Traffic Safety Review
Where Do States Stand on Ignition Interlock Devices?

Executive Summary

Alcohol-impaired driving kills on average 10,000 people every year. Requiring drivers convicted of a DUI to install ignition interlock devices (IID) in their vehicles to prevent recidivism has garnered wide consensus among traffic safety experts and practitioners. Currently, 30 states have statutes requiring IIDs for all alcohol-DUI offenders, including first-time offenders. While the effectiveness of the devices has been established when certain best practices are followed, some persistent concerns and limitations remain regarding existing state IID laws and their enforcement and implementation. The federal government is exploring the possibility of a similar but less invasive universal technology that would screen all potential drivers for impairment before they can operate a vehicle.

Introduction

Traffic deaths involving alcohol-impaired driving declined from 48% of all traffic deaths in 1982—representing over 21,000 deaths—to 30% in 1999. Since then, the decline has stalled, and alcohol-impaired drivers have consistently been responsible for about a third of all traffic deaths—on average 10,000 people every year—in the past 20 years.

The state with the highest alcohol-impaired driving fatality rate in 2019 was Rhode Island (44%), followed by North Dakota (41%) and New Hampshire (40%). Utah (16%) and Vermont (19%) had the lowest rates. Compared to the national alcohol-impaired-driving fatality rate of 0.31 fatalities per 100 million vehicle miles traveled (VMT), state rates ranged from a low of 0.12 in Utah and Vermont to a high of 0.51 in Montana in 2019.

Alcohol-impaired driving fatalities occur throughout the day and are caused by all types of drivers. However, according to the latest data available, from 2009, the highest rates of fatalities are concen-
The proportion of alcohol-impaired driving fatalities in both rural and urban areas was 29% in 2018. However, only 30% of total vehicle miles traveled that year were in rural areas and these areas accounted for 45% of all traffic fatalities.

States have adopted a variety of measures to combat alcohol-impaired driving. Laws establishing harsh sanctions for driving under the influence (DUI) and increased penalties for high blood alcohol content (BAC) drivers seek to correct past actions and dissuade other potential offenders. However, the dissuasive effectiveness of these laws is uncertain and highly dependent upon enforcement efforts.

On the contrary, laws requiring the use of ignition interlock devices by first or repeat DUI offenders until there is proven compliance for an extended time harness technology to prevent new crashes from happening.

A breath alcohol ignition interlock device (IID) is a breathalyzer that can be installed on vehicles to prevent them from starting the vehicle if a certain amount of alcohol is detected in the driver's breath. The device is connected to the vehicle's ignition system or other on-board computer system and requires the driver to blow into a mouthpiece before starting the vehicle. It determines the driver's BAC level and allows the vehicle engine to start only if the level is below a certain threshold, usually .02. IIDs do not prevent drivers from driving under the influence of drugs.

IIDs are relatively simple to install in most vehicles—installation times range from 45 minutes to two hours. They are equipped with tamper-proof systems, sometimes with cameras, and data recording systems that record breath test results, test compliance and other information required by state laws to monitor the offender's drinking and driving behavior.

The devices are programmed in such a way that drivers need to test when starting the vehicle and retest at randomly varying intervals after the engine has started. This helps ensure the driver is not drinking once they have started the vehicle.

The National Highway Traffic Safety Administration (NHTSA) estimated the total monthly costs for an IID lie between $70 to $125. Installation and removal of IID can cost between $100 and $250 each, and monthly monitoring, maintenance and lease fees range between $65 to $90. Additionally, IID programs can also incur administrative costs for states and offenders.

According to AAA's 2019 Traffic Safety Culture Index, about 80% of respondents supported IID requirements for all DUI offenders. Additionally, nearly three-quarters of respondents supported laws requiring all new cars to have built-in technology that would prevent a driver with an over-the-limit blood alcohol content (BAC) to start and drive the vehicle. Such technology, known as Driver Alcohol Detection System for Safety (DADSS), already exists, and as explained in more detail on page nine, pending federal legislation would mandate the creation of standards regarding how it should work and when it has to be installed in all new vehicles.

The nation's traffic safety community has a favorable perception of IIDs and generally agree they are one of the most effective measures to prevent drunk driving. In a study of rural Arizona judges' perception of IIDs, one judge noted that he thought “it is the safest way of trying to get someone to comply with not drinking and driving, especially people that habitually have problems.”
However, there are still some concerns that include the cost and availability of services for defendants as well as loopholes in states’ statutes and implementation procedures.

Topics reviewed in this report include:

- A scan of recent notable state legislative actions on IIDs.
- The current landscape of state laws addressing IIDs for alcohol-DUI offenders.
- An overview of the effectiveness of existing programs as well as persisting concerns and limitations.
- Federal actions incentivizing IIDs.

**IIDs for Motorcycles?**

On average, about a third of motorcycle drivers involved in fatal crashes each year have an over-the-limit BAC level. A NHTSA study examining the feasibility of interlocks for motorcycles points out that IIDs are not typically used on motorcycles because of safety issues but also because of technical, legislative and regulatory barriers. Safety concerns center mostly around retesting requirements—also called running or rolling retests. Having to blow into an IID while driving a car involves some risk and has been the subject of criticism. In particular, because conducting a test is not an easy task, drivers get distracted while retesting and can cause crashes. The risks are multiplied when retesting while driving a motorcycle, and the study concludes that rolling retests on motorcycles “pose a credible safety hazard that needs to be overcome.” Technical concerns center around damage caused to the devices by weather exposure. While it is possible to create interlocks that are more suitable for motorcycles, there are few incentives at the moment for manufacturers to embark on such an undertaking and doing so can result in high-cost devices.

**Recent IID State Legislative Action**

*California* was the first state to enact legislation authorizing the use of IID in 1986. Eventually, more states started passing laws allowing ID as a sanction a court could use when sentencing convicted impaired drivers. During the early 2000s, a growing number of states made IID mandatory for repeat offenders. New Mexico became the first state to require IID for all convicted drunk drivers, including first-time offenders, in 2005.

**IGNITION INTERLOCK INSTALLATION REQUIREMENTS**

IIDs are one of the common impaired driving topics considered by state legislatures in recent years. Since 2011, all 50 states have enacted laws requiring or authorizing the use of IID for certain drunk driving offenses—from drivers who refuse to submit to an impaired driving chemical test to first-time, repeat and/or high BAC offenders.

State IID laws vary in several ways. Some states require the use of IIDs pretrial, while others only mandate their use once the offender is convicted. Some states require IIDs for all offenders, including first-time offenders—also known as universal interlock requirements—while other states only require IIDs for repeat and/or high BAC offenders. In some states, judges have discretion to mandate installation of IIDs in certain circumstances, while in other states the laws leave no space for judicial discretion. Similarly, IID program durations can vary from a few months to as long as 10 years or a lifelong requirement for offenders with multiple convictions.

States also have mixed mandates when it comes to requiring driving under the influence of drugs (DUID) offenders to install IID. With the increase in polysubstance-impaired driving, some states are allowing judges to require DUID offenders to install an IID if they want to keep their driving privileges. Virginia (SB 282), for example, enacted a bill in 2020 (SB 282) allowing courts to require that first-time DUID offenders install...
an IID to obtain a restricted driver’s license. Utah (SB 131), on the contrary, amended its IID law in 2019 to exempt individuals whose offense did not involve alcohol but rather other impairing substances. Offenders who were already required to install an IID and whose conviction did not involve alcohol may petition the Driver’s License Division to remove the requirement. Rhode Island (SB 314) enacted a similar law in 2021 granting a judge discretion to eliminate the IID requirement in such circumstances.

As will be discussed in more detail below, one inherent limitation of IID is that they only detect alcohol. However, multi-substance impaired driving seems to be on the rise, and IIDs are an effective tool to prevent individuals impaired by a combination of alcohol and drugs from driving.

**INTERLOCK COMPLIANCE LAWS**

Several states have enacted strict compliance-based removal provisions. New Jersey (SB 824) requires offenders since 2019 to have no more than one failure to take or pass a test during the final 30 days of the mandated period and that all other maintenance and monitoring obligations are met. Oklahoma’s law (SB 712) requires offenders to go violation-free for the final 180 days of the mandated period if they want to have the device removed.

In addition to preventing offenders from removing the device once the mandated period has expired, tampering with or circumventing IIDs triggers other penalties in most states—usually a term of imprisonment and/or a fine.

Cameras are increasingly used to prevent tampering with the device and ensuring it is the driver who is blowing and not someone else. Currently, 21 states require IIDs to be equipped with a camera. In Missouri and Vermont, interlocks have to be equipped with a GPS in addition to a camera. Although Colorado’s law does not explicitly require cameras, the state’s Division of Motor Vehicles contracts with IID vendors require all installed devices to have such monitoring capabilities. To prevent any interference with priva-
cy rights, the statute in Maryland, for example, states prohibit the recording of images except during the time of the testing periods or when there is a possibility that the device is being tampered with and allows only the recording of still images of the person taking the test without the capability of recording sound or video.

**Camera Use in Ignition Interlock Devices**

![Camera Use in Ignition Interlock Devices Diagram]

- Requires camera in IIDs
- No requirements

Source: NCSL, 2021

**INDIGENT PROGRAMS AND IGNITION INTERLOCK LICENSES**

Because of their cost, courts can be reluctant to require interlocks for low-income or first-time offenders, and several states have intervened to prevent this from happening. Since 2019, courts in Nevada (SB 408) can no longer excuse convicted offenders from installing an IID if it would cause economic hardship. Additionally, states are adopting Indigent Ignition Interlock Device Programs to alleviate the financial weight of IID requirements for participating offenders who qualify for financial assistance. Texas, for example, enacted a law in 2019 (HB 3582) allowing judges to waive the IID installation fee and reduce monthly monitoring fees by 50% when indigency is proven. Fees assessed for failed tests are not discounted. In Kentucky (SB 85, 2019), offenders can benefit from discounted fees of up to 75%, depending on how their income is assessed in relation to federal poverty guidelines.

More and more states allow driver’s license suspensions or revocations to be replaced with limited driving privileges for certain offenders who install an IID in their vehicle.

Other states mandate a hard suspension for a minimum time but allow for early reinstatement of the driver’s license if the offender proves they have installed an IID in all their vehicles.

More and more states allow driver’s license suspensions or revocations to be replaced with limited driving privileges for certain offenders who install an IID in their vehicle. Louisiana (HB 278), for example, amended its impaired driving laws in 2019 to allow individuals convicted of a DUI and whose driving privileges are suspended or restricted to install an IID and request an ignition interlock license. Virginia (SB 439) adopted a similar law in 2020, allowing offenders with a BAC of less than .15 to obtain restricted driving privileges if they install an IID for one year.

Other states mandate a hard suspension for a minimum time but allow for early reinstatement of the driver’s license if the offender proves they have installed an IID in all their vehicles. Hawaii (SB 765), for example, enacted a law in 2021 mandating a hard driver’s license revocation of two years for first-time
high BAC offenders that could be reduced to 18 months with a mandatory installation of an IID in all vehicles operated by the offender.

Delaware recently (HB 152, 2020) amended its ignition interlock laws to close a loophole. Previously, DUI offenders could avoid having to install an IID if they obtained a limited license that allowed them to drive to certain places, such as their workplace. The new law requires all offenders whose driving privileges have been revoked to install IID in their vehicles if they want to drive during the revocation period. Experts agree that once an interlock is installed, it is best to allow unlimited driving.

**School Buses and IIDs**

Following a high profile news story in 2017 of a school bus driver who drove dangerously and later tested at more than twice the legal BAC limit for commercial drivers, some states have considered laws that would require school buses to be equipped with ignition interlock devices in the last few years. However, no such law has been enacted so far. Instead, states have opted for other policies such as expanding randomized testing and visual check-ins before picking up and dropping off a bus.

**State Action in IID Laws**

Currently, 30 states and the District of Columbia have laws requiring all offenders, including first-time offenders, to install an IID. NHTSA’s 2013 model guidelines encourage states to adopt IID laws for first-time convicted drunk drivers and establish a minimum duration of interlock programs that reflects the seriousness of the offense. According to NHTSA’s Key Features for Ignition Interlock Programs report, there is no hard opinion on the best lengths for IID requirements, however the “general pattern is that more time is given to high risk (e.g., arrest BAC≥.15 g/dl) or repeat offender[5].” Furthermore, the Key Features report suggests that the general agreement is for lower-risk DUI offenders to be required to install an IID for at least one year.

**State Ignition Interlock Laws**

- Required for all offenders
- Required for high BAC and repeat offenders
- Required for repeat offenders
- Discretionary
- Strongly incentivized for first-time offenders

Source: NCSL, 2021
An additional eight states—Florida, Michigan, Minnesota, North Carolina, Pennsylvania, Rhode Island, South Carolina and Wyoming—require high BAC offenders—trigger levels range between .1 and .17—and repeat offenders to install IIDs. Five states—Georgia, Ohio, Massachusetts, Maine and Missouri—require only repeat offenders to install the devices. The remaining seven states do not have any statewide requirements regarding IIDs, but judges have the discretion to order offenders to install one if they consider it necessary. In California, IIDs are required for all offenders in some counties.

Rhode Island amended its IID law in 2021 (HB 5094/ SB 314) to allow judges to mandate the use of an IID system, blood and/or urine testing or both when first-time DUI or DUID offenders seek to obtain a conditional hardship license. Judges must mandate IID devices, chemical tests or both, for repeat and high BAC offenders (.15 or above). The new law seeks to give discretion to judges to choose the best prevention methods depending on whether offenders were intoxicated by alcohol only, drugs only or both.

While California, Maine and Missouri do not have statewide mandatory IID requirements, they strongly incentivize first-time offenders to install an IID by eliminating hard driver license suspension periods or significantly reducing these periods if the offender chooses to install an IID. Georgia, Ohio and Minnesota also have such incentives for first-time offenders.

Many laws provide for exceptions in certain cases. The most common exceptions include employment vehicles—vehicles owned by a business entity the offender does not control and that they are required to operate while working—medical conditions that do not allow offenders to provide deep lung breath samples and living over 100 miles from a state-certified IID provider.

Effectiveness of Adopted Laws and Programs

EFFECTIVENESS DIRECTLY TIED TO STATUTES’ CLARITY AND SPECIFICITY, ENFORCEMENT AND MONITORING EFFORTS

A 2014 NHTSA report estimates that only 15%-20% of arrested DUI offenders actually install IIDs. Estimated installation rates for those ordered to install the devices vary in individual states and range from 20% in California to 56% in Washington. Localities where judges required strict penalties—such as jail time or house arrest—for those violating installation requirements had higher installation rates at 62% and 71%.

While IID are powerful tools to fight alcohol-impaired driving, traffic safety researchers point out that sometimes well-meaning laws can be a major obstacle in increasing their use and effectiveness. In some states, vendors are required to send reports to authorities when installing or removing the device, but not when there is a violation.

According to NHTSA, there are currently no widely accepted reporting standards, and ignition interlock device manufacturers have their own standards. Experts urge states to concretely and specifically mandate the information that must be included in monthly monitoring reports and how this information will be used, as well as define key terms used in such reports, such as “circumvention,” “failed retest,” etc.

Experts also agree that ideal IID laws should require a certain period of time without violations before removal is possible. Consistent, periodic reports and their correct interpretation are vital to enforce such compliance-based removals. Effective laws clearly define what constitutes a violation and require all violations to be reported. Prohibited acts should include alcohol-related events and circumvention and tampering attempts.

Close monitoring is equally essential for the success of IID programs. Washington, for example, has a Compliance Based Review (CBR) period of 180 days. To be eligible for removal, offenders may not fail a test within that 180-day timeframe—defined as attempting to start their vehicle with a BAC of .04 or more,
.025 for a retest—fail to take a random retest, attempt to circumvent or fail to appear when required for maintenance, repair, calibrate, monitoring, inspection or replacement of the device.

Washington developed a program for monitoring offenders with failed tests or who attempted to circumvent the devices. Two officers conduct home visits to educate participants about the state’s IID program and the six-month CBR period and inform them that they have been identified as having failed tests or circumvention attempts. According to an AAMVA report, the visits remind participants that they are being monitored, and “of the hundred that are visited each year, it is rare that the same individual is visited more than once.”

A randomized trial in Maryland showed that close monitoring, including reviewing reporting data received, and sending letters to offenders informing them of violations and their consequences reduced failed tests and tampering attempts.

Additionally, many states lack a central electronic repository for IID information, which can lead to information getting lost or not being available to the right person at the right time.

REDUCTION IN IMPAIRED-DRIVING

Studies have shown that IIDs reduce recidivism—by up to 70%—among first-time, repeat and high-risk offenders while they are installed. However, once the IIDs are removed, the offender’s recidivism rates increase, in particular for repeat and high-risk offenders. Yet, when coupling IIDs with alcohol use disorder treatment, CDC researchers found decreased recidivism. The policy studied was a Florida law mandating alcohol treatment for DUI offenders using interlock. Offenders who accumulated three interlock violations—defined as two occasions within four hours in which the device prevented the driver from starting the vehicle—were required to participate in alcohol use disorder treatment. Recidivism among such offenders was reduced by 32% after the device was removed, compared to the control group that did not receive treatment.

Additionally, compliance-based monitoring and removal practices discussed above, which have been adopted by more and more states in recent years, also help prevent recidivism rates. While further research is needed to determine the optimal amount of time, compliance-based removal is a recommended best practice.

Most traffic safety experts advocate for all-offender IID requirements. An article studying the effects of ignition interlock laws on fatal crashes between 1982-2013 found that mandatory laws for all offenders “would have significant public health benefit” and “are more effective at reducing alcohol-involved fatal crashes than laws requiring interlocks for segments of high-risk offenders.” The researchers found that all-offender IID laws prevented a total of 1,250 alcohol-impaired fatal crashes during the time frame studied. A more recent study concluded that states with universal interlock laws saw on average a 15% decrease in alcohol-involved crash deaths when compared with states that have less stringent interlock requirements.
PERSISTENT CONCERNS AND LIMITATIONS

One inherent limitation of IID is that they only detect alcohol, which leaves the possibility for offenders to switch to other substances. Unlike for alcohol, screening for drug impairment is difficult. There is not only a wide array of impairing drugs, but drugs can stay in a person’s system for prolonged periods of time, and there is no correlation of any other drug beyond alcohol to determine impairment. However, while IID would not be able to prevent a driver impaired only by drugs from starting their vehicle, they do prevent offenders who have consumed a combination of drugs and alcohol from driving. Polysubstance-impaired driving—driving after consuming a combination of drugs or drugs and alcohol—has been on the rise in recent years and in particular during the Covid-19 public health emergency. NHTSA’s latest data shows that the prevalence of multiple drugs or drugs and alcohol in seriously or fatally injured drivers (excluding motorcyclists) went from 16.9% during the fourth quarter of 2019 to 24.9% during the third quarter of 2020.

Other concerns include negative side effects of rolling tests, accessibility and elevated costs. A recent news article explains that IID requirements, and especially randomized rolling re-tests—additional breath samples the driver has to provide while driving during varying intervals to prevent the engine from going off—have been associated with crashes. Such tests help assure the driver does not consume alcohol after starting their vehicle. However, rolling tests can be highly distracting, require the driver to manipulate the device with their hands and can make them take their eyes off the road. According to the article, during a 10-year time frame, interlocks were involved in 58 crashes in North Carolina.

Accessibility and elevated costs for offenders continue to be of concern. It is difficult for some offenders to install IID in their vehicles, in particular in many rural jurisdictions that don’t have any vendors. Requiring interlock service providers to serve rural areas as a prerequisite for obtaining a contract with the state is a suggested potential solution. Additionally, while many states have adopted indigent programs, high installation and maintenance costs are still major factors preventing higher installation rates. Costs can increase significantly for rural offenders if they have to drive long distances to install and maintain the IID. These additional costs are not covered by indigent programs.

Federal Action

IID Laws fall under the jurisdiction of individual states. However, federal laws contain incentive grant provisions for states if they pass IID laws that meet certain criteria. NHTSA administers the grants at the federal level. States can apply through NHTSA’s regional offices, which oversee specific grants and work closely with state highway safety offices staff. To receive an Ignition Interlock Law Grant (23 U.S.C. 405), states must meet a number of requirements, including enacting and enforcing “mandatory alcohol-ignition interlock law[s] for all individuals convicted of driving under the influence of alcohol or of driving while intoxicated.” Laws may include exceptions for offenders’ employment vehicles, offenders whose medical condition renders them unable to provide deep lung breath samples and offenders who reside over 100 miles from a state-certified IID provider.

In 2021, 10 states applied for the grant, and five of these states qualified to receive it. A pending federal bill that forms part of the infrastructure plan includes language to expand the number of states that would qualify for grant funding if they pass ignition interlock laws by reducing specific requirements that are currently in place.
The federal government and states have also tested technology that could have an outcome similar to an IID—it wouldn’t allow a driver who has a BAC over the legal limit to operate a vehicle—but be widespread and preventive.

In 2019, Maryland became the second state, after Virginia in 2018, to pilot the Driver Alcohol Detection System for Safety (DADSS) Program. This program, a public-private partnership research project between the Automotive Coalition for Traffic Safety and NHTSA, aims to develop a non-invasive, seamless technology that would use small programmable sensors built inside vehicle panels to measure the BAC in a driver’s breath. Touch-based technology is also being worked on but is not as far along as breath-based technology. According to the coalition’s president, “what the DADSS sensors will do is that they will provide a signal to an onboard vehicle control module that is a proportional measure of the driver’s BAC. And it will be up to the individual vehicle manufacturers that are integrating this technology in their vehicles as to what they do with that information. Do they just provide a warning? Do they allow to start the car but not move so that you can at least have power to charge your phone to call for an alternate drive or Uber? Or does it not let the car start at all?” Ultimately, it will be up to regulators to set the policies as to the technology’s deployment.

The Insurance Institute for Highway Safety (IIHS) notes that the technology has the potential to save over 9,000 lives every year if made mandatory and implemented in a way that prevents drivers with a BAC of .08 or more to operate a vehicle. According to the latest AAA Traffic Safety Culture Index, about 73% of respondents support laws requiring all new cars to have built-in technology that won’t allow a driver to operate the vehicle if their BAC is over the legal limit.

The pending federal infrastructure bill currently under debate include provisions directing the U.S. Transportation Department to set an alcohol detection technology safety standard in the next three years and give automakers at least two additional years to install the technology in all new vehicles. The bill does not specify any details about the technology or its implementation but says it must “passively monitor the performance of a driver of a motor vehicle to accurately identify whether that driver may be impaired” and “prevent or limit motor vehicle operation if an impairment is detected.”

### Voluntary IIDs for Young Drivers

Because young drivers are at greater risk for alcohol-related crash deaths than any other age group, NHTSA studied the feasibility of voluntary ignition interlocks as a prevention strategy for young drivers. Researchers analyzed if and how parents and young drivers would accept ignition interlocks and the extent to which vendors would be willing to accommodate consumers of this age group. Survey results revealed differences in parents’ and young drivers’ opinions on the effectiveness of the devices. Most parents strongly agreed the devices were an effective strategy to reduce drunk driving, whereas the young drivers had mixed responses. Prevailing concerns included “problems experienced starting the vehicle, the safety of post-start retests, and embarrassment caused by having to use the device.” Ignition interlock companies did not see any major problems in working with young drivers. However, some noted that to be able to market the devices as a preventive technology, it would be important to destigmatize the use of interlocks, as the devices are currently exclusively associated with DUI offenders.

### Additional NCSL Resources

- Drunken Driving
- State Ignition Interlock Laws
- Penalties for Tampering with or Circumventing Ignition Interlock Devices
The National Conference of State Legislatures is the bipartisan organization dedicated to serving the lawmakers and staffs of the nation’s 50 states, its commonwealths and territories.

NCSL provides research, technical assistance and opportunities for policymakers to exchange ideas on the most pressing state issues, and is an effective and respected advocate for the interests of the states in the American federal system. Its objectives are:

- Improve the quality and effectiveness of state legislatures.
- Promote policy innovation and communication among state legislatures.
- Ensure state legislatures a strong, cohesive voice in the federal system.

The conference operates from offices in Denver, Colorado and Washington, D.C.

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