



# THE ROAD SAFETY MONITOR 2009

## LARGE TRUCKS IN CANADA



The knowledge source for safe driving

# 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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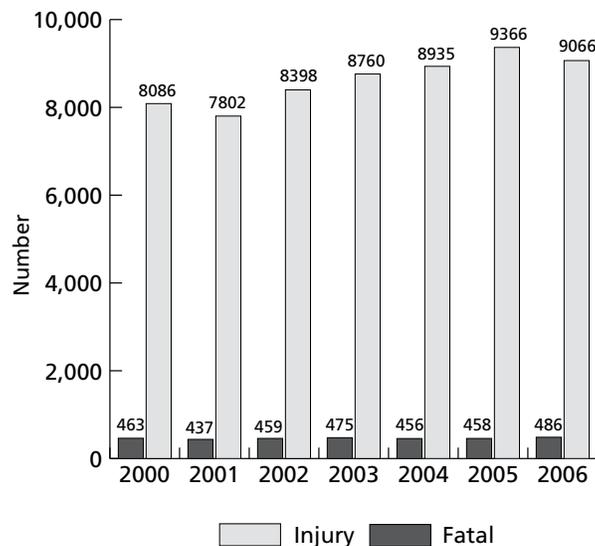
# LARGE TRUCKS IN CANADA

This fact sheet summarizes results from *The Road Safety Monitor (RSM)*, 2009 regarding large trucks in Canada. The RSM is an annual public opinion survey conducted by the Traffic Injury Research Foundation (TIRF) currently under sponsorship from the Brewers Association of Canada, Transport Canada and the Canadian Trucking Alliance. The survey takes the pulse of the nation on key road safety issues by means of a national telephone and on-line survey of a random, representative sample of Canadian drivers.

For the purpose of this survey, large trucks have been defined as any truck with a gross vehicle weight over 4,500 kg. This includes trucks of various weights and dimensions such as tractor-trailers commonly used in highway transport, but also smaller commercial trucks such as straight trucks, typically used for smaller deliveries over shorter distances. Note that a class 1 or class A commercial driver's licence is required to operate a tractor-trailer, whereas straight trucks in most Canadian jurisdictions do not require a commercial driver's licence (with the exception of British Columbia, Ontario and Quebec, where a class 3 or D licence is required). Questions about pick-up trucks, busses or vans were not included in this survey.

The questionnaire for this study was administered to a random sample of 1,200 Canadian drivers of passenger cars. Among these 1,200 drivers of passenger cars, 67 drivers reported also driving a large truck. These drivers of large trucks provided information regarding their own behaviour when driving their truck. This information is described early on in this fact sheet to help explain the perceptions and opinions of Canadian passenger car drivers about large trucks.

**How many fatal and injury crashes involving a large truck occur in Canada?** The figure below shows the annual number of fatal and injury collisions involving large trucks in Canada<sup>1</sup>. The number of fatal



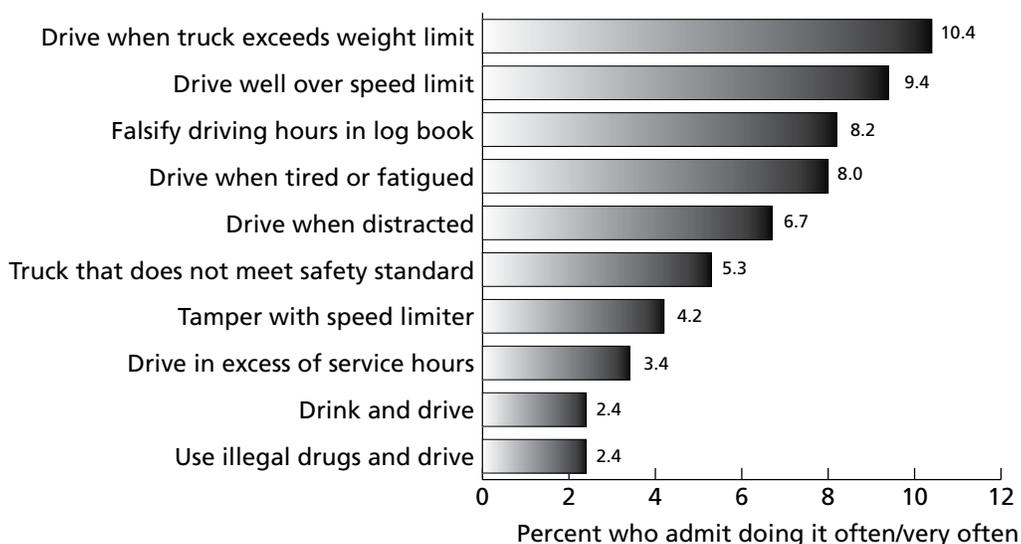
Source: TRAIID

<sup>1</sup> Note that these numbers are absolute numbers that are not related to trends in the number of large trucks on the road and the total mileage driven by the entire Canadian fleet of large trucks. Relating these absolute numbers to such exposure information would be appropriate to estimate trends in relative risks. On the other hand, using absolute numbers is more appropriate to estimate trends in the actual number of fatalities and injuries.

collisions has not changed that much between 2000 and 2006 suggesting a plateau has been reached. On the other hand, the number of injury crashes involving large trucks substantially increased between 2001 and 2005 from 7,802 to 9,366. In 2006 the number decreased to 9,066. More annual data are needed to confirm whether this decrease in 2006 will continue in future years to come.

Of considerable interest, when breaking down these results into two categories, one for tractor-trailers and one for other large trucks, the trends are as follows. Fatal crashes involving tractor-trailers have slightly decreased from 322 in 2000 to 292 in 2006, while fatal crashes among other large trucks have increased gradually from 132 in 2000 to 180 in 2006. The number of injury crashes involving tractor-trailers seems to have reached a plateau throughout this tracking period (from 3,862 in 2000 up to 4,101 in 2005 and then down to 3,821 in 2006) while there appears to have been a rather large increase in injury crashes for other large trucks (from 4,087 in 2000 to 5,100 in 2006). In other words, while the overall results do not show considerable progress, tractor-trailers may be performing somewhat better in terms of fatal crashes. The main problem centers around the lack of a decrease in the level of injury crashes involving tractor-trailers, and especially increases both in fatal and injury crashes involving other large trucks.

**How many drivers of large trucks admit to behaving unsafely?** Among all respondents who participated in this survey there were 67 drivers of large trucks. They were asked how often they engage in a variety of dangerous behaviours on a scale from 1 to 6 where 1 meant “never” and 6 meant “very often”. The following figure shows the percent of drivers of large trucks who answered a 4, 5 or 6 on this scale. It warrants mentioning that this information is limited given that it is based on the answers from only 67 respondents. For example, 10.4% of drivers of large trucks admit to driving their truck when it exceeds the weight limit. However, when looking at the 95% confidence interval (95%-CI) for this response (not shown in figure), it becomes clear that this percent could be as low as 4% and as high as 25%. Regarding drinking and driving, the figure shows the percent is 2.4% but the 95%-CI reveals the true result lies somewhere between 0.3% and 16%. As such, caution is warranted when interpreting these results as the margin of error is very large due to the small sample. On the other hand, these numbers do provide some insight into the extent of the dangerous behaviours that drivers of large trucks may engage in.



At a minimum, it can be concluded that at least some truck drivers — albeit a small minority — admit to engaging in very dangerous behaviours such as drinking and driving (2.4%) and using illegal drugs and driving (2.4%). Furthermore, a potentially greater minority also admits to committing other dangerous behaviours such as driving a truck that exceeds the weight limit (10.4%) and driving well over the speed limit (9.4%). It is noteworthy that truck drivers who cross the border into the U.S. are required to comply with a comprehensive program of drug and alcohol testing. While a similar law does not apply in Canada, recent policy statements from the Canadian Human Rights Commission appear to be more conducive to drug and alcohol testing of truck drivers in Canada.

Of considerable interest, about 8% freely admit to falsifying the number of driving hours in their log books. This coincides with 8% admitting to driving when tired or fatigued. Respondents were also asked how often they had fallen asleep or nodded off even for a moment while driving their truck in the past year (result not shown in figure). Approximately 31% answered at least once (95%-CI: 18.6%-46.2%). The difference between the percent admitting to driving when tired or fatigued (8%) and the percent admitting to driving in excess of service hours (3.4%) is interesting. Perhaps it is indicative of a discrepancy between regulations regarding service hours and actual levels of fatigue among large truck drivers (if service hours are unrealistically long and not mindful of actual levels of fatigue, you would expect to see this pattern) although it could also merely be due to a lack of robustness of these results because of the small sample size.

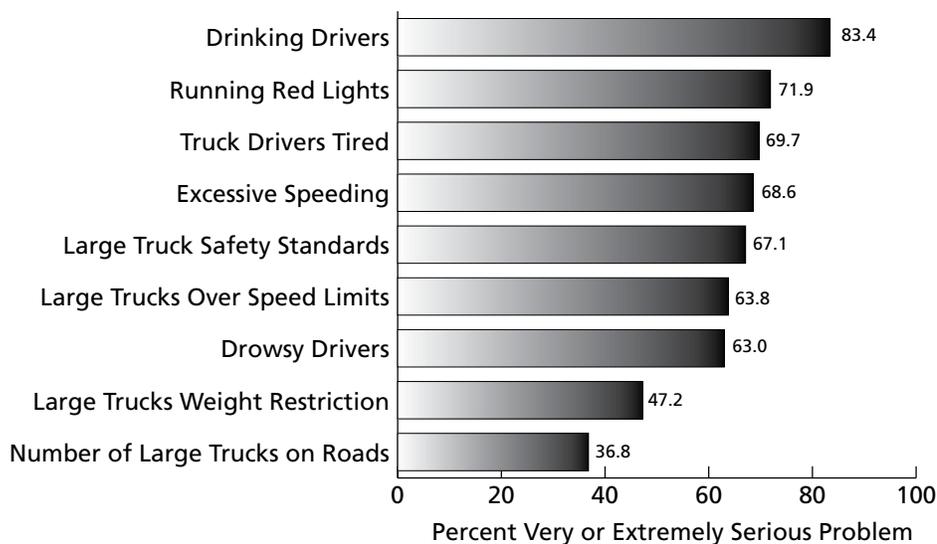
**How many drivers of large trucks were involved in crashes?** Drivers of large trucks were asked how many times they had been involved in a crash in the past year and how many times they had come close to being involved in a crash in the past year. About one quarter of all drivers of large trucks answered they had been involved in a crash in the past year. However, 62% (95%-CI: 46.2%-75.1%) reported having been involved in a near-miss in the past year. While the majority of these drivers answered they had been involved in a near-miss only once in the past year, 20 drivers answered more than once. Of considerable importance, these results only pertain to having been involved in a crash or a near-miss; they do not reveal anything about whether the driver of the large truck was at fault or not.

**Who do Canadians think is more often at fault in crashes with large trucks?** All 1,200 respondents were asked who they think is more often at fault in collisions between a passenger vehicle and a large truck, the driver of the passenger vehicle or the driver of the large truck. The majority answered the driver of the passenger vehicle (73.4%; 95%-CI: 70.0%-76.6%). Crash studies show that, overall the at-fault involvement rate for truck drivers may not be that different from the rate for passenger car drivers. However, there is evidence showing that in fatal collisions with a passenger vehicle and a large truck the driver of the passenger vehicle is more often at fault. As such, it appears the public's perception about fault is somewhat congruent with the evidence.

### What do Canadians know about safe driving practices when sharing the road with a large truck?

Everybody who participated in the survey was asked whether they know the minimum distance a driver should leave between their vehicle and a large truck when merging in front of the large truck. The majority (64.2%) answered positively, indicating they believe they know what distance to leave. Respondents were also asked whether they know where the truck driver's blind spots are when driving alongside a large truck. The majority (77.2%) answered they do know. While many Canadians answered they know about such safe driving practices when sharing the road with a large truck, these results really only indicate what people think they know and not necessarily what they really know. Also, a reasonably large number of Canadians admit they actually do not know about these safe driving practices (35.8% and 22.8% respectively). In light of these findings, perhaps it should not be surprising that many Canadians do not believe driver training programs for passenger vehicles provide adequate training in terms of sharing the road with large trucks. It was found that 62.4% did not believe training is adequate. Also, many respondents simply answered they did not know whether training is adequate or not (20.2%).

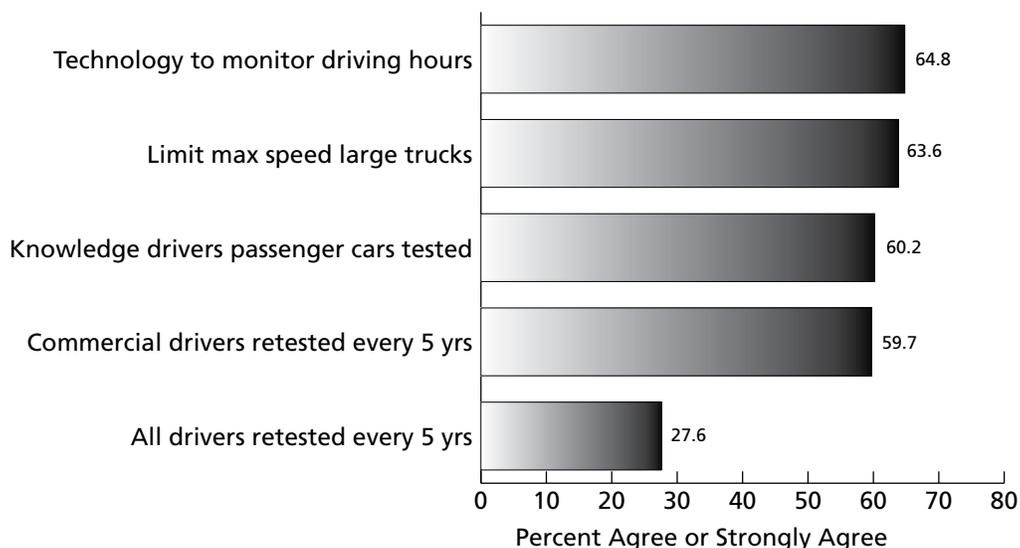
**How many Canadians are concerned about issues involving large trucks?** As can be seen in the figure below, the majority of Canadians are concerned about the issue of drinking drivers first — 83.4% said they were very or extremely concerned about this. This is not surprising as Canadians have been most concerned about this road safety issue for the last decade. However, a considerable number of Canadians admitted to being very or extremely concerned about several issues regarding large trucks. These issues include: truck drivers who are tired by driving long hours (69.7%); large trucks that do not meet safety standards (67.1%); and large trucks traveling too fast above the speed limit (63.8%). Overall, it appears about two thirds of Canadians are very or extremely concerned about several issues involving large trucks. On the other hand, only 47.2% and 36.8% are concerned about large trucks on the road that exceed weight restrictions and the number of large trucks on the roads respectively. Canadians were the least concerned about those two issues.



Overall, the level of concern of Canadians about issues regarding sharing the road with large trucks seems appropriate. Despite the fact that there is evidence that drivers of large trucks are less likely to be at fault when a fatal crash with a passenger vehicle occurs, the number of crashes involving large trucks warrants concern, especially since occupants of passenger vehicles involved in a collision with a large truck are more likely to suffer serious injury and death than the truck driver. Also, there does not seem to be a strong decreasing trend in the number of these crashes (except perhaps for fatal crashes involving tractor-trailers) and the number of self-reported near-misses involving large trucks is high too.

While there is no evidence suggesting that drivers of large trucks generally engage in a variety of dangerous behaviours, there is some evidence that at least a small minority does so. The general driving public may notice such sporadic dangerous behaviour and become concerned as a result of it. The public's concern may also stem from the fact that they do not believe training for drivers of passenger vehicles is adequate in terms of learning safe driving practices for sharing the roads with large trucks.

**Level of support for various measures.** There seems to be a reasonably high level of support among Canadians for a variety of safety measures regarding issues involving large trucks. This seems logical given the fairly high levels of concern about these issues. A tamper proof device that electronically monitors the hours that a driver has worked to improve compliance with hours of service rules received the greatest support (64.8% agree to strongly agree with this measure). Given that several drivers of large trucks admitted to falsifying driving hours in their log books as well as driving while tired or fatigued such a technology may be promising, conditional on accompanying measures to ensure drivers can get enough sleep. It is worth noting that the Canadian Trucking Alliance and the provincial trucking associations advocate the mandatory installation of these devices in all trucks. Moreover, the industry and government are currently in the process of developing a fatigue management program for commercial truck drivers.



The requirement to limit the maximum speed at which large trucks can travel received about the same level of support (63.6%). This measure is also endorsed by the Canadian Trucking Alliance and the provincial

trucking associations. Such limitations are currently in place in Ontario and Quebec and require all large trucks that operate in these jurisdictions, regardless of their home base, to be equipped with a speed limiter set at a maximum speed of 105 km/h. Given that it is not unreasonable to assume that a considerable minority of drivers of large trucks drive well over the speed limit, such a limitation may provide safety benefits if it were implemented in Canada as a whole. However, support among truck drivers for such a limitation would likely be greater if regulations regarding hours of service would be adjusted accordingly. In this regard, new federal regulations of service hours were introduced in 2007, but a number of Canadian jurisdictions have not yet adopted this new standard.

Interestingly, a comparable level of support was noted for the requirement to test drivers of passenger cars to see if they know how to safely share the road with large trucks before obtaining a driver's licence (60.2%). Finally, while many drivers endorse a requirement for commercial drivers to be re-tested every five years to maintain their driver's licence (59.7%), only 27.6% of Canadians agree that all drivers should be retested every five years.

**About the poll.** These results are based on the RSM, an annual public opinion poll developed and conducted by TIRF. A total of 1,200 Canadian drivers completed the poll in September and October of 2009. Results can be considered accurate within plus or minus 2.9%, 19 times out of 20. The majority of the questions were answered using a scale from one to six where six indicated high agreement, concern, or support and one indicated low agreement, concern or support. For the first time, half of all respondents were contacted by phone and the other half on-line as part of a gradual transition to a complete on-line survey.