



TRAFFIC SAFETY COMMISSION

Discussion: Changing Washington's *per se* blood alcohol concentration (BAC) limit from .08% to .05% BAC

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Key Data Points

- More than half of fatal crashes in Washington involve driver impairment by drugs and/or alcohol, including at least 32 percent of fatal crashes that involve *alcohol positive drivers*. (2017-2021)
- Drivers experience cognitive, behavioral, and physical impairment with a blood alcohol concentration (BAC) level of 0.05.
- Crash risk increases substantially for drivers with a BAC of .005-.079. The risk of a single-vehicle fatal collision is at least seven times greater compared to a driver with a 0.00 BAC (no alcohol in their system).
- Impaired drivers are more likely to speed, less able to react and control their vehicles, and less likely to wear seat belts.
- Utah saw significant decreases in fatal crashes (-19.8 percent), serious injury crashes (-10.8 percent), and all crashes (-9.6 percent) in the 12 months following the implementation of its 0.05 BAC law.
- Utah also saw fewer incidences of crashes involving alcohol impairment across a range of BAC levels, from a 14.7 percent reduction of crashes involving drivers with a 0.05 BAC or below, to a 9.1 percent reduction in crashes involving drivers with a 0.15 BAC or higher.

Introduction

Driver impairment by alcohol or drugs is involved in more than half of all fatal crashes in Washington. Sixty percent of the fatal crashes involving a driver under the influence of alcohol occur in just six counties. Here are the percentage of crashes involving a driver positive for **alcohol** in these counties over a 5-year period:

Location	Total Fatal crashes, 2017-2021 ¹	Percent involving <i>alcohol</i> positive drivers
King	548	30%
Pierce	327	31%
Snohomish	194	30%
Spokane	209	36%
Yakima	178	36%
Clark	145	30%
Washington total	2,672	32%

There were 2,672 fatal crashes involving 4,114 motor vehicle drivers in Washington from 2017-2021. Among drivers involved in fatal crashes, 867, or one in five, drivers were determined to have consumed **alcohol** prior to the crash. These crashes are preventable, and multiple strategies will be required to reduce and eliminate crashes involving impaired driving. Policies and practices that prevent drivers from driving impaired in the first place will have the greatest impact in preventing serious and fatal crashes.

Every state and most countries set legal limits on driving while impaired. In addition to the behavioral, cognitive, and physical symptoms of impairment, criminal laws often set a BAC limit, over which the person is presumed to be too impaired to drive. These are commonly called “*per se*” limits. They are part of an overall strategy to prevent impaired driving from occurring or to intervene when it is occurring.

The National Transportation Safety Board (NTSB) has urged all 50 states to adopt a DUI per se BAC standard of .05 percent or less.

Washington lowered the BAC limit for alcohol most recently in 1999, when the *per se* BAC level was lowered from 0.10 to 0.08. Legislation to lower the DUI *per se* alcohol limit from 0.08 to

¹ WTSC Fatal Crash Dashboards, accessed May 2022, <https://wtsc.wa.gov/research-data/dashboards/>

0.05 has been introduced twice previously: HB 1874 in 2017 and SB 5982 in 2022. The National Transportation Safety Board continues to recommend that all 50 states lower the *per se* BAC laws to 0.05 or less.

Utah has already enacted legislation to lower its *per se* limit to 0.05. That law took effect in December 2018, and research on its impact is very informative. It was effective at reducing the incidence of alcohol-impaired driving, and Utah saw significant decreases in all crash types following the enactment and implementation of the law.

This paper contains information about the issue for consideration by our commissioners and partners.

BAC Impact

The impact of a BAC limit extends far beyond enforcement. These limits remind people of the risks of impaired driving, and many people modify their behavior as a result. Thus, the impact of the 0.05 BAC limit provides a broad deterrent, rather than significantly increasing enforcement or prosecution. Washington created the offense of driving while under the influence of intoxicating liquor or any drug in 1979. The new law included a *per se* BAC level for DUI at 0.10. Based upon research that drivers are impaired well before they reach a 0.10 BAC, Washington lowered its limit to 0.08 in 1999. After the alcohol BAC was lowered to 0.08 in 1999, drivers in fatal crashes with very high BACs (greater than .15) declined by almost 20 percent, while drivers with no alcohol increased almost 10 percent (1994-1998, compared to 2009-2013). During this same time period, fatalities involving a drinking driver (any BAC) declined 38 percent.

The problem with the current 0.08 BAC limit is that it may convey a message to drivers that they are not impaired with a BAC of 0.05- 0.079. This is not the case.

The National Highway Traffic Safety Administration (NHTSA) and others have recommended for more than a decade that states lower BAC limits further to 0.05. The chart below compares the physical, behavioral, and cognitive impacts on people at the historical and proposed levels and their typical impacts on driving.² It shows that **impaired judgement and release of inhibition** result from alcohol impairment at 0.05 BAC. Thus, individuals have already begun to lose the ability to judge whether or not they should drive at that point of intoxication. This means it is necessary for individuals to make the decision not to consume alcohol or to make plans not to drive before they reach this level of alcohol in their bodies.

² Centers for Disease Control: [“Impaired Driving: Get the Facts”](#)

BAC (%)	Typical Effects	Predictable Effects on Driving
0.05 <i>Proposed</i>	<ul style="list-style-type: none"> • Exaggerated behavior • May have loss of small-muscle control (e.g., focusing your eyes) • Impaired judgment • Usually good feeling • Lowered alertness • Release of inhibition 	<ul style="list-style-type: none"> • Reduced coordination • Reduced ability to track moving objects • Difficulty steering • Reduced response to emergency driving situations
0.08 (Est. 1999)	Impacts listed above, plus: <ul style="list-style-type: none"> • Muscle coordination becomes poor (e.g., balance, speech, vision, reaction time, and hearing) • Harder to detect danger • Judgment, self-control, reasoning, and memory are impaired 	Impacts listed above, plus: <ul style="list-style-type: none"> • Impaired concentration • Short-term memory loss • Diminished speed control • Reduced information processing capability (e.g., signal detection, visual search) • Impaired perception
0.10 (Est. 1979)	Impacts listed above, plus: <ul style="list-style-type: none"> • Clear deterioration of reaction time and control • Slurred speech, poor coordination, and slowed thinking 	Impacts listed above, plus: <ul style="list-style-type: none"> • Reduced ability to maintain lane position and brake appropriately

Washington Data³

Among the 2,877 traffic fatalities in 2017-2021, 32 percent involved a driver positive for alcohol. This may be an under-count of drivers under the influence of alcohol because, unfortunately, 49 percent of drivers involved in fatal crashes were not tested for drugs or alcohol during that period. Only 31 percent of those who were tested did *not* test positive for alcohol, cannabis, or other drugs that could be impairing.

There were 326 drivers involved in fatal crashes who were found through toxicology testing to be positive for alcohol and no other substances. These included 48 (15 percent) drivers with BAC levels below the current *per se* limit of 0.08. Among the 410 drivers positive for alcohol along with other substances, 78 (19 percent) of those had BAC levels below 0.08.

Among drivers involved in fatal crashes who tested positive for cannabinoids, the majority (281 drivers, 54 percent) also tested positive for alcohol. Among all drivers in fatal crashes positive

³ WTSC Fatal Crash Dashboards, accessed May 2022, <https://wtsc.wa.gov/research-data/dashboards/>

for drugs or alcohol, nearly 40 percent were speeding at the time of the fatal crash, and nearly one-third were unrestrained. These are two additional risk factors that significantly increase the likelihood of fatality. Twenty-seven percent (27 percent) of these drivers had a history of one or more previous crashes.

Utah's 0.05 BAC *Per Se* Law

The National Highway Traffic Safety Administration (NHTSA) published an evaluation of Utah's law change in 2022.⁴ Utah lowered the *per se* BAC limit to 0.05 in 2017. Changes in the law were publicized, but law enforcement agencies did not substantially change enforcement strategies related to DUI as a result of this change. Law enforcement has and will continue to rely upon behavioral signs of impairment to determine whether to stop a driver. Driver BAC levels are only determined after a traffic stop or a crash occurs. Researchers looked at the fatal crash data from the first full year that the change was in effect, 2019, and compared it to 2016 data. The NHTSA findings on the overall impacts of the law are significant:

- **22.1 percent** of drinkers reported changing their behaviors as a result of the law (e.g., more people avoided driving after consuming alcohol), however, alcohol sales, tax revenues, and tourism remained largely unchanged
- The rate of fatal crashes (incident rate) per million vehicle miles travelled (VMT) fell **19.8 percent**
- The rate of fatalities (deaths of people involved in crash incidents) per million VMT fell **18.3 percent.**

In addition to the significant reductions in fatal crashes, the NHTSA study also found that crashes and reported incidents involving impaired driving fell as well (calculated based upon the rates per million VMT):

- Total crashes decreased 9.6 percent
- Injury crashes fell 10.8 percent
- Crashes involving drivers with BAC levels at or below the 0.05 *per se* limit decreased 14.7 percent
- Crashes involving drivers with BAC levels at or below the old limit of 0.08 decreased by 13.7 percent
- Crashes with driver BAC levels up to 0.15 percent also declined by 9.1 percent

Total incidents of drivers who tested positive for alcohol fell by 14.6 percent, whether or not they were involved in a crash. While drivers were arrested for BAC levels between 0.05 and

⁴ National Highway Traffic Safety Administration (February 2022) "Evaluation of Utah's .05 BAC *Per Se* Law." DOT HS 813 234

0.079 due to the law change, the overall rates of arrest for DUI saw only a small increase over previous levels. Clearly, the enforcement impacts of the change were not the primary driver of the significant decreases in impaired driving and in all crash types. Education by all stakeholders and public awareness are critical pieces and should therefore be the focus of a reduction in the BAC *per se* limit.

These changes are significant in terms of lives saved and injuries prevented, and there are substantial economic costs resulting from crashes that are avoided by preventing them. NHTSA calculated comprehensive economic losses due to motor vehicle crashes in 2015. Fatal crashes cost \$9.15M per person killed in 2010 dollars. Costs associated with very serious injury crashes ranged from \$2.4M - \$5.6M per person, depending upon the type, seriousness, and lasting impacts of injuries sustained.

National Transportation Safety Board (NTSB) Recommendation

In their 2021-2022 “[Most Wanted List](#)” the National Transportation Safety Board again stated that all states should lower *per se* BAC levels to .05 percent or lower. According to the NTSB:

- 10,142 deaths occurred in crashes involving drivers with BACs of 0.08 or higher in 2019, which was 28 percent of all traffic fatalities in the US that year.
- BAC levels as low as 0.01 have been associated with driving-related performance impairment, and BAC levels as low as 0.05 have been associated with significantly increased risk of fatal crashes.
- BAC levels higher than 0.05 are viewed by respected traffic safety and public health organizations around the world as posing unacceptable risk for driving, and more than 100 countries have already established *per se* BAC limits at or below 0.05.

The World Health Organization (WHO) maintains a database of countries’ BAC limits. The list of more than 100 countries with limits of 0.05 or lower includes Germany, India, Japan, Thailand, Turkey, Columbia, Russia, South Africa, and the Philippines. In many of those countries, people drink more per capita than in the U.S., but they are less likely to die in drunk driving crashes.

A recent review of fatal crashes in 29 high-income countries found that fatal crash rate per 100,000 in the U.S. was more than 30 percent higher than the next highest country (Poland). The U.S. rates were more than double the international average and median among the 29 countries. The U.S. was one of only three countries with a *per se* BAC limit above 0.05.⁵

⁵ Center for Disease Control and Prevention, “Motor Vehicle Crash Deaths—United States and 28 Other High-income Countries, 2015 and 2019,” *Morbidity and Mortality Weekly*, V. 71 No. 26, July 2022.

Lower BAC, Fewer Fatal Crashes

Washington last reduced the per se BAC limit during a national push to make this change. As states lowered their BAC to 0.08, many studies showed reductions of alcohol-involved fatal crashes, both involving drivers with high and low BAC levels. These reductions ranged from 5 percent to 16 percent.⁶ A paper by James Fell and Robert Voas, "[The Effectiveness of a .0.05 Blood Alcohol Concentration \(BAC\) Limit for Driving in the United States](#)," pointed out the following:

- The risk of a single-vehicle fatal crash increases substantially for drivers with a BAC of .005-.079. It is at least 7 times greater than for a driver with a 0.00 BAC.
- All drivers are impaired at a 0.05 BAC, even heavy drinkers.
- Lowering the BAC limit to 0.05 is a proven effective countermeasure that has reduced alcohol-related fatalities in other countries. For example, Australia who experienced an 18 percent reduction in fatal crashes and a 14 percent reduction in serious crashes associated with lowering the BAC limit to 0.05.

The Costs of Fatal Crashes and Benefits of Preventing Them

In addition to the tragic and sudden loss of life, the CDC estimated the [total cost of traffic crash deaths in Washington in 2018](#) to be \$930 million. Impaired driving is the number one contributing factor to fatal crashes. Impairment also leads to increases in other risk factors, such as speeding, lane and road departure, and the failure of impaired individuals to use seat belts. Reducing impaired driving will save lives and save costs accrued to victims, their families, insurance companies, law enforcement, courts, and all road users.

The NHTSA evaluation of the Utah law also evaluated the impact upon tax revenues, tourism, and alcohol sales. They found that the predictions made by opponents that the law would discourage tourism and alcohol sales did not materialize. Instead, NHTSA found that tourism and beverage sales, and the resulting tax revenues, remained strong after the law change.

Reducing the per se BAC limit does not require people to purchase or consume less alcohol. Rather, it merely requires them to avoid driving when they consume enough to be impairing.

⁶ International Journal of Environmental Research and Public Health, Published Sept. 27, 2013, "[Effectiveness of Drinking and Driving Policies for Different Alcohol-Related Fatalities](#)."