



## THE ROAD SAFETY MONITOR 2011

### FATIGUED DRIVING TRENDS



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 research 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.

### Authors

Kyla D. Marcoux

Ward G.M. Vanlaar

Robyn D. Robertson

Traffic Injury Research Foundation  
171 Nepean Street, Suite 200  
Ottawa, Ontario K2P 0B4  
Ph: (613) 238-5235  
Fax: (613) 238-5292  
Email: [tirf@tirf.ca](mailto:tirf@tirf.ca)  
Website: [www.tirf.ca](http://www.tirf.ca)

October 2012

Traffic Injury Research Foundation

Copyright © 2012

ISBN: 978-1-926857-38-1

# FINANCIAL SUPPORT PROVIDED BY:

## Primary sponsors:



Transport  
Canada

Transports  
Canada

Brewers Association  
of Canada



L'Association des  
brasseurs du Canada

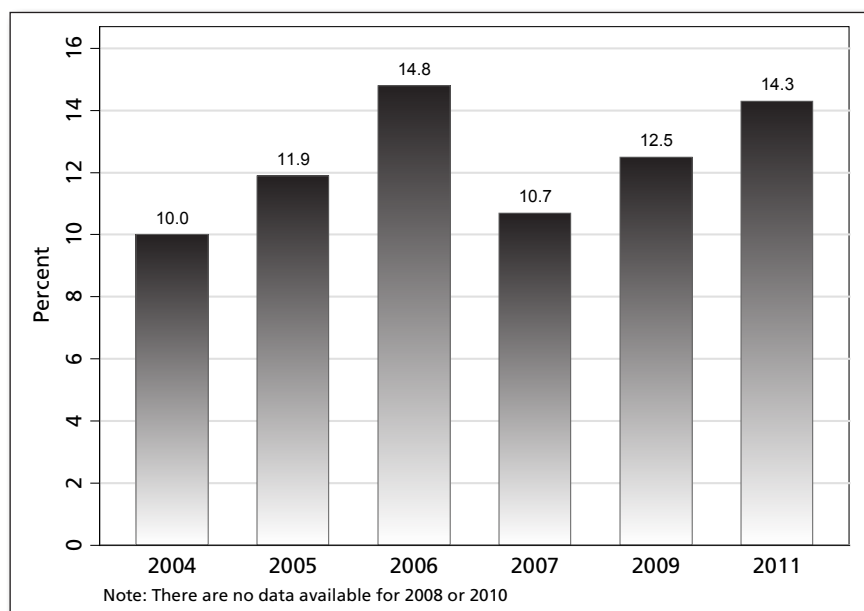


# FATIGUED DRIVING IN CANADA: TRENDS

This fact sheet summarizes national results from *The Road Safety Monitor (RSM)*, 2011 on fatigued driving in Canada. The RSM is an annual public opinion survey conducted by the Traffic Injury Research Foundation (TIRF) under sponsorship from the Brewers Association of Canada and Transport Canada. The survey takes the pulse of the nation on key road safety issues by means of a telephone and on-line survey of a random, representative sample of Canadian drivers.

**How often do Canadians drive when they are tired or fatigued?** Canadians were asked how often they drive when they are tired or fatigued. In 2011 it was found that 14.3% of respondents reported that they often drive when they are tired or fatigued.

This question was also asked in previous RSM's from 2004 to 2007 and in 2009. Results based on these trends are shown in Figure 1. It appears from these data that self reported driving when tired or fatigued increased from 10% in 2004 to 11.9% in 2005 and again to 14.8% in 2006. Note that the difference between 2004 and 2005 was not significant, but the increase from 2005 (11.9%) to 2006 (14.8%) was. In 2007, this percentage significantly decreased to 10.7%. There were no data for 2008 as this question was not asked that year. In 2009, the percentage had increased to 12.5%. This question was not asked in 2010. In 2011, the percentage was 14.3% and this was not significantly different from the percentage in 2009 (12.5%). This will have to be monitored further as no clear trend is apparent from these data.



**Figure 1:** Percentage who drive when tired or fatigued by year

**After how many hours of driving should the average person stop and take a break?** Canadians were asked after how many hours of driving the average person should stop and take a break to remain alert. In 2011, less than 1% (0.8%) of respondents reported that the average person should stop and take

a break after less than an hour and 6% said the average person should stop after one hour. The most common response given was after two hours (41.6%). This was followed by those who reported that the average person should stop and take a break after three hours of driving (31.8%) to remain alert. The remaining responses given were after four hours (13.9%), after five hours (2.5%) and after six or more hours (3.4%). When combining these answers, a little less than half (48.4%) reported the average person should stop and take a break after two hours or less and the remaining 51.6% reported the average person should stop and take a break after 3 or more hours.

This question was also asked in 2004. The lowest response given was after one hour (8.1%). Similar to 2011, the most common answer given in 2004 was after two hours of driving (37.7%). This was followed by those who reported that the average person should stop and take a break after three hours of driving (26.8%). The remaining respondents answered after four hours (18.4%), after five hours (2.8%), and after six or more hours (6.2%). Thus, overall, 45.8% reported that the average person should stop and take a break after two hours or less and 54.2% reported the average person should stop and take a break after 3 or more hours.

In sum, both in 2011 and in 2004, most Canadians indicated that the average person should stop and take a break after two hours of driving to remain alert (41.6% in 2011 and 37.7% in 2004). In fact, the National Sleep Foundation (2011) and the Highway Safety Roundtable (2006) both recommend taking a break every two hours when driving to remain alert. Hence, many Canadians seem to be aware of this particular method of prevention. Nevertheless, many others are not aware of this and think that taking a break only after three hours or more is fine.

**How many Canadians drive for two hours or more without taking a break?** Respondents were also asked how often they drive for two or more hours without stopping for a break. In 2011, it was found that 27.7% of Canadians reported that they often drive for two or more hours without stopping for a break.

This question was also asked in 2004. Results showed that 25% of Canadians reported that they often drive for two or more hours without stopping for a break. The difference between 2004 and 2011 was not significant.

So, although many Canadians believe that the average person should stop and take a break after two hours of driving to remain alert, about a quarter of Canadians (27.7% in 2011 and 25% in 2004) will drive for two or more hours without stopping for a break.

**How many Canadians have fallen asleep or nodded off while driving?** Canadians were asked how often they had fallen asleep or nodded off even for a moment while driving in the past year. The majority of Canadians reported that they have not done so as 81.5% indicated that this has not happened in the last year. Of the 18.5% of Canadians who said they have fallen asleep or nodded off even for moment

while driving in the past year, 40.3% said they had done so on one occasion, 29.2% said they had done so on two occasions and the remaining 30.5% had done so on three or more occasions.

This question was also asked from 2004 through to 2006. In 2004, 19.7% of Canadians reported that they had fallen asleep or nodded off while driving in the past year. In 2005, the percentage reporting they had fallen asleep or nodded off while driving in the past year was significantly higher at 38% and was nearly the same in 2006 at 38.9%. Note that the difference between 2006 (38.9%) and 2011 (18.5%) was also significant.

From these data, it appears that fewer Canadians are falling asleep or nodding off at the wheel in 2011 compared to previous years. Regardless, still almost one fifth (18.5%) report that they have fallen asleep or nodded off while driving in the past year. These results will have to be further monitored.

**For how many hours had Canadians been driving when they last fell asleep or nodded off while driving?** Respondents who reported that they had fallen asleep or nodded off while driving in the past year in 2011 were additionally asked for how many hours had they been driving when this happened. About a third (33.1%) of Canadians who had fallen asleep or nodded off at the wheel in the last year reported that they had been driving for less than an hour when this happened; 18% had been driving for an hour; 18.2% had been driving for two hours; 11.5% had been driving for three hours; 8.7% had been driving for four hours; 4.3% had been driving for five hours; and, 6.2% had been driving for six or more hours.

This question was also asked in 2004. Less than half of Canadians (44.6%) reported that they had been driving for one hour when they last fell asleep or nodded off while driving; 13.2% had been driving for two hours; 12% had been driving for three hours; 8.7% had been driving for four hours; 5.1% had been driving for five hours; and, 16.4% had been driving for six or more hours.

Thus, most Canadians who fell asleep or nodded off even for a moment while driving had not been driving for very long – 33.1% had been driving for less than an hour in 2011 and 44.6% had been driving for an hour in 2004 when they had fallen asleep or nodded off while driving. These results suggest that it is not only important to stop and rest every few hours while driving, but that it is also important to be well rested prior to beginning a driving trip. Further, previous research has shown that it may be difficult to assess when you will fall asleep once you start to feel fatigued or drowsy (FHWA 1998), so it is important to stop and rest before the onset of fatigue or drowsiness (Vanlaar et al. 2007).

**At what time of day had Canadians fallen asleep or nodded off while driving?** Respondents who reported that they had fallen asleep or nodded off while driving in the past year in 2011 were also asked at what time of day did this happen. The least common answer given was in the morning between 6am and 12pm (13.3%). The most common answer given was the afternoon between 12pm and 6pm (34%).

The next most common answer given was the evening between 6pm and 9pm (22.3%). The remaining responses given were during the night between 9pm and midnight (14.4%) and late night/early morning between midnight and 6am (16%).

This question was also asked in 2004. These results showed that 14.3% answered in the morning. Most Canadians fell asleep or nodded off while driving in the afternoon (31.7%). About a fifth (21%) reported this happened in the evening, 9.7% reported this happened at night, and 23.3% reported this happened late night/early morning.

Altogether, most Canadians who fell asleep or nodded off even for a moment while driving in a one year period were driving between 12pm and 6pm (34% in 2011 and 31.7% in 2004). This suggests that people are prone to falling asleep at the wheel during the day. In fact, research has shown that the urge to fall asleep is governed by a circadian sleep-wake cycle that makes most people feel sleepy twice a day – at night and in the afternoon (Dement and Vaughan 1999).

**How many traffic collisions have Canadians had as a result of being tired or fatigued?** Canadians were first asked how many traffic collisions they had in the past 12 months as a driver. The majority answered that they had not had a traffic collision as a driver in the past 12 months (94.8%). The 5.2% who said that they had been in a collision in past 12 months as a driver were asked if any of these collisions were a result of being tired or fatigued. Of the 5.2% who were in a collision as a driver in the past year, 13.1% reported that at least one of these collisions were the result of being tired or fatigued.

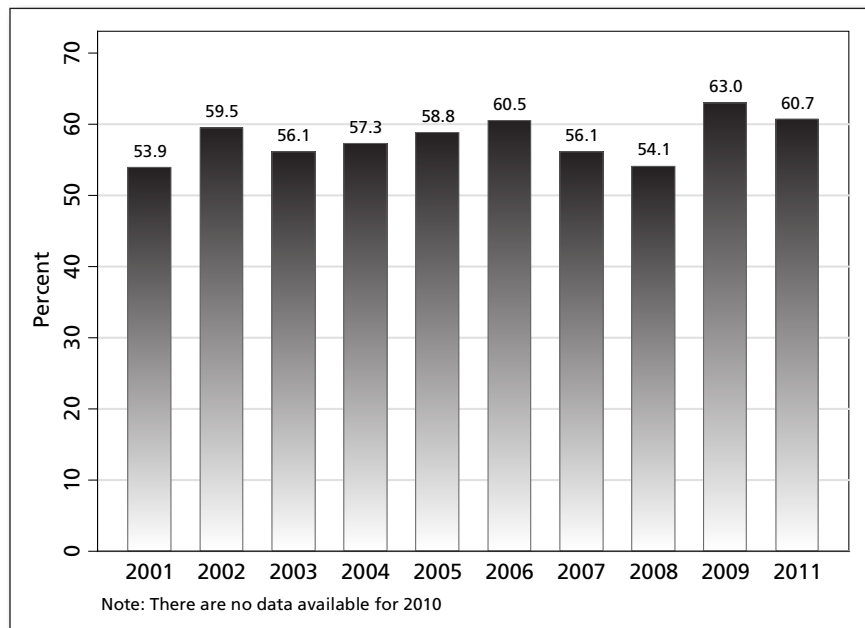
The same questions were asked in 2004 where it was also found that the majority of Canadians reported that they had not had a traffic collision as a driver in the past 12 months (92.5%). Of the 7.5% who said that they had been in a collision in past 12 months as a driver, 5.7% reported that at least one of these collisions were the result of being tired or fatigued.

**Where does the issue of drowsy drivers sit on the public agenda?** Canadians were asked about a series of specific road safety concerns and how serious they perceive those problems to be. In 2011, 60.7% of respondents rated drowsy drivers as a very or extremely serious problem.

This question was also asked from 2001 to 2009 (see Figure 2). This question was not asked in 2010. As can be seen in Figure 2, the trend varied between 2001 and 2011. Concern about drowsy drivers was at its lowest in 2001 at 53.9% and at its highest in 2009 at 63%, and decreased by a small amount to 60.7% in 2011. No data were available for 2010 so it is not possible to determine whether the trend from 2009 to 2011 represents a true decrease in concern.

In sum, when comparing data from 2001 to 2011, the percentage of respondents who think that drowsy drivers are a very or extremely serious problem increased from 53.9% in 2004 to 60.7% in 2011. More data are needed and will be collected in the future to monitor trends.





**Figure 2.** Percentage that perceive drowsy drivers as a very or extremely serious problem

**When Canadians feel tired or fatigued while driving what do they do to stay alert?** Respondents were asked what they do to stay alert when they feel tired or fatigued while driving. The most common response given in 2011 was open a window (48.5%). This was followed by stop, pull over and rest, nap or sleep (45.5%); drink coffee, soda or caffeine (33.9%); change drivers (23.6%); turn radio on loud (22.3%); eat or drink something (19.2%); sing along to music (12.2%); talk to a passenger (9.8%); shake my head (7.5%); change radio station/CD/tape (5.1%); drink an energy drink (2.8%); do nothing and keep driving (1.9%); and take a stimulant (0.2%).

This question was also asked in 2004. The most common response given in 2004 was stop pull over and rest, nap or sleep (59.8%). Other common responses were open a window (35.5%); turn radio on loud (24.6%); drink coffee, soda or caffeine (21.8%); eat or drink something (9.3%); change drivers (8.2%); take a walk or exercise (5.3%); change radio station/CD/tape (4.7%); and talk to a passenger (4.3%).

Of interest, research has shown that only getting some sleep will solve the problem of feeling fatigued or drowsy. However, many Canadians (both in 2011 and in 2004) do not seem to be using the strategy that is most effective to overcome fatigue or drowsiness.

**About the poll.** These results are based on the RSM, an annual public opinion poll developed and conducted by TIRF. A total of 1,208 Canadians completed the poll in September and October of 2011. Results can be considered accurate within plus or minus 2.8%, 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 third time, some respondents were contacted by phone (303 in 2011; 401 in 2010; 600 in 2009) and some on-line (905 in 2011; 800 in 2010; 600 in 2009).

## REFERENCES

Dement, W.C., Vaughan, C. (1999) *The Promise Sleep*. New York: Delacorte Press.

Federal Highway Administration (1998) *The Driver Fatigue and Alertness Study*. WashingtonDC: US Department of Transportation, Federal Highway Administration.

National Sleep Foundation. (2011). National Sleep Foundation's Drowsy Driving Prevention Week® Provides Tips to Prevent One in Six Traffic Fatalities. Press Release November 4, 2011. Arlington, VA: National Sleep Foundation.

The Highway Safety Roundtable. (2006). *Fatigue Impairment: Plans for a Safe Trip*. Toronto, ON: Fatigue Impairment. [www.fatigueimpairment.ca](http://www.fatigueimpairment.ca).

Vanlaar, W., Simpson, H.M., Mayhew, D.R., Robertson, R.D. (2007). *Fatigued and Drowsy Driving – Attitudes, Concerns and Practices of Ontario Drivers*. Ottawa, ON: Traffic Injury Research Foundation.