ROAD SAFETY MONITOR

ALCOHOL-IMPAIRED DRIVING IN THE UNITED STATES
Results from the 2018 TIRF USA Road Safety Monitor

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This fact sheet summarizes the national results of the 2018 USA Road Safety Monitor (USA RSM) on alcohol-impaired driving. This USA RSM is the fourth annual public opinion survey conducted by the Traffic Injury Research Foundation USA, Inc. (TIRF USA) with sponsorship from Anheuser-Busch. The survey takes the pulse of the nation regarding the alcohol-impaired driving issue by means of an online survey of a random, representative sample of U.S. drivers aged 21 years or older. A total of 1,500 drivers in the U.S. completed the poll in September 2018 (results can be considered accurate within plus or minus 2.5%, 19 times out of 20).

This issue provides a general overview of key results related to the prevalence of alcohol-impaired driving, reasons for engaging in this behavior and characteristics of drivers, as well as concern about this and other road safety topics. These survey results are compared to data from previous years

Background

What is the context of alcohol-impaired driving in the U.S.? According to the National Highway Traffic Safety Administration (NHTSA), alcohol-impaired driving fatalities involving a driver with a blood alcohol concentration (BAC) of .08 or greater accounted for 29.3% of total motor vehicle crash (MVC) fatalities in 2017, or 10,874 lives lost (see Figure 1). This corresponds to a 1.1% decrease compared to 2016 when the number of fatalities was 10,996.[3] During the same time span vehicle miles traveled (VMT) increased by 1.2% from 2016 to 2017. Although the percent of alcohol-impaired driving fatalities of all total driving fatalities remained constant at approximately 29% during 2016 and 2017, the total VMT increase coupled

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[3] Note that in last year's 2017 TIRF USA RSM fact sheet (Vanlaar et al. 2017), the 2016 number of fatalities involving a driver with a BAC of 0.08 or greater was reported to be 10,497. This was based on official data available at that time. Since then, an adjustment was made to this number and published in the most recent NHTSA fact sheet (NHTSA October 2018), hence the change from 10,497 to 10,996 in our 2018 TIRF USA RSM fact sheet for the 2016 number of alcohol-impaired driving fatalities.

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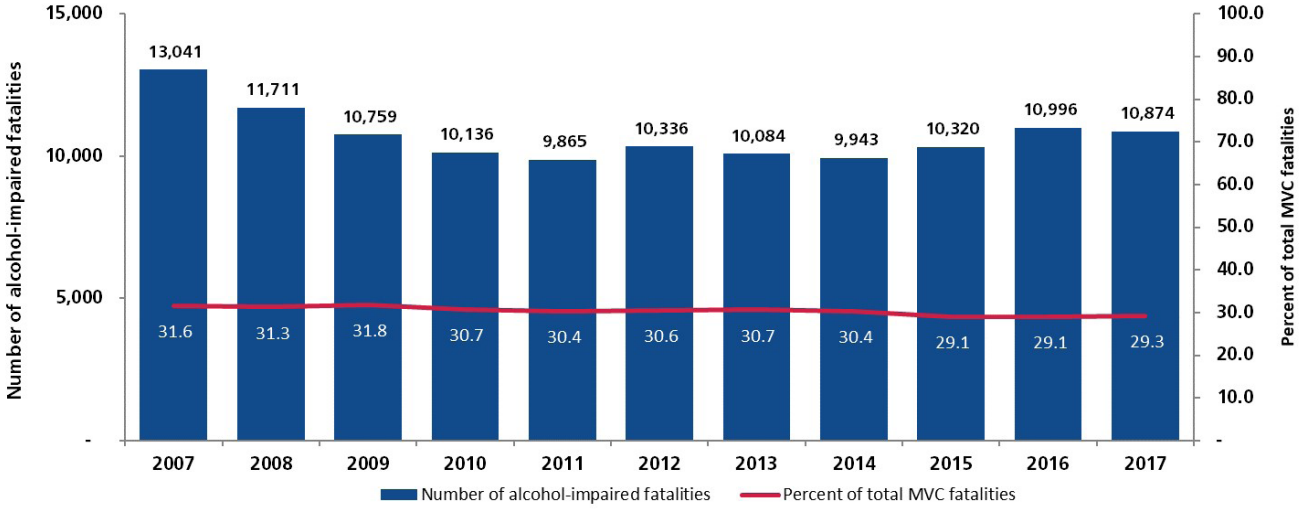
The mission of the Traffic Injury Research Foundation USA, Inc. (TIRF USA) is to develop and share the knowledge that saves – preventing injuries and loss of life on American roads, reducing related social, health and insurance costs, and safeguarding productivity. TIRF USA is an independent road safety research institute that obtained 501(c)3 non-profit status in the US in 2014.

Figure 1: Alcohol-impaired driving fatalities from 2007 to 2017



Source: NHTSA Traffic Safety Fact Sheets

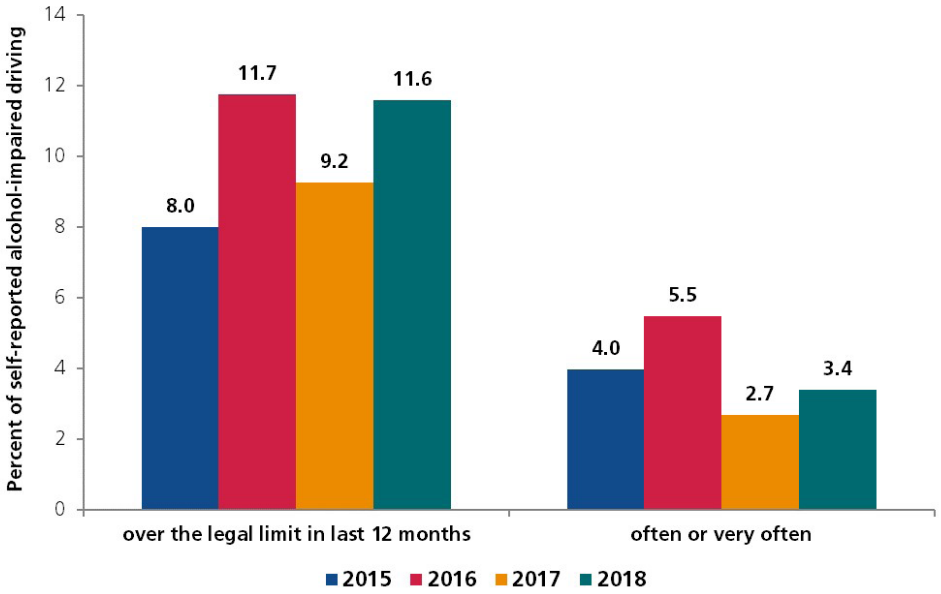
with 1.1% fewer alcohol-impaired driving fatalities indicates a decreasing trend of fewer fatalities per VMT (NHTSA October 2018). In other words, proportionately speaking, compared to all fatalities, the situation in 2017 is similar to 2016, but in absolute numbers and in fatalities per VMT, there is a decrease.

Alcohol-impaired driving behaviors as reported by U.S. drivers

What are the self-reported alcohol-impaired driving behaviors of U.S. drivers? Self-reported alcohol-impaired driving behavior by U.S. drivers is shown in Figure 2. Respondents were asked two questions. First, they were asked how many times in the past 12 months they had driven when they thought they were probably over the legal limit. Results on the left-hand side show the percent of drivers who reported doing this one or more times. Second, respondents were asked how often they drive impaired on a scale from 1 (never) to 6 (very often). The results on the right-hand side show the percent of those who chose 5 or 6 on this scale.

It shows that the percent of respondents that reported driving when they thought they were over the legal limit increased to 11.6% in 2018 (up from 9.2% in

Figure 2: Percent of U.S. drivers self-reporting alcohol-impaired driving in 2015-2018



2017). This increase was statistically significant ($p<0.05$). Similarly, the percent of respondents that indicated they drive impaired often or very often increased to 3.4% (up from 2.7% in 2017) but this increase was not statistically significant ($p>0.05$). In other words, the 11.6% of drivers that reported driving while alcohol-impaired in the last 12 months is very comparable to 2016 (11.7%), which was the highest prevalence reported during the past four years of data collection.

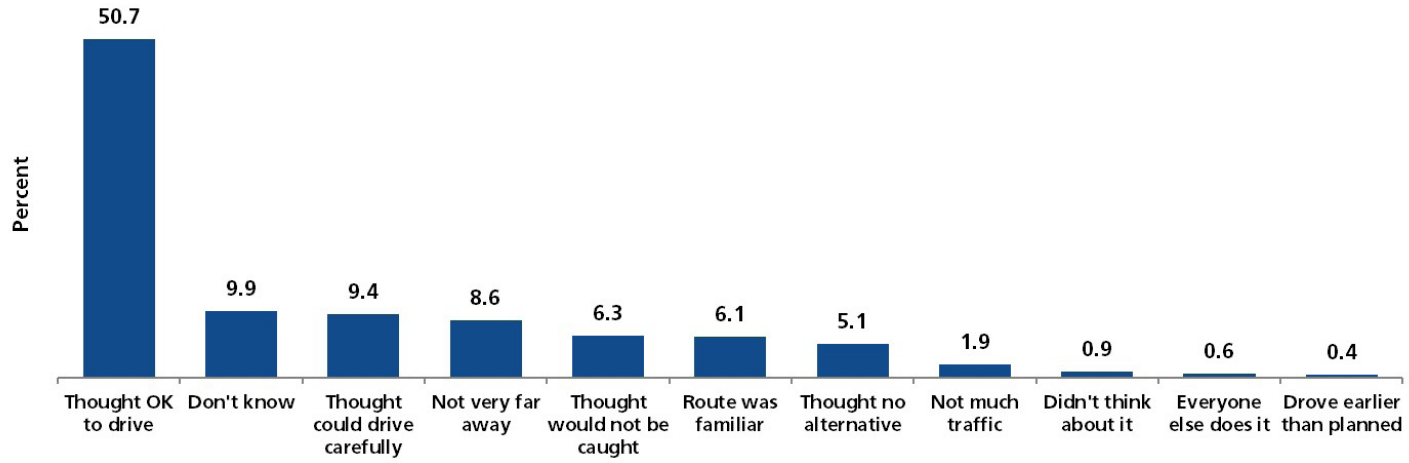
What are the reasons why U.S. drivers drove when they thought they were over the legal limit?

Answers from respondents regarding reasons they drove when they thought they were over the legal limit are presented in Figure 3. Half of respondents (50.7%) indicated they thought they were okay to drive. An additional 9.9% reported they did not know why they drove when they thought they were over the legal limit, and an almost equal percentage (9.4%) reported they thought they could drive carefully regardless. A variety of other reasons were somewhat common ranging from 5.1% who "thought there was no alternative" to 8.6% who said they were "not very far away". These results are similar to responses in 2017 with few exceptions: the percentage of respondents who drove earlier than planned and those who did not think about it, significantly decreased from 3.7% and 5.2% respectively in 2017 to 0.4% and 0.9% in 2018 ($p<0.05$). Lastly, the "don't know" responses significantly increased from 2.5% in 2017 to 9.9% in 2018 ($p=0.02$).

Based on the last four years of survey results, it appears that a large percentage of U.S. drivers (46.5% four-year average and 50.7% in 2018) who drove when they thought they were over the legal limit for alcohol consumption continue to believe they were okay to drive. This means they do not understand the impairing effects of alcohol on driving or the risk they pose to themselves and other drivers on the road. These results suggest that educational campaigns designed to help drivers recognize that they are not able to judge their own level of impairment or ability to drive after drinking are needed to help prevent and reduce alcohol-impaired driving.

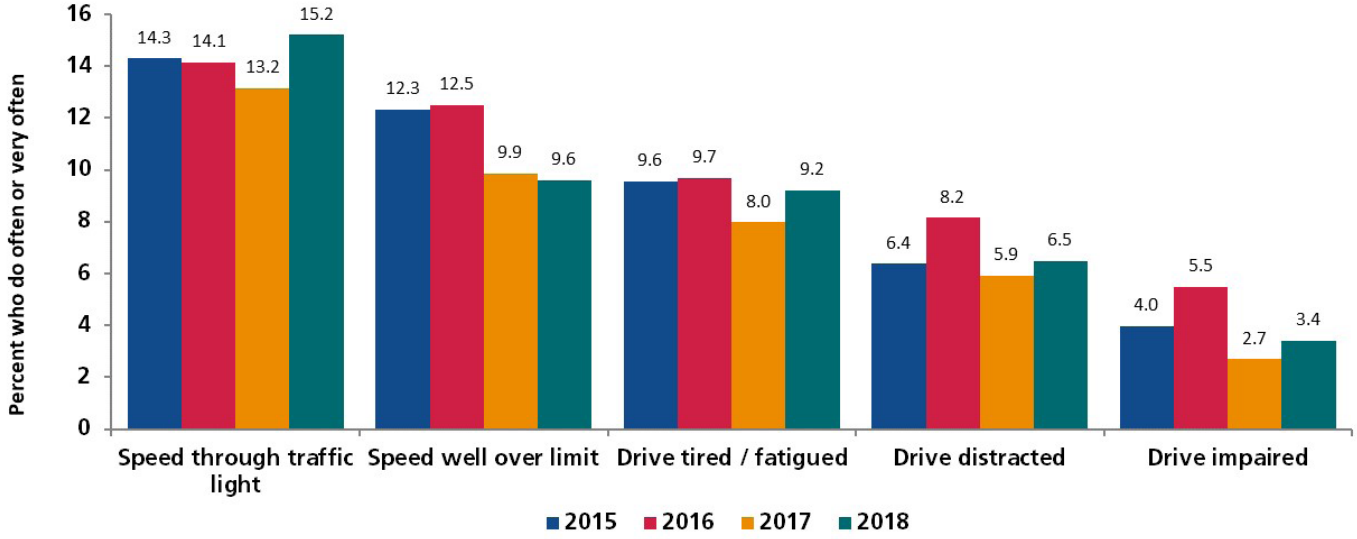
Educational campaigns are needed to help drivers recognize that they are not able to judge their own level of impairment or ability to drive after drinking.

Figure 3: Why respondents drove when they thought they were over the legal limit in 2018



What types of other dangerous driving behaviors are reported by drivers? When comparing alcohol-impaired driving to other dangerous behaviors over the past three years (see Figure 4), data reveal that other behaviors are more prevalent than alcohol-impaired driving in 2018. In particular, 15.2% of drivers reported they consistently engage in speeding through a traffic light (compared to 13.2% in 2017), 9.6% of drivers reported speeding well over the speed limit (similar

Figure 4: Percent of U.S. drivers who often or very often engage in dangerous driving behaviors in 2015-2018



to 2017), 9.2% of drivers said they drove while tired or fatigued (compared to 8% in 2017), and 6.5% of respondents reported driving distracted (compared to 5.9% in 2017). Although the data in Figure 4 show increases in most of these self-reported behaviors in 2018 compared to 2017, these increases were not statistically significant ($p<0.05$). Nevertheless, it does indicate that little progress has been achieved in reducing a range of risky behaviors among drivers.

Profile of people who drive impaired

What are the characteristics of respondents who reported driving while they thought they were over the legal limit? Data were analyzed to determine if there were any relationships between people who reported driving while they thought they were over the legal limit within the last 12 months and their age, sex, the distance they drive, the number of tickets issued, whether they had previously been injured in a collision, and their marital status. Results showed that the following characteristics were significant in 2018.

- Older drivers were less likely to report driving when they thought they were over the legal limit. Among respondents aged 21 to 39 years, approximately 19% reported this behavior, whereas only 10% of those aged 40 to 59 years, and 5% of those older than age 60.
- Males (14%) were more likely than females (9%) to report driving while they believed they were over the legal limit.

- With respect to tickets received in the past 12 months, respondents who received two or more of them were more likely to report driving when they thought they were over the legal limit compared to those who received fewer than two tickets (57% versus 11%).

Analysis of the aggregated data from the past four years revealed similar results, however one additional variable was found to be significant; namely whether you were previously injured or not:

- Older drivers were less likely to report driving when they thought they were over the legal limit. Among respondents aged 21 to 39 years, approximately 17% reported this behavior, whereas among those aged 40 to 59 years approximately 7% and just 4% of respondent over age 60.
- Males (14%) were more likely than females (6%) to report driving while they thought they were over the legal limit.
- Persons who had been injured in the past in a motor vehicle crash were more likely to report driving when they thought they were over the legal limit compared to those who had not been injured before (13% among those injured versus 9% among those not injured).
- With respect to tickets received in the past 12 months, those who received two or more of them were more likely to report driving when they thought they were over the legal limit compared to those who received fewer than two tickets (64% versus 8%).

What are the characteristics of respondents who reported driving impaired often or very often? The analyses to determine if there were any relationships between people who reported driving impaired often or very often and their demographic characteristics show similar profiles.

- Older drivers were less likely to drive impaired often or very often. To illustrate, among those aged 21 to 39 years, approximately 7% reported this behavior, whereas just 2% of those aged 40 to 59 years did so, and 0.9% of respondents older than age 60.
- Males (5.3%) were more likely than females (1.16%) to report driving impaired often or very often.
- With respect to tickets received in the past 12 months, those who received two or more of them were more likely to report driving impaired often or very often compared to those who received fewer than two tickets (53.2% versus 2.4%).

The aggregated data from the past four years revealed similar results; again, the variable "previously injured or not" was found to be significant:

- Older drivers were less likely to report driving impaired often or very often. Among respondents aged 21 to 39 years, approximately 8% reported this behavior, whereas just 2% of those aged 40 to 59 years, and only 1% of respondents older than age 60.
- Males (6%) were more likely than females (2%) to report driving impaired often or very often.
- Persons who had been injured in the past in a motor vehicle crash were more likely to report driving impaired often or very often compared to those who had not been injured before (7% among those injured versus 3% among those not injured).

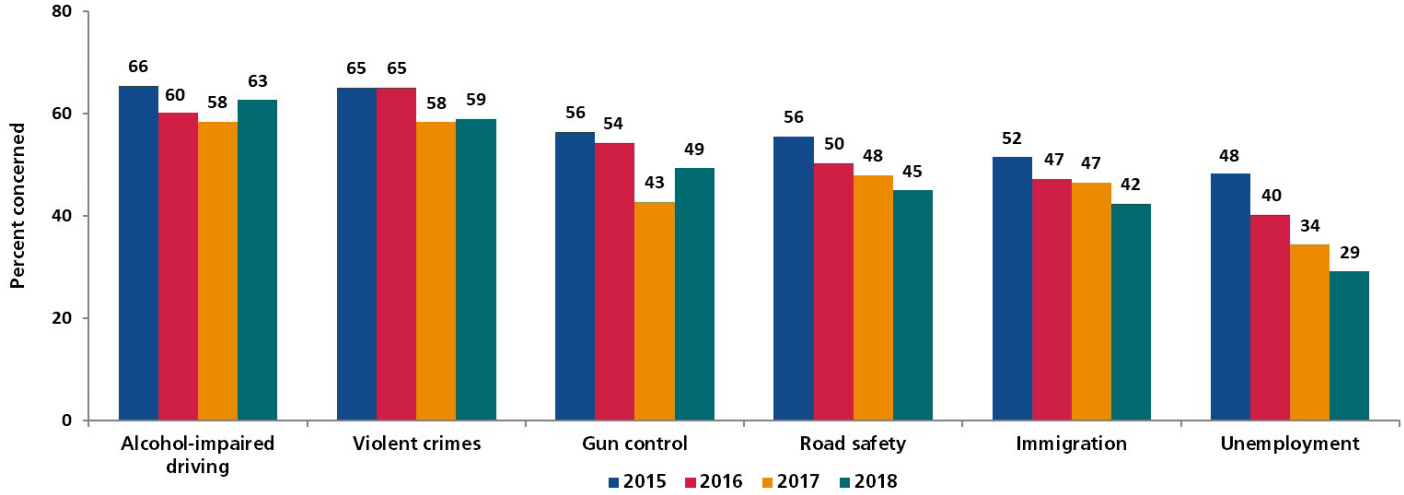
Persons who have received two or more tickets in the past 12 months were more likely to report driving when they thought they were over the legal limit.

- With respect to tickets received in the past 12 months, those who received two or more of them were more likely to report driving impaired often or very often compared to those who received fewer than two tickets (50% versus 3%).

Alcohol-impaired driving relative to other issues

Where does the issue of alcohol-impaired driving sit on the public agenda? Figure 5 shows the percentage of U.S. drivers who were very or extremely concerned about six societal issues.

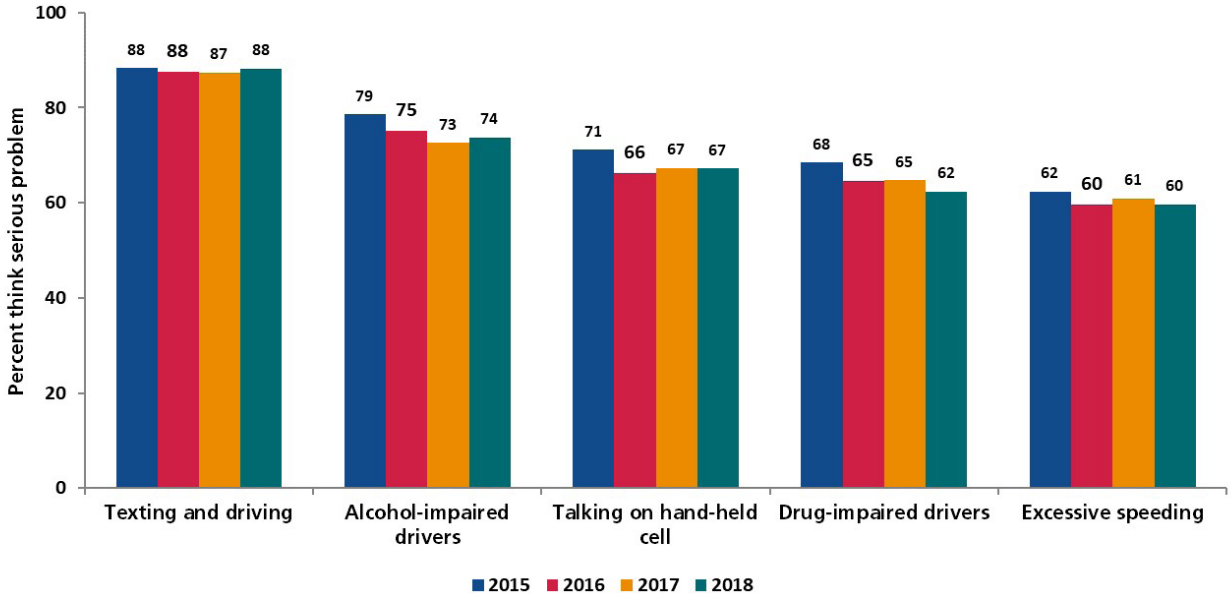
Figure 5: Percent of U.S. drivers who are very or extremely concerned about different societal issues in 2015, 2016, 2017 and 2018



Almost two-thirds (62.7%) of U.S. drivers reported that they were very or extremely concerned about alcohol-impaired driving in 2018. There was slightly less concern about violent crimes (59.0%) and gun control (49.3%). Respondents reported that they were very or extremely concerned about other issues to a lesser extent, including road safety (45.0%), immigration (42.5%), and unemployment (29.2%). Concern about only two of these issues significantly changed from 2017. There was a significant increase in the percentage of the U.S. drivers who reported concerned about gun control from 2017 to 2018 (42.7% to 49.3%, p=0.01) and a significant decrease in the percentage concerned about unemployment (34.4% to 29.2%, p=0.03).

Is alcohol-impaired driving a major road safety problem for U.S. Drivers? Figure 6 shows the percentage of U.S. drivers who think various road safety issues are a serious or very serious problem. The most serious problems identified by drivers continued to be texting and driving at 88.1% followed by alcohol-impaired driving at 73.6% and talking on hand-held devices at 67.2%. Other road safety issues also continued to be a concern for the majority of U.S. drivers such as drug-impaired drivers (62.3%), and excessive speed (59.7%). These percentages are similar to those reported in 2017 (p>0.05).

Figure 6: Percent of U.S. drivers who think various road safety issues are a serious or very serious problem in 2015, 2016, 2017 and 2018



Conclusions

To date, survey results from the TIRF USA RSM have been correlated with trends in alcohol-impaired driving fatalities. During the past few years, indicators about self-reported alcohol-impaired driving have been consistent with reported increases and decreases in these fatalities. In 2016, self-reported alcohol-impaired driving increased as did fatalities in that year. Similarly, decreases in this indicator were consistent with reported decreases in these fatalities in 2017.[4]

Data from 2018 revealed small increases in both measures of self-reported alcohol-impaired driving. The increase in one indicator related to frequency of self-reported alcohol-impaired driving was not statistically significant, but the increase in the other indicator related to prevalence of the behavior among drivers was. While more data are needed to monitor trends, the slight increase in self-reported alcohol-impaired driving is concerning and, based on the emerging pattern evident in data collected during the past four years, it appears that the number of alcohol-impaired driving fatalities in 2018 may increase.

However, these results are in sharp contrast to reported levels of concern about this issue which has remained higher than other social issues as well as other road safety issues, with the exception of texting while driving, during this same timeframe. This apparent disconnect between concern about the issue on one hand, and the prevalence of self-reported driving when impaired by alcohol on the other is a crucial issue that warrants attention and targeted strategies to overcome it.

The most common reason that drivers reported driving when they thought they were over the legal limit can provide much-needed guidance to begin to close this gap between concern about risky behavior and engagement in risky behavior. In 2018, half of respondents indicated they believed they were okay to drive, similar to the percentage of drivers who reported doing so in previous years. In other words, drivers tended to rely on their own judgment about their level of impairment in these instances. This suggests they may not recognize the impairing effects of alcohol after they have been drinking or understand how their driving abilities may be affected. This is problematic and consistent with research that shows drivers are not good at estimating their level of impairment (Van Dyke and Fillmore 2014). As such, more targeted educational strategies are needed that underscore that drivers' perceptions of their own impairment are often inaccurate, and, thus, they should not rely solely on how they gauge their own level of impairment when making decisions to drive after drinking. Not only should this issue receive attention in driver education programs, but campaigns are needed to educate male adult drivers, as well as female drivers who also tend to rely on their own judgment of their impairment when choosing to drive impaired (Robertson & Ireland 2017). Encouraging people to use alternative solutions such as safe rides can also help. In this regard, in 2018, 81.2% of respondents in the RSM poll reported doing this (in 2017 this was 80.1%). In terms of licensed drivers, this represents 180 million drivers (compared to 177 million in 2017).

Encouraging people to use alternative solutions such as safe rides can also help decrease alcohol-impaired driving. In 2018, 180 million licensed drivers reported doing this.

More broadly, increases in the prevalence of other risky behaviors among drivers, such as speeding through traffic lights, driving tired or fatigued, and driving distracted, which are comparable to increases in alcohol-impaired driving, are also disturbing. While increases in these other behaviors were not significant,

[4] The indicator asks about driving while over the legal limit in the past 12 months. This question is asked in September/October, so it overlaps almost completely with the year in which the question is asked.

they may be indicative of a larger trend related to low awareness of risks and consequences among drivers, and perhaps misperceptions about the responsibility of drivers in operating a vehicle with advanced driver assistance systems (ADAS), e.g., lane changing alerts, or automatic braking systems.

Other recent research related to driver knowledge, attitudes and perceptions about ADAS and increasingly automated vehicles has shown that some drivers are more willing to engage in a range of risky driving behaviors due to misperceptions that safety features of semi-autonomous vehicles will protect them or that vehicles are capable of driving without their intervention (Robertson et al. 2017). This is particularly true in relation to younger drivers and male drivers who often comprise a larger proportion of the crash population. Indeed, drivers who are arrested for driving while impaired may wrongfully believe that they are not guilty because of ADAS features they thought were on their vehicle. To illustrate, in January 2018 a driver in San Francisco believed he was not guilty of drunk driving because he was in an autonomous car (SFGate 2018). As such, this issue may be contributing, in part, to limited progress in reducing alcohol-impaired driving. As such, more concerted education is needed that addresses these misperceptions about ADAS and semi-autonomous vehicles.

References

National Highway Traffic Safety Administration (NHTSA) (2018). Traffic Safety Facts. Research Note. 2017 Fatal Motor Vehicle Crashes: Overview. DOT HS 812 603. Washington, D.C.: U.S. Department of Transportation.

Robertson, R.D., Meister, S.R., Vanlaar, W.G.M., Mainegra Hing, M. Automated vehicles and behavioural adaptation in Canada (2017) Transportation Research Part A: Policy and Practice, 104, pp. 50-57.

Robertson, R.D., Ireland, L. (2017). Drinking & Driving Among Women in Ontario: A Qualitative Study. Traffic Injury Research Foundation. Ottawa, Canada.

SFGate (January 20, 2018). Alyssa Pereira. "Allegedly passed out drunk on Bay Bridge, Tesla driver claims car was on autopilot." https://www.sfgate.com/bayarea/article/Inebriated-Tesla-driver-arrested-on-Bay-Bridge-12510750.php

Van Dyke, N., Fillmore, M. Alcohol effects on simulated driving performance and self-perceptions of impairment in DUI offenders Experimental and Clinical Psychopharmacology (2014).

Vanlaar, W.G.M., Mainegra Hing, M., & Robertson, R.D. (2017). Alcohol-Impaired Driving in the US: Results from the 2017 USA Road Safety Monitor. Washington, DC: Traffic Injury Research Foundation USA (TIRF USA), Inc.

Robertson, R.D., Ireland, L. (2017). Drinking & Driving Among Women in Ontario: A Qualitative Study. Traffic Injury Research Foundation. Ottawa, Canada.

Vanlaar, W.G.M., Mainegra Hing, M., & Robertson, R.D. (2017). Alcohol-Impaired Driving in the US: Results from the 2017 USA Road Safety Monitor. Washington, DC: Traffic Injury Research Foundation USA (TIRF USA), Inc.

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