

ROAD SAFETY MONITOR 2016 DRIVER BEHAVIOUR AND WILDLIFE ON THE ROAD IN CANADA



Image credit: © Kerstin Waurick via iStock

This fact sheet summarizes national results from the Road Safety Monitor (RSM) 2016 regarding wildlife-vehicle collisions (WVCs) in Canada. The RSM is an annual public opinion survey conducted by the Traffic Injury Research Foundation (TIRF) under sponsorship from Beer Canada, Toyota Canada Foundation, and Desjardins Insurance. It takes the pulse of the nation on key road safety issues by means of an online survey of a random, representative sample of Canadian drivers.

Data on WVCs have been collected through the TIRF RSM series since 2014, as part of a larger project to better inform researchers and practitioners and to help educate the public; for more information see TIRF's Wildlife Roadsharing Resource Centre (WRRC, www.wildliferoadsharing.tirf.ca).

The following results are based on analyses of the RSM 2016 data, the most recent self-reported data available. Comparisons to previous years are also included. A total sample size of 2,009 Canadian drivers completed the RSM in 2016, 1,204 in 2015 and 1,031 in 2014.

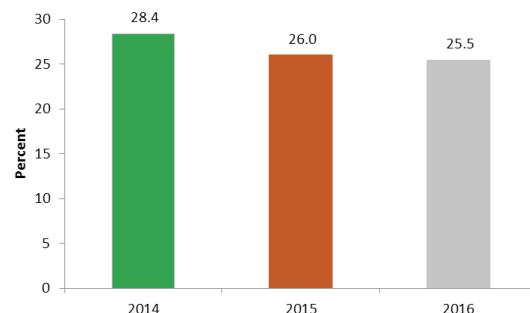
How serious a problem is wildlife on the road?

Among Canadian drivers, 25.5% consider wildlife crossing or standing on roads a serious problem. Results controlling for different demographics simultaneously (using logistic regression analysis) show that female (OR=1.6, $p=0.003$) and older drivers (per 10 year increase in age, OR=1.1, $p=0.046$) are more likely to consider wildlife crossing or standing on roads a serious problem. To illustrate, 29.6% of female drivers ranked wildlife on the road as serious in comparison to 21.1% of male drivers ($p=0.001$).

Figure 1 shows an apparent downward trend in the percentage of Canadian drivers considering wildlife on roads as a very or extremely serious problem. However, the 2016 results are not significantly different from the results based on the data from 2014 and 2015. Using regression analysis the trend was not significant ($p\text{-value}=0.56$) while a simple comparison of the 2014 and 2016 percentages also did not reveal a significant

difference ($p\text{-value}=0.09$). Continued monitoring is necessary to further bolster these trend data.

Figure 1: Percentage of Canadians who regard wildlife on roads as a 'very' or 'extremely' serious problem



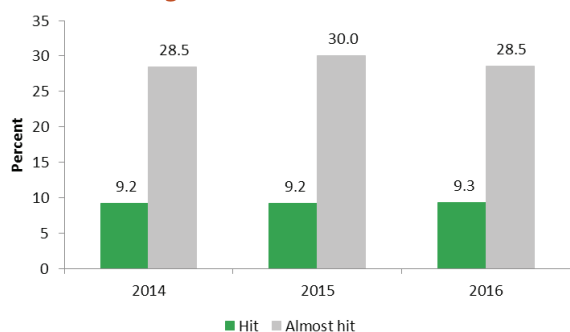
Although in 2016 respondents in general ranked other road safety issues as more concerning, such as drinking and driving or drugged drivers (77.4% and 66.3% respectively), a quarter of drivers think wildlife crossing or standing on roads is a serious problem demonstrating its importance to, and potential impact on, a number of Canadians.

A quarter of drivers think wildlife crossing or standing on roads is a serious problem.

What percentage of Canadians report hitting or almost hitting wildlife?

To obtain an overall picture of Canadians affected by WVCs, respondents were asked how many times they had hit or almost hit wildlife on the road. Within the last year, 9.3% of drivers reported hitting an animal one or more times and 28.5% reported almost hitting an animal one or more times. These results are not significantly different from previous years (Figure 2).

Figure 2: Percentage of Canadians hitting or almost hitting wildlife on the road



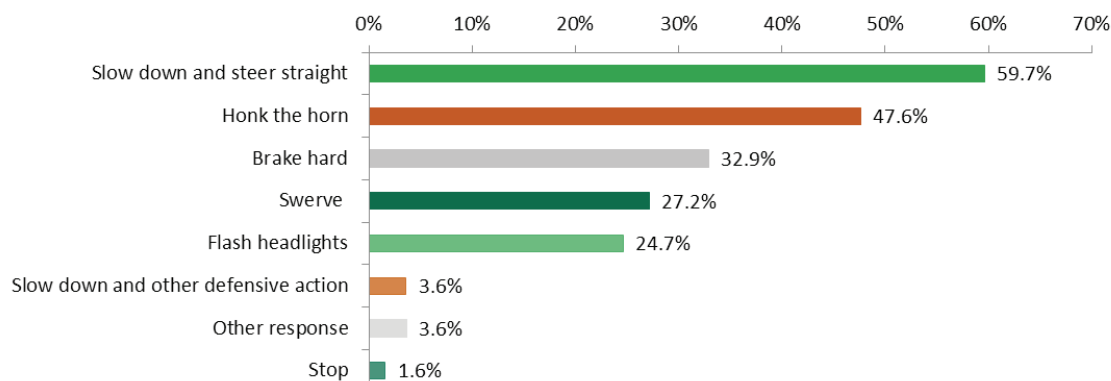
How do Canadians think drivers should respond to wildlife on the road?



Canadians were asked how they think they should respond to a wild animal suddenly blocking their lane of traffic while traveling on a highway. They were provided five options representing a combination of common and recommended reactions (i.e., honk horn, flash headlights, brake hard, swerve to avoid the animal, and slow down and steer straight) as well as a sixth option that allowed an open-ended response. Open-ended responses were reviewed by two researchers (MMH and HB) and either re-coded into one of the existing five responses if they matched or into two new categories which were created based on the most common open-ended responses. The two new categories were 'slow down and other defensive action' and 'stop'. Responses that were too infrequent to categorize (e.g., turn on hazard lights, depends on other factors) were included in 'other responses'. Respondents were allowed to choose as many responses as applied to their situation.

The most frequent response among Canadians (see Figure 3) was to slow down and steer straight, even if the animal was directly in their path with 59.7%, followed by honk the horn (47.6%), brake hard (32.9%),

Figure 3: How Canadians think they should respond to wildlife on the road



swerve to avoid hitting the animal (27.2%), flash headlights (24.7%), slow down and other defensive action (3.6%), other response (3.6%), and stop (1.6%).

It is reassuring that more than half of drivers think they should perform what is commonly regarded to be the best road safety response, at least in most situations, i.e., to slow down and steer straight (59.7%). This response allows the driver to stay in control of the vehicle as well as increases the chances that the situation can be assessed and proper action continue to be taken.



Honking the horn, similar to flashing headlights, is a common and relatively simple method to use to scare animals from the road. It is therefore not unexpected that nearly half of all respondents indicated they would honk and about a quarter would flash headlights. However, the unpredictable nature of animals means that drivers must exercise caution when using these methods since the animals may run towards the vehicle, into the pathway of other road users, or not react at all and thus continue to pose a danger. Furthermore, removing a hand from the wheel

during an emergency road situation could contribute to losing control of the vehicle. Public education must ensure that drivers are aware of these potential issues associated with honking and flashing lights.

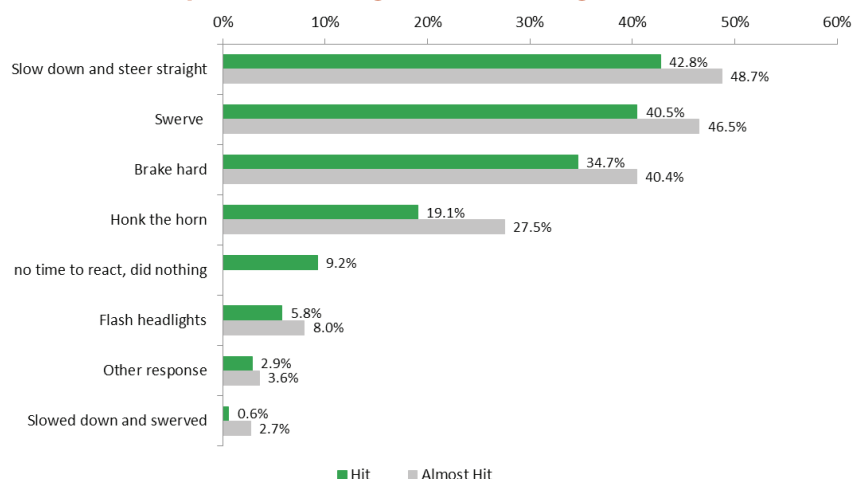
Next, almost a third of Canadians think that drivers should hit the brakes hard and just over a quarter think that drivers should swerve in an attempt to avoid hitting the animal. This points to a clear need to better educate Canadians on the best way to respond to animals on the road as well as to dispell the misconception that braking hard or swerving are safe responses.

Except for the “slow down and steer straight” and “swerve”, other responses did not significantly differ from previous results (Meister et al. 2016).

How do drivers respond to hitting or almost hitting animals on the road?

Respondents who indicated that they had hit or almost hit an animal were asked what type of actions they used. They were provided the same five options as mentioned above as well as an open-ended option. Responses to the open-ended questions were reviewed and either re-coded in a similar fashion as the open-ended question about knowledge. Two new categories were created: ‘no time to react, did nothing’ and ‘slowed down and swerved’. Remaining answers that could not be assigned to a category in a meaningful way, were grouped into ‘other’. Figure 4 shows the percentage of drivers who admit to the different responses among those who hit or almost hit animals on the road.

Figure 4: Driver responses to hitting or almost hitting wildlife on the road



The most recommended response (i.e., slow down and steer straight) was also the most frequently reported with 42.8% among those who hit wildlife and 48.7% among those who almost hit wildlife. The next most frequent answer was to swerve in an attempt to avoid hitting the animal (40.5% who hit wildlife and 46.5% who almost hit wildlife), brake hard (34.7% who hit wildlife and 40.4% who almost hit wildlife), honk the horn (19.1% hit and 27.5% almost hit), no time to react, did nothing (9.2% who hit wildlife and 0% who almost hit wildlife), flash headlights (5.8% hit and 8.0% almost hit), other response (2.9% hit and 3.6% almost hit), and slow down and swerved (0.6% hit and 2.7% almost hit).

Drivers require more education on proper responses and need to practice visualizing the proper response in order to avoid automatic avoidance behaviours.

It is concerning that the second most frequent response by over 40% of drivers who reported hitting or almost hitting wildlife was to swerve. Given the dangers associated with swerving, drivers may require more education on proper responses and may need to practice visualizing the proper response in order to avoid automatic avoidance behaviours. Braking hard, another typical automatic response, was the third most frequent driver reaction. Braking hard can be dangerous if other vehicles are present, particularly behind the driver, or if the driver is unable to maintain control of the vehicle.

What characteristics are associated with driver responses to wildlife on the road?

Data were analyzed to determine if there were any characteristics associated with respondents and what they think they should do if they encountered wildlife. Data were also analyzed to determine if there were any characteristics associated with those who actually hit or almost hit an animal. Characteristics included age, sex, kilometres driven, urban/rural location, and whether or not the respondent had been previously injured in a collision. Only significant results are reported ($p < 0.05$). The results revealed that generally speaking, as one ages the odds of hitting wildlife decreases over time (decreased by 17.1% for every 10 year increase in age). This may suggest that more experienced drivers are

better able to avoid colliding with wildlife. Despite controlling for factors such as kilometres driven and urban versus rural areas, it is also possible that as drivers age, they may not drive as much as younger drivers, they may not drive as frequently in areas where wildlife are present, or they may use other modes of transportation to reach destinations (e.g., fly, public transportation). However, as age increased among those who hit or almost hit wildlife, their likelihood for slowing down and steering straight decreased (odds decreased by 24% and 12%).



Unsurprisingly, the results also revealed that respondents who lived in rural environments were significantly more likely to encounter wildlife (odds increased by approximately 173% for hitting and 175% for almost hitting an animal). This result corresponds to greater exposure to wildlife in rural areas. Among those who encounter wildlife, male drivers and those living in urban areas were more likely to hit the brakes hard and honk the horn (odds from 64% to 173% larger). Although rural drivers were more likely to think they should slow down and steer straight (odds 60% larger), whether respondents live in a rural area or not was not a significant factor for using this safe behavior when encountering wildlife on the road.

Drivers who have been injured in a motor vehicle collision requiring medical attention were more likely to hit or almost hit wildlife than drivers who have never been injured (odds increased by 68% and 59%).

Concluding remarks

This second TIRF RSM factsheet about wildlife on Canadian roads reveals interesting insights into how Canadian drivers think they should respond and how they actually responded to wildlife on the road.

Approximately 28.5% of Canadian drivers almost hit wildlife on the roads at least once in the last year and 9.3% actually hit wildlife. These results have been consistent during the three years that these data were collected (2014, 2015 and 2016).

The results of this study also revealed that more than half (59.7%) of Canadians think that the proper response to wildlife on the road is to slow down and steer straight even if the animal was directly in their path. This was the most common response and it is actually the recommended one in most situations. However, only 48.7% among those who almost hit wildlife and 42.8% among those who did hit wildlife, used this response. Furthermore, it is concerning that approximately one-third (27.2%) of Canadians think they should swerve when encountering wildlife on the road and actually over 40% used this response (40.5% of those hitting animals and 46.5% of those almost hitting an animal). The survey revealed a clear need to improve driver education about responding to wildlife, which could have a more immediate and lasting impact on the extent of WVCs.

About the poll

These results are based on the RSM, an annual public opinion poll developed and conducted by TIRF. A total of 2,009 Canadians completed the poll in September and October of 2016. Results can be considered accurate within plus or minus 2.2%, 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. All respondents completed the survey online.

For more information on wildlife-vehicle collision research, visit www.wildliferoadsharing.tirf.ca.

References

Meister, S.R., Mainegra Hing, M., Vanlaar, W.G.M., Robertson, R.D. (2016). Road Safety Monitor 2014: Driver Behaviour and Wildlife on the Road in Canada. Ottawa, Ontario: Traffic Injury Research Foundation.

Project Information

The Wildlife Roadsharing Resource Centre (WRRC) is a centralized source of information, research, education, resources, and many other features to answer any questions you may have regarding wildlife-vehicle collisions.



Visit www.wildliferoadsharing.tirf.ca to learn more.

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