



ROAD SAFETY MONITOR 2019 TRENDS IN MARIJUANA USE AMONG CANADIAN DRIVERS

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Introduction

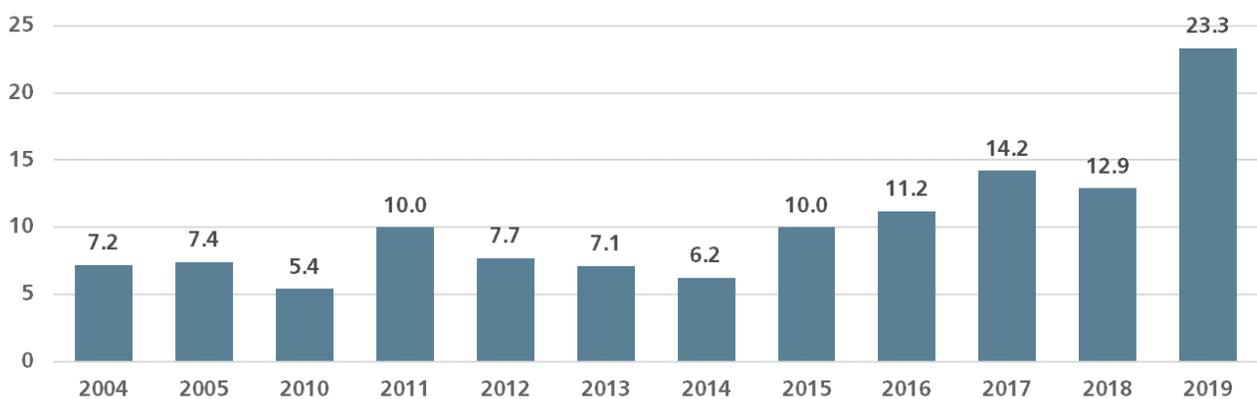
This factsheet summarizes national trends from the Road Safety Monitor (RSM) regarding marijuana use among Canadian drivers. The RSM is an annual public opinion survey conducted by the Traffic Injury Research Foundation (TIRF) in partnership with Beer Canada and Desjardins. The survey takes the pulse of the nation on key road safety issues by means of an online survey of a random, representative sample of 1,200 Canadian drivers. This factsheet describes the first results based on RSM data since the legalization of marijuana in Canada in October 2018.¹ Topics explored include

the prevalence of marijuana use, the prevalence of driving within two hours of using marijuana, perceptions about the impairing effects of marijuana, and concern about drugged driving.

Prevalence of marijuana use

Canadians were asked if they had used marijuana within the past 12 months in 2004, 2005, and every year since 2010. During this period of time, an increasing percentage of the Canadian driving population reported using marijuana within the past year (Figure 1). These data refer to marijuana use only, and not the prevalence of drugged driving

Figure 1: Trends in the percentage of Canadians using marijuana in the last 12 months, 2004-2019



¹ Pre-legalization data have been collected since 2002, while post-legalization data was collected for the first time in September 2019.



among Canadian drivers, which is discussed in the next section.

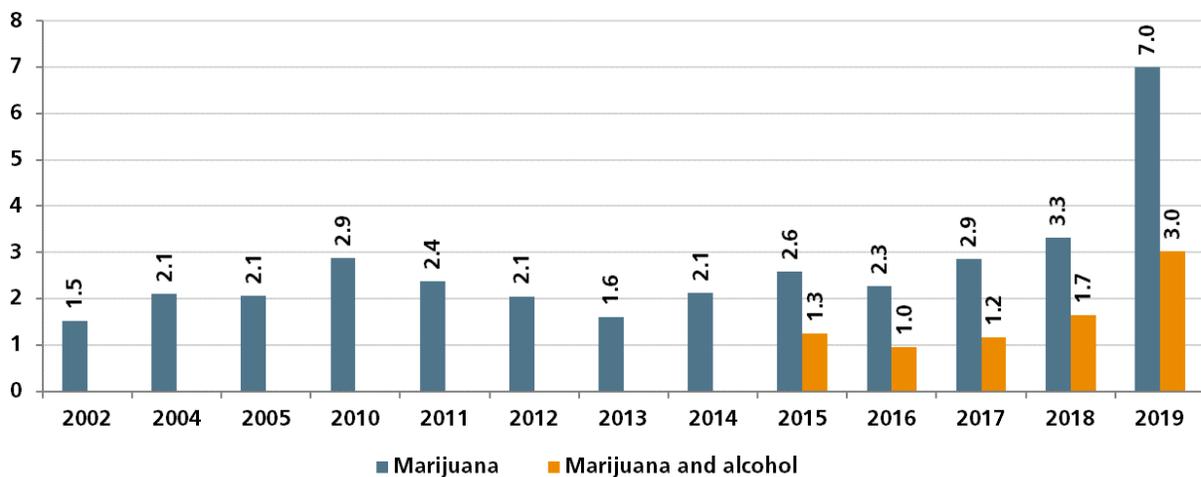
The percentage peaked in 2019 when 23.3% reported this behaviour. This was significantly higher as compared to 2018 when only 12.9% reported this behaviour ($z=-6.63$, $p=0.000$). This difference represents an increase of 80.6%. While a significantly increasing trend has occurred since 2014 (coef.=2.7, $p=0.001$), the increase following legalization in 2018 is more pronounced.

Marijuana use and driving

Canadians were asked how many times they had driven a motor vehicle within two hours of using marijuana in the past 12 months. Results showed a growing percentage of drivers reported this behaviour (Figure 2). To illustrate, 7% of Canadian



Figure 2: Trends in the percentage of Canadians driving within two hours of using marijuana, 2002-2019



drivers reported this in 2019 as compared to 3.3% in 2018 ($z=-4.09$, $p=0.000$); this corresponds to a significant increase of 112%. Furthermore, while a significantly increasing trend has occurred since 2013 (coef.=0.65, $p=0.002$), the increase following legalization in 2018 is more pronounced.

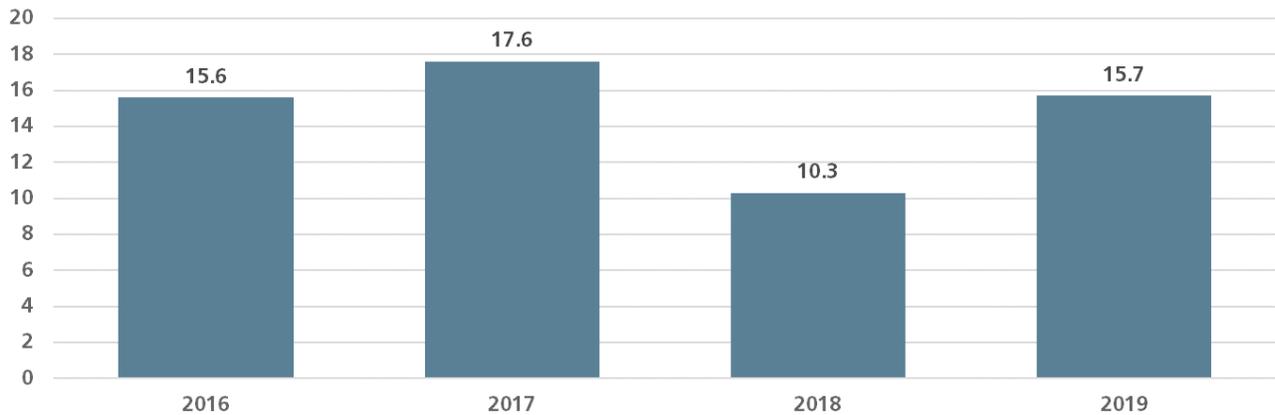
Canadians were also asked how many times they had driven a motor vehicle within two hours of using marijuana and alcohol within the past 12 months since 2015. There were no significant trends in this behaviour during the period of 2015 to 2019. However, results showed the percentage of drivers reporting this in 2019 (3%) was significantly higher than in 2018 (1.7%) ($z=-2.2$, $p=0.03$). This represents a 76% increase.

Impairing effects of marijuana

For the first time in 2016, Canadians were asked the extent to which they agreed or disagreed with the statement “Marijuana does not affect one’s driving as much as alcohol.” Respondents rated their agreement on a scale ranging from one (strongly disagree) to six (strongly agree). For scoring purposes, respondents were coded as in agreement if they indicated a value of five or six.

There were no significant trends associated with agreement for this statement (Figure 3). However, results showed the percentage of drivers who agreed that marijuana does not affect one’s driving as much as alcohol was significantly higher in 2019 (15.7%), compared to 2018 (10.3%) ($z=-3.94$, $p=0.000$). This represents an increase of 52%.

Figure 3: Percentage of Canadians who agree that marijuana does not impair their driving as much as alcohol, 2016-2019



Concern about drugged driving

Canadians have been asked how concerned they were about drugged driving since 2008 (Figure 4). Respondents rated their concern on a scale ranging from one (not a problem at all) to six (an extremely serious problem). For scoring purposes, respondents were coded as being concerned about drugged driving if they indicated a value of five or six.

There has been a significantly increasing trend since 2014 when 59.5% of Canadian drivers were concerned about drugged drivers as compared to 71.3% in 2019 (coef.=2.3, $p < 0.000$). Similar to the general concern about drugged driving, concern about young drivers using drugs increased significantly from 65.1% in 2014 to 70.2% in 2016 (coef.=2.9, $p = 0.03$). However, there seems to be less concern with respect to older drivers using

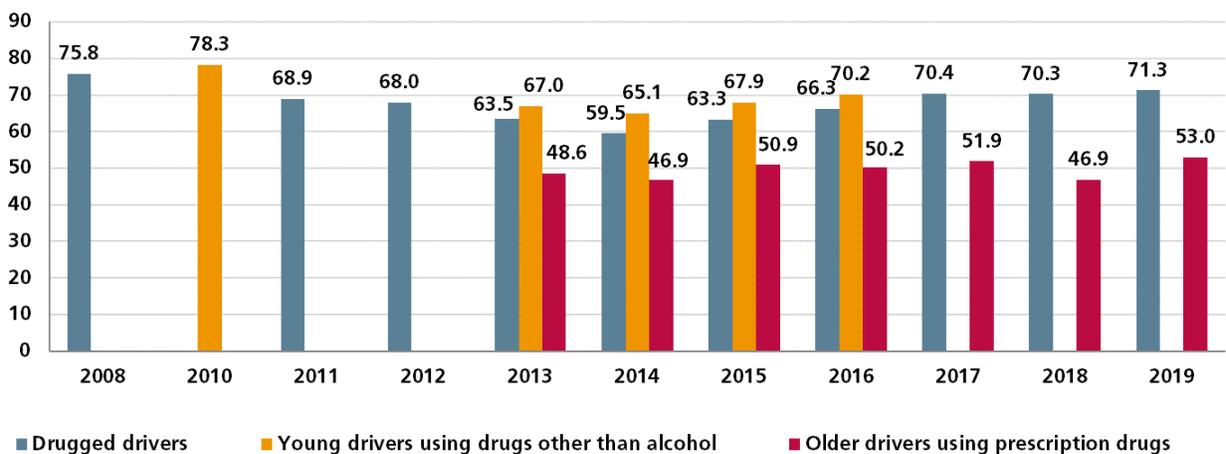
prescription drugs, with a smaller, non-significant increase in the percentage of Canadian drivers being concerned about this issue over the years (from 48.6% in 2013 to 53% in 2019).

Conclusion

This analysis of RSM data represents one of the first assessments of self-reported driving after using marijuana in Canada, and compares self-reported behaviours prior to marijuana legalization to behaviours one year following legalization.

A comparison of self-reported marijuana use immediately prior to legalization (12.9% in 2018) to usage rates one year post-legalization (23.3% in 2019) revealed a significant increase of 80.6%. These findings regarding the prevalence of marijuana use (irrespective of driving) are in

Figure 4: Trends in the percentage of Canadians who are very or extremely concerned about drugged drivers, 2008-2019



line with published reports from Statistics Canada, which showed approximately 18% of Canadians reported using marijuana within the last three months, up from the 14% reported prior to legalization (Statistics Canada 2019).

Of greater concern, data also showed a significantly increasing trend in driving within two hours of using marijuana starting in 2013. In particular, the prevalence of drivers who reported driving within two hours of using marijuana increased 112% from 3.3% in 2018 to 7.0% in 2019. In addition, the percent of drivers admitting to driving within two hours of using marijuana combined with alcohol increased 76% in this timeframe, from 1.7% in 2018 to 3.0% in 2019.

In conclusion, the available data showed not only an increase in the use of marijuana since legalization, but also an increase in the prevalence of driving within two hours of using marijuana, by itself, or in combination with alcohol. These findings are concerning. The preponderance of the available evidence suggests an increased crash risk due to the possible impairing effects of marijuana and warrants caution for those who elect to use marijuana for recreational or medical purposes (Drug-Impaired Driving Learning Centre 2018; Robertson et al. 2019). Moreover, there is also evidence showing the impairing effects are additive when marijuana and alcohol are combined. Continued monitoring is necessary to understand how increased enforcement, as well as public education and awareness will impact the prevalence of these self-reported behaviours, and the understanding of the risks associated with marijuana and driving, notably when used in combination with alcohol.

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 Canadians completed the poll in 2019. 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.

References

Drug-Impaired Driving Learning Centre (2018) The effects of drugs on driving. Retrieved from <https://druggeddriving.tirf.ca/module/the-effects-of-drugs-on-driving/#Cannabis>

Robertson, R.D., Woods-Fry, H., Vanlaar, W.G.M., Brown, T.G. & Moore, C. (2019) Drug-Impaired Driving Research Needs. Transportation Research Circular, E-C250. The National Academy of Sciences. Transportation Research Board: Washington, DC.

Statistics Canada (2019) National Cannabis Survey, first quarter 2019. Retrieved from: <https://www150.statcan.gc.ca/n1/daily-quotidien/190502/dq190502a-eng.htm>

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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