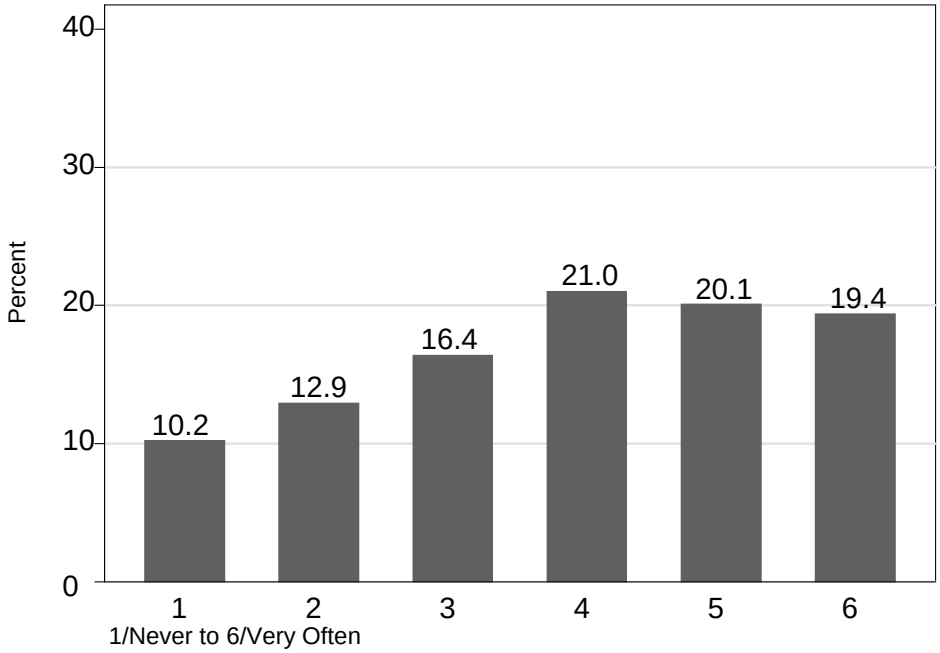
52% of Canadians feel that people are speeding excessively more today compared to five years ago.

Are Canadians aware of road safety campaigns devoted to excessive speeding?

The majority of respondents (60.5%) expressed that they noticed road safety campaigns devoted to excessive speeding often to very often (assigning a score of 4 to 6), while the other 39.5% indicated that they noticed these campaigns a bit, or had never seen or

heard of these initiatives (assigning a score of 1 to 3). The difference between both groups is significant.

Figure 8. How Often Do Canadians See or Hear Road Safety Campaigns Devoted to Excessive Speeding?



Conclusions

More than two thirds of Canadians view excessive speeding as a very or extremely important road safety issue. In fact, this issue received the fourth highest rating of perceived seriousness, after drinking drivers, running red lights, and street racing.

The majority of Canadians (81.1%) believe it is likely or very likely that excessive speeding will result in a crash. With regards to crash severity, a clear majority (92.7%) indicated that a crash resulting from excessive speed would be severe to extremely severe. Thus, the opinion of the majority of Canadians is consistent with research findings which confirm that excessive speeding is associated with increased crash risk and increased crash severity.

When asked about the level of concern of others about excessive speeding, 81.7% of respondents perceived other Canadians to be highly concerned about excessive speeding.

On average, Canadians estimate that 42.2% of drivers speed excessively. In addition, 52% felt that people are speeding excessively more today compared to five years ago, 41% felt that excessive speeding is about the same as it was five years ago and only 7% felt that there is less excessive speeding today than five years ago.

Finally, 60.5% of Canadians expressed that they noticed road safety campaigns devoted to excessive speeding often to very often, while the other 39.5% reflected that they noticed these campaigns a bit, or had never seen or heard of these initiatives

Extent of the Problem of Excessive Speeding

How often do Canadians drive well over the posted speed limit?

In response to how often Canadians drive well over the posted speed limit (see Figure 9), on a scale from 1 (never) to 6 (very often), over three-quarters of the respondents (75.7%) provided a score of one, two, or three, indicating that they do not frequently drive well over the posted speed limit. The remaining 24.3% of respondents provided a score of four, five or six, indicating that they do frequently drive well over the speed limit – this corresponds to 5.4 million drivers in Canada[1].

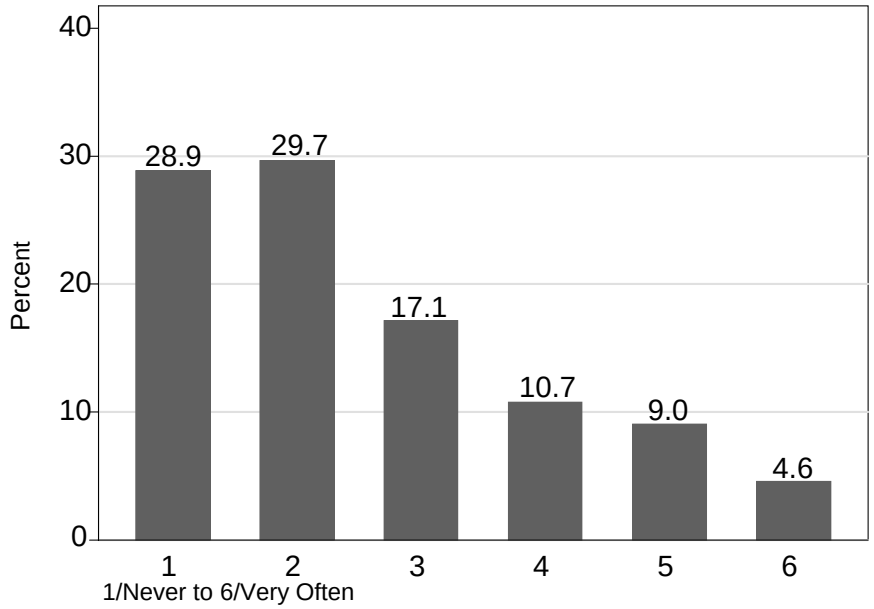
5.4 million drivers in Canada frequently drive well over the posted speed limit.

The difference between those who do not drive well over the speed limit (75.7%) and those who do (24.3%) is significant. Note that the figure of respondents admitting to driving well over the posted speed limit differs drastically to a comparable number from the United States: 66.7% of United States respondents have self-reported that they speed excessively (IIHS 2003) versus 24.3% of Canadians. This difference may be due to differences in weather, roadway configuration, traffic volume and driver behaviour, but also to differences in applied study methods, e.g., different questions or definitions.

A statistically significant relationship between concern about speeding and self-reported speeding behaviour was found: Canadians who are concerned about the issue are less likely to report driving well over the speed limit (35% of those who are not concerned report driving well over the speed limit versus only 19.5% of those who are concerned).

[1] This number is based on an estimated total of 22.38 million licenced drivers in 2007. This estimate was obtained by increasing the 2005 number of 21.937 million licenced drivers (source: Transport Canada 2006) with an anticipated growth of 1% per year.

Figure 9. How Often Do Canadians Report Driving Well Over the Posted Speed Limit?



How often do Canadians who speed excessively have to brake or steer to avoid a crash?

Of the Canadians who admit to speeding excessively, 93.7% state that over the past month they have *not* had to brake or steer to avoid being in a collision. While only a small minority (6.3%) reported that they had to brake or steer to avoid a crash due to excessive speeding, these respondents reported having done so an average of 2.9 times in the past month. This small minority of 6.3% corresponds to 4% of the entire sample of respondents (including those who did not admit to speeding excessively) – an estimated 895,200 drivers. Of those 4%, 1% (an estimated 223,800 drivers) had to brake or steer on one occasion to avoid a collision, 1.7% (an estimated 380,460 drivers) had to brake or steer on two occasions to avoid a collision, and 1.3% (an estimated 290,940 drivers) reported having to brake or steer more than twice in order to avoid a collision during the past month.

An estimated 290,940 Canadians reported having to brake or steer more than twice in order to avoid a collision during the past month.

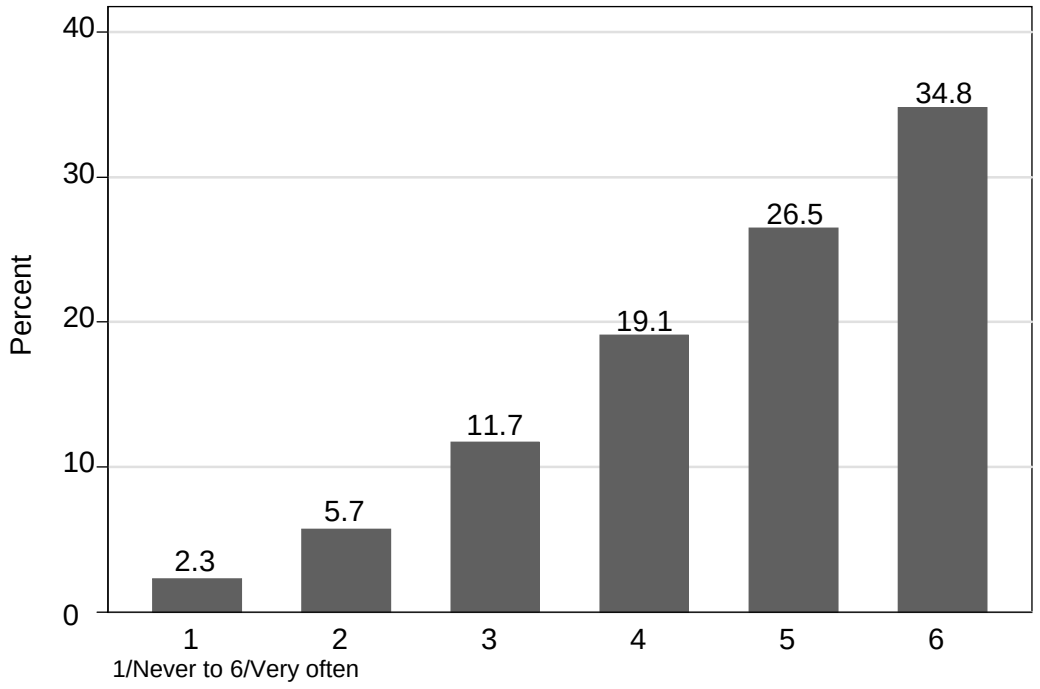
How often do Canadians see others driving well over the posted speed limit?

Respondents were also asked how often they see other drivers speeding excessively, using a scale from 1 (never) to 6 (very often). As can be seen in Figure 10, 80.4% of respondents (an estimated 17.9 million drivers) selected a score of four to six, indicating that they often to very often see other drivers exceeding the speed limit. This finding is consistent with previous polls (Beirness et al. 2002; Vanlaar et al, 2006; 2008), which report that speeding continues to be the most frequently observed aggressive driving behaviour.

17.9 million Canadians indicated that they often to very often see other drivers exceeding the speed limit.

It is interesting to note that although 80.4% of respondents indicated that they often see other drivers exceeding the speed limit, only 24.3% of drivers reported exceeding the speed limit themselves. It is, however, possible that those who exceed the speed limit are doing so quite frequently, so it would appear as though a greater number of drivers are exceeding the speed limit, when, in fact, a smaller number of drivers are simply speeding more often.

Figure 10. How Often Do Canadians See Others Driving Well Over the Posted Speed Limit?



Profile of Drivers Who Speed Excessively

What factors are associated with excessive speeding?

Logistic regression was used to investigate the difference between drivers who reported driving well over the speed limit and those who did not. It was found that those who reported driving well over the speed limit were significantly more likely to be younger than those who do not drive well over the speed limit. It was also found that those who reported driving well over the speed limit were significantly more likely to have driven more kilometres in a typical month than those who did not report driving well over the speed limit.

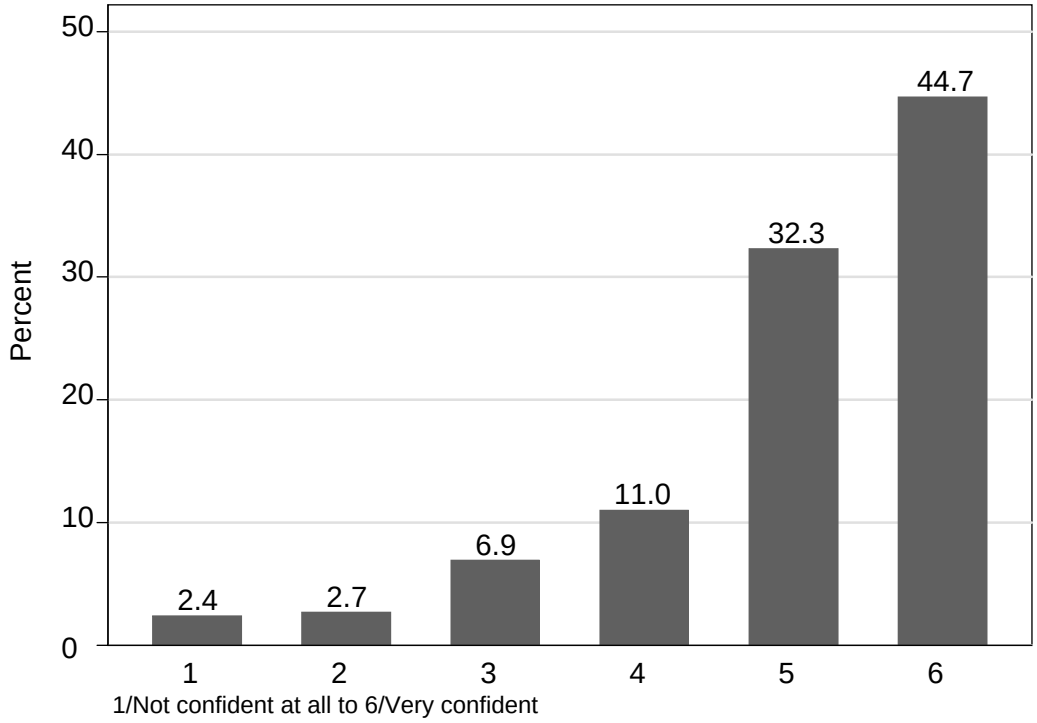
Respondents were asked how many traffic tickets they have had in the past 12 months (excluding parking tickets). Respondents with one or more traffic tickets were compared to respondents who reported not having had any traffic tickets. It was found that those who had one or more tickets were more likely to be younger, and were more likely to be male. Respondents with one or more traffic tickets were also more likely to report driving well over the speed limit.

How confident are drivers who speed excessively?

Respondents who admitted to driving well over the speed limit were asked to rate their level of confidence regarding their ability to maintain control over their vehicle when speeding on a scale from 1 (not at all confident) to 6 (very confident). Perhaps not so surprisingly, it was found that most people who speed seem to be pretty confident about maintaining control over their vehicle with the majority of respondents selecting a five or six (see Figure 11).

Most Canadians who drive well over the posted speed limit seem to be quite confident about maintaining control over their vehicle.

Figure 11. How Confident Are Drivers Who Drive Well Over the Posted Speed Limit?



Public Support for Measures to Address Excessive Speeding

Do Canadians think speed limits should be raised, lowered, or kept the same?

Canadians were asked whether they thought that speed limits should be raised, lowered or kept the same. This question was asked with regards to rural roads, city roads, two-lane highways, and four-lane highways.

For rural roads, a vast majority (81.6%) think that speed limits should be kept the same. A minority (10.1%) think that speed limits on rural roads should be raised, and only 8.3% think that speed limits on rural roads should be lowered.

Similar results were found for city roads with a slightly smaller majority (79.3%) indicating that they think speed limits should be kept the same. A small minority (4.3%) felt that speed limits on city roads should be raised, while 16.4% of Canadians felt that speed limits on city roads should be lowered.

With regards to two-lane highways, the majority of respondents (72.3%) felt that speed limits should be kept the same, while 22.5% of respondents felt that speed limits on two-lane highways should be raised. Only 5.2% felt that speed limits on two-lane highways should be lowered.

For four-lane highways, fewer respondents (51.6%) felt that the speed limits should be kept the same, while more felt that it should be raised (43.3%). A small minority (5.1%) felt that the speed limit on four-lane highways should be lowered.

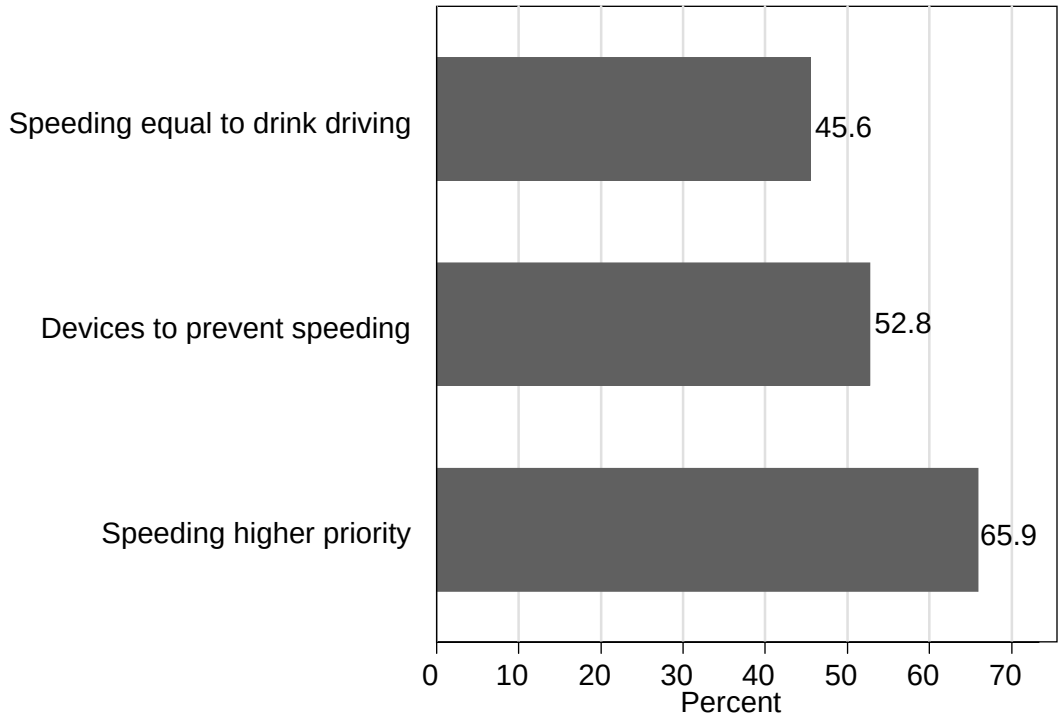
Level of support for various measures to address excessive speeding

Canadians were asked about the extent to which they agree with the use of various measures for dealing with the issue of excessive speeding, on a scale from 1 (strongly disagree) to 6 (strongly agree). Responses from 1 to 3 were recoded as not supportive, while responses from 4 to 6 were recoded as supportive of the measure in question.

As evident in Figure 12, the survey results indicate that:

- 65.9% agree that speeding should be a higher priority for enforcement efforts.
- 52.8% agree that vehicles should be equipped with devices to prevent excessive speeding.
- 45.6% agree that the penalties for speeding should be equal to those for drinking and driving.

Figure 12. Percentage Who Agree With Various Methods for Dealing with Excessive Speeding



Summary and Conclusions

There is very strong evidence that speed affects crash risk. Specifically, as speed increases, so does the risk of being involved in a collision. In fact, small changes in speed are typically associated with large changes in the number of traffic crashes.

Speed not only affects crash risk, but is also related to crash severity. When a crash occurs, increased speed is associated with increased crash severity as well as increased injury severity. The higher the speed the more likely that the safety thresholds of the vehicle and safety devices will be exceeded in the event of a crash, limiting the protection given to vehicle passengers.

Although the majority of the public exceed posted speed limits, young, male drivers in particular are a high-risk crash group. Furthermore, it has been found that drivers who speed excessively are a high-risk group with overall poor driving behaviours including alcohol consumption, driving with an invalid licence, and not wearing a seatbelt.

In Canada, it is estimated that over 20% of collisions involve excessive speed or driving too fast for conditions. Such collisions have resulted in about 800 fatalities and about 3,000 serious injury collisions in Canada in 2006.

In light of this, it is perhaps not surprising that this survey found that more than two thirds of Canadians view excessive speeding as a very important road safety issue. In fact, this issue received the fourth highest rating of perceived seriousness, after drinking drivers, running red lights, and street racing. Overall, the majority of Canadians believe it is likely or very likely that excessive speeding will result in a crash; they believe it leads to more severe crashes; they believe the problem has not decreased compared to five years ago; and, they believe others are concerned about the problem as well.

Paradoxically, despite this high level of public concern about the issue, about a quarter of respondents – an estimated 5.4 million Canadians – indicated that they themselves drive well over the posted speed limit. Also, about 80% indicated that they often to very often see other drivers exceeding the speed limit. Respondents were also asked

whether they had to break or steer to avoid being in a collision due to excessive speeding in the past month. An estimated 895,200 drivers on Canadian roads had to break or steer to avoid such a crash. The majority of these drivers reported that they had to do so on more than one occasion. Despite this fact, most people who speed excessively claim to be confident about maintaining control over their vehicle. Finally, it was found that concern about speeding influences behaviour in that being more concerned about the issue makes you refrain from doing it. This relationship between concern and speeding behaviour, however, is only true to a certain extent: 20% of Canadians who are concerned about speeding still admit to it.

Incidentally, our survey found that those drivers who reported driving well over the speed limit were significantly more likely to be younger – which is consistent with the literature – and more likely to have driven more kilometres in a typical month. In addition, drivers with one or more traffic tickets were more likely to be young, male, and to report driving well over the speed limit than drivers who reported not having had any traffic tickets.

Such paradoxical findings of people understanding the issue and the risks involved and/or being concerned about it on the one hand, yet not behaving accordingly on the other, have been demonstrated elsewhere, e.g., with regards to the issue of aggressive driving. This may be indicative of a particular segment of the public not realizing or not caring about the danger posed by speeding and/or not realizing that they are actually part of the problem. This may present challenges when trying to influence the public, e.g., by means of road safety campaigns. More information about those people who speed excessively is needed and a more detailed profile of them could be useful to guide the implementation of countermeasures.

In this regard, Canadians were asked about the extent to which they agree with the use of various measures for dealing with the issue of excessive speeding. Results indicated that 65.9% agree that speeding should be a higher priority for enforcement efforts, 52.8% agree that vehicles should be equipped with devices to prevent excessive speeding, and 45.6% agree that the penalties for speeding should be equal to those for drinking and driving. Furthermore, the majority of Canadians (60.5%) have seen road safety campaigns devoted to excessive speeding.

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