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Volume I — Summary

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16. Abstract

Because of the substantial number of driving while intoxicated (DWI) offenders driving illegally with suspended licenses and the limited enforcement resources available to deal with the problem, many States and the Federal government have begun to enact legislation directed at the vehicles owned by offenders to limit their illicit driving. Such policies fall into three broad categories: (1) programs that require special plates on the vehicles of DWI offenders and/or confiscate the vehicle plates and vehicle registration; (2) devices installed in the vehicle that prevent its operation if the driver has been drinking (alcohol ignition interlock); and (3) programs that impound, immobilize, confiscate or forfeit the vehicle. This study updates as of the end of 2004 a 1992 NHTSA study of vehicle sanctions. The 1992 study reported that 32 States had laws providing for various vehicle sanctions; however, in most of these States these sanctions were rarely used. This current study updates that effort with a contemporary overview of vehicle sanction laws and their application as of December 2004. It goes beyond the earlier study by reporting on information from other countries, incorporating a review of ignition interlock devices (not considered in the earlier study) and providing a more recent list of vehicle sanctions on a State-by-State basis.

This report, compared to the 1992 report, identified 131 pieces of legislation with all 50 States having at least one vehicle sanction law in 2004. Although it was difficult to obtain quantitative information on the application of vehicle sanctions, it was documented that at least 51 of the 131 laws are used regularly. Alcohol ignition interlock laws were enacted most often in the States (43), followed by vehicle forfeiture laws (31). Half of the States (25) reported having alcohol ignition interlock laws that were actively being applied on at least some of the eligible offenders. There are a number of barriers to the implementation of vehicle sanctions. These are discussed along with suggestions for improvements in their application. This is Volume I of a two-volume report: Volume I synthesizes and summarizes the findings; whereas Volume II describes vehicle sanctions status for each State as of the end of 2004.

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Driving while intoxicated; driving under the influence; vehicle sanctions; alcohol ignition interlocks; impoundment; immobilization; forfeiture; confiscation; license plate actions; vehicle registration suspensions	This report is free of charge from the NHTSA Web site at www.nhtsa.dot.gov.

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Introduction

Repeat offenders convicted of driving while intoxicated (DWI) or driving under the influence (DUI) are four times more likely to be intoxicated when involved in a fatal crash than drivers without prior DWI or DUI convictions. The arrest and conviction of such offenders should decrease the likelihood of these high-risk DWI drivers from becoming crash involved in the future. However, other than long-term incarceration, there is no certain method for keeping DWI offenders from driving while impaired.

Because of the high number of suspended DWI offenders driving illegally and the limited enforcement resources available to deal with the problem, many States and the Federal Government have enacted legislation directed at the vehicles owned by offenders to limit their unlawful driving. Such legislation falls primarily into three broad categories: (1) programs that require special plates on the vehicles of DWI offenders and/or confiscating the vehicle plates and vehicle registration; (2) programs that require installation of devices in the vehicle that prevent it from operating if the driver has been drinking (alcohol ignition interlocks); and (3) programs that impound, immobilize, confiscate, or forfeit the vehicles. None of these vehicle controls are foolproof, however, several vehicle sanctions have been found to reduce recidivism.

This report updates through December 2004 a 1992 National Highway Traffic Safety Administration (NHTSA) sponsored study of vehicle sanctions (Voas, 1992). That study found relatively few jurisdictions with active vehicle sanction programs. Although 32 States were found to have laws providing for various vehicle sanctions, in most States these sanctions were rarely used. This current study updates that effort with a contemporary overview of vehicle sanction laws and their application. It goes beyond the earlier study by reporting on legislation and the literature from abroad, incorporating a review of ignition interlock devices (not considered in the earlier study), and providing a more recent list of vehicle sanctions on a State-by-State basis.

Methods

Information on each State's vehicle sanction laws was collected primarily from NHTSA's *Digest of State Alcohol-Safety Related Legislation* (NHTSA, 2003). Additionally, information was obtained from Mothers Against Drunk Driving's (MADD's) *Rating the States* report for 2002 and from the 2003 edition of the Sourcebook for the Century Council's *National Hardcore Drunk Driver Project* (The Century Council, 2003). Information on the existence of vehicle sanctions laws, whether those laws appeared to be mandatory or discretionary, and whether they were applied through the courts or administratively (e.g., through a division of motor vehicles), was recorded in a database. Project staff used e-mail and telephone interviews to contact State officials regarding vehicle sanctions in their States. These contacts were made throughout the spring, summer and fall of 2004. Where officials believed changes were imminent, we re-contacted them for an update in the winter of 2004. Where we had no evidence to suggest that laws had changed during the year, we assumed that the status had not changed by the end of the year. State officials were asked to identify any corrections or clarifications needed in the documentation of States' vehicle sanction laws that were sent to them. Interview discussions also included: (a) the extent to which individual vehicle sanction laws were being used; (b) if laws were not being used, why not; (c) the extent to which they were aware of any successes or

problems associated with the enforcement of the laws; and (d) knowledge of any studies of the effectiveness of the vehicle sanction programs.

Vehicle sanctions for DWI and other alcohol-related offenders were classified into six major categories ranging from allowing the vehicles to still operate but not by the convicted offender or a drinking driver, to license plate actions, to actions preventing the vehicle from operating on the road. Below is a brief overview of which States, as of the end of 2004, had laws on the books pertaining to these vehicle sanctions.

Results: States With Vehicle Sanctions (2004)

In 2004, it was possible to identify 131 pieces of enacted legislation (including interlock laws) with all 50 States having at least one vehicle sanction law and 45 States having a law providing for a vehicle sanction other than interlock. As indicated in Table 1, many States have multiple vehicle sanction laws. Although it was difficult to obtain quantitative information on the application of vehicle sanctions, it was documented that at least 51 of the 131 vehicle sanction laws in the States were used regularly. Alcohol ignition interlock laws were reported in 43 States and used most frequently (in 25 of 43 States), followed by vehicle forfeiture that was reported in 31 States.

Table 1. Vehicle Sanction Laws by State and Offense Category (2004)

State	Int.	Imp.	Imm.	Forf.	Plate/ Reg.	Spec. Plates	State	Int.	Imp.	Imm.	Forf.	Plate/ Reg.	Spec. Plates
Alabama		B			AD		Montana	A			A		
Alaska	A	A		A			Nebraska	A	B			A	
Arizona	AB	B		AB			Nevada	A					
Arkansas	AB			A	BCD		New Hampshire	A				AD	
California	AB	AB		AB			New Jersey	A				AD	A
Colorado	AB			AB			New Mexico	A		A	A		
Connecticut		AB					New York	A			A		
Delaware	A				ABC		North Carolina	A			AB		
District of Columbia	A						North Dakota	A			A	ABC	
Florida	A	A	A				Ohio	A		A	A	ACD	A
Georgia	A			A	AC	A	Oklahoma	A			A		
Hawaii					ACD	A	Oregon	A	AB	AB	A		
Idaho	A						Pennsylvania	A			A		
Illinois	A		AB	AB	ABC		Puerto Rico						
Indiana	A						Rhode Island	A			A	ABD	
Iowa	A	AB	A	AB	ABC		South Carolina	A		AB	A		
Kansas	A	A	A		AC		South Dakota					AD	
Kentucky	A				AC		Tennessee	A			AB		
Louisiana	A			A			Texas	A			A		
Maine				B	ABCD		Utah	A					
Maryland	A	B			BCD		Vermont			A	A		
Massachusetts	A				BCD		Virginia	A	AB	AB			
Michigan	A		A	A	ABCD	A	Washington	A	A		A		
Minnesota				AB	AC	A	West Virginia	A					
Mississippi	A	A	A	A			Wisconsin	A		A	A		
Missouri	A	A		AB			Wyoming					ACD	

Key: Int. = Alcohol Ignition Interlock; Imp. = Vehicle Impoundment; Imm. = Vehicle Immobilization, Forf. = Vehicle Forfeiture; Plate/Reg. = License plate and/or vehicle registration actions; Spec. Plates = Special license plates
Blank = No law; A =Impaired Driving Offense, B =Driving With Suspended License Offense, C=Plate Suspension; D=Registration Suspension ,

Special License Plates

This sanction includes placing special markings or designations on the license plate that alert police that a convicted DWI offender is in a family or group that drives this vehicle. This sanction allows other family members access to the vehicle, but prohibits the convicted offender from driving it via the visible marking. Six States (GA, HI, MI, MN, NJ, & OH) had laws permitting special license plates for impaired driving offenses as of the end of 2004.

Alcohol Ignition Interlocks

This sanction requires the offender to take an alcohol breath test prior to starting their vehicle. If the offender is sober the car operates normally, but if the offender takes the test and their blood alcohol concentration (BAC) is above a set threshold, the vehicle will not start. Rolling retests may also be required. Forty-three States had laws allowing the installation of alcohol ignition interlocks on the vehicles of offenders as of 2004. This breaks down into 43 States (AK, AR, AZ, CA, CO, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, MI, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, TN, TX, UT, VA, WA, WI, & WV) with laws permitting interlocks for impaired driving offenses and 4 States (AR, AZ, CA, & CO) with additional laws permitting interlocks for driving while suspended offenses (DWS).

License Plate Actions

These actions target the license plates of offenders' vehicles and are intended to prevent anyone from driving those vehicles since the plates are physically removed from the vehicles or the plates are suspended by the State. Twenty-two States had laws permitting license plate and/or registration confiscation/suspension as of 2004. Nineteen of these States have laws permitting the use of this sanction for impaired driving offenses (AL, DE, GA, HI, IA, IL, KS, KY, ME, MI, MN, ND, NE, NH, NJ, OH, RI, SD, & WY) whereas 10 States have laws permitting this sanction for DWS offenses (AR, DE, IA, IL, MA, MD, ME, MI, ND, & RI). Eight States have license plate suspension only (DE, GA, IL, IA, KS, KY, MN, & ND); five States permit registration suspension only (AL, NH, NJ, RI, & SD); and nine States have laws allowing both license plate and registration suspension sanctions (AR, HI, ME, MD, MA, MI, NE, OH, & WY).

Immobilization

This sanction prevents the vehicle from being driven by immobilizing it via the installation of a "boot" or "club." The vehicle can be immobilized on the offender's property and does not need to be taken to an impound lot. Thirteen States had laws permitting vehicle immobilization as a sanction for impaired driving offenses as of 2004 (FL, IA, IL, KS, MI, MS, NM, OH, OR, SC, VA, VT, & WI) and 4 States permit immobilization for DWS offenses (IL, OR, SC, & VA).

Impoundment

Fifteen States had laws permitting vehicle impoundment as of 2004. Eleven States have laws permitting impoundment for impaired driving offenses (AK, CA, CT, FL, IA, KS, MO, MS, OR, VA, & WA) and 9 States with laws for DWS offenses (AL, AZ, CA, CT, IA, MD, NE, OR, & VA). As can be seen, there is some overlap. This does not include State laws where the impoundment is temporary (hours) to prevent impaired offenders from driving after release from arrest.

Forfeiture

This sanction allows for confiscation and sale of the offender's vehicle. Thirty States had laws permitting vehicle forfeiture as of 2004. This breaks down into 29 States with laws permitting vehicle forfeiture for impaired driving offenses (AK, AR, AZ, CA, CO, GA, IA, IL, LA, MI, MN, MO, MS,

MT, NC, ND, NM, NY, OH, OK, OR, PA, RI, SC, TN, TX, VT, WA, & WI) and 10 States (AZ, CA, CO, IA, IL, ME, MN, MO, NC, & TN) with laws permitting vehicle forfeiture for DWS offenses.

Vehicle Sanctions in Other Countries

Officials from other countries (Australia, Belgium, Canada, Denmark, New Zealand, Norway, Spain, Sweden, and the United Kingdom) were contacted and it was found that, except for alcohol ignition interlock programs, vehicle sanctions described in this study were rarely used. Impoundment and forfeiture were considered too harsh and too much of a hardship for family members. The one exception is New Zealand, which has a comprehensive vehicle impoundment and confiscation program that is in use.

The use of alcohol ignition interlocks has become very popular in Canada and Australia and some research studies are being conducted in those countries. Australia's five largest States have begun interlock programs. In Canada, the criminal code has been amended to enable provinces and territories to begin interlock programs and, consequently, most of the Canadian jurisdictions have instituted them. In Europe, Sweden has instituted a small interlock program and other countries have undertaken feasibility or pilot studies in coordination with the European Union (Marques et al., 2001).

Barriers to Implementing Vehicle Sanction

Alcohol Ignition Interlock Programs

Experience with such programs indicates that only a relatively small percentage -- generally less than 10% of eligible offenders -- participate in interlock programs. Offender sentences do not include interlocks mainly due to the cost of installation and maintenance over the course of the intervention. Also, only a small percentage of offenders who are assigned interlocks by the courts actually have the interlocks installed. It should be noted that making house arrest an alternative to installing an interlock increased the proportion of eligible offenders installing an interlock to 62% -- the highest level obtained by a court in the United States as of the end of 2004 (Voas, Blackman, Tippetts, & Marques, 2002).

Another barrier to participation in an interlock program is the claim by offenders that they do not own a vehicle. If assignment of an interlock is a consequence of conviction for a DUI or driving while suspended (DWS) offense, defense attorneys may advise their clients to transfer the vehicle's title before trial. Therefore, an effective interlock program must provide for holding the vehicle from the time of arrest to avoid such transfers.

As an alternative to assigning offenders to an interlock program by the courts, State legislatures can provide authority to the motor vehicle department to require the interlock as a condition of reinstating the licenses of DUI offenders following their suspension periods. This provision, which has been implemented by some States such as Michigan and Colorado, has the effect of preventing offenders from driving legally without an interlock. Typically, the interlock must be installed not only during the normal suspension period but also after the suspension period is over and the operators' licenses are reinstated.

The availability of interlock service providers may still be an issue in some rural areas, but this issue is expected to decrease as more interlocks go into use.

Vehicle Impoundment, Immobilization, and Forfeiture

Vehicle impoundment, immobilization, and forfeiture sentences remain a problem when a family has only a single vehicle and it would be a hardship if a vehicle sanction was applied. Another problem with vehicle impoundment is the costs of storage may exceed the value of the impounded vehicle, resulting in added expenses to the jurisdiction. A problem with vehicle forfeiture arises when the offender is not the sole owner of the vehicle. In this situation, a family member or an innocent third party can be aversely affected when the forfeited vehicle is sold.

Also, impoundment programs implemented administratively appear to be much less cumbersome than when they are implemented through the criminal justice system. This is usually the case because administrative actions occur sooner and compliance is typically tracked and monitored more frequently. Nearly all successful impoundment programs provide for seizing and holding the vehicle at the time of arrest. Waiting for the outcome of the court trial often results in the vehicle having been disposed of and, thus, not available to the police. To deal with this problem, Ohio passed a law prohibiting offenders from transferring vehicle titles following a DUI or DWS arrest.

Vehicle immobilization may be a good alternative to vehicle impoundment in that it avoids the storage costs of impoundment and there is some evidence that this approach may be effective in reducing recidivism (Voas, Tippetts, & Taylor, 1997b).

Conclusions

In summary, every State in the United States has adopted at least one law allowing for vehicle sanctions for DWI or DWS offenders and several States now allow multiple vehicle sanctions. In many States, however, these laws are not being used often. Administrative application of these sanctions helps, but there are still a number of barriers that need to be overcome. Family hardship issues and the monitoring of compliance with sanctions are significant system problems that need to be addressed. Strategies that may increase the use and effectiveness of vehicle sanctions include:

(1) Imposing mandatory electronic house arrest (allowing only travel to and from work) for at least 90 days on offenders as an alternative to installing an alcohol ignition interlock in their vehicles. This can serve as an incentive to install the interlock.

(2) Not allowing the sale or transfer of title of any vehicle(s) owned by offenders after their arrest for DWI or DWS and not before the adjudication of the charges.

(3) Using DWI fines to compensate State or local officials (or their contractors) to follow up on offenders to ensure that vehicle sanctions are implemented appropriately.

Background

Repeat offenders convicted of driving while intoxicated or driving under the influence are four times more likely to be intoxicated when involved in a fatal crash than drivers without prior DWI convictions (Hedlund & Fell, 1995). The arrest and conviction of such offenders should provide the means to prevent these high-risk DWI drivers from becoming crash involved in the future. However, other than long-term incarceration, which prevents crash involvement while the offender is in jail but has little effect following release (Voas, 1986), there is no certain method for keeping DWI offenders from driving while impaired in the future. Historically, suspension of the driver's license has been the most widely used and effective method of protecting the public against the increased risk to innocent drivers presented by DWI offenders (Coppin & Oldenbeek, 1965; Peck, 1991; Williams, Hagen, & McConnell, 1984; Peck, Sadler, & Perrine, 1985; McKnight & Voas, 1991). Although approximately 75% of license-suspended offenders report that they continue to drive (Ross & Gonzales, 1988), they appear to drive less and more conservatively. Consequently, fully suspended drivers have lower recidivism rates than those who are not suspended. Still, DeYoung, Peck, and Helander (1997) found that compared to fully licensed drivers, suspended offenders have 3.7 times the risk of being at fault in a fatal crash. Moreover, Griffin and DeLaZerda (2000) report that 7.4% of the drivers in fatal crashes have suspended or revoked licenses and 20% of fatal crashes in the United States involve improperly licensed drivers.

Thus, driving by DWI offenders who are improperly licensed is a significant problem because enforcing the law against driving while suspended is difficult for the police. There is no way for a police officer to know from outside the car whether the driver is properly licensed, and police are not allowed to stop a vehicle without reasonable suspicion that an offense has been committed. Many offenders are aware of this and attempt to curtail their driving in heavily patrolled locations. They also try to avoid attracting an officer's attention by carefully observing traffic regulations. This has its benefits in reducing the crash involvement of suspended offenders, but to the extent that they avoid apprehension, many offenders are encouraged to delay reinstatement of their licenses. Reinstatement may be expensive to them and require attendance at treatment programs and other remedial actions. Tashima and Helander (1999) reported that 84% of California DWI offenders failed to reinstate their driver's licenses within 1 year of becoming eligible to do so.

It is clear many suspended DWI offenders continue to drive to some extent (Ross & Gonzales, 1988). McCartt, Geary, and Nissen (2002) reported that strong enforcement and penalties for DWS does reduce the amount of illicit driving. In this study covert observations were made of the driving behavior of suspended DWI offenders in two separate jurisdictions. In Milwaukee, Wisconsin, where the penalties for DUI and DWS were perceived to be relatively low by local drivers, they found that 88% of the suspended DWI offenders drove illicitly; and in Bergen County, New Jersey, where the penalties were perceived to be relatively high, 36% of offenders drove illicitly. These results provide evidence that illicit driving by DWI offenders may be reduced if sufficient resources are devoted to DWS enforcement and the penalties are considered to be severe. However, the current resources of police departments are strained by the multiple demands on their attention, particularly with the increasing burdens of homeland security activities.

Because studies such as those described above indicate that a substantial number of suspended DWI offenders drive illegally, many States and the Federal government have begun to enact legislation directed at the vehicles owned by offenders to limit their illicit driving. Such policies fall into three broad categories: (1) programs that confiscate or impound the vehicle; (2) programs that confiscate the vehicle plates and cancel the vehicle registration and/or require special plates on

the vehicles of DWI offenders; and (3) devices installed in the vehicle that prevent its operation if the driver has been drinking alcohol (ignition interlocks). None of these vehicle control approaches is foolproof because they all can be circumvented by the offender who drives another vehicle registered in someone else's name. However, as with license suspension, several of the vehicle sanctions have been found to reduce recidivism (Voas & DeYoung, 2002; Voas, Marques, Tippetts, & Beirness, 1999; Beck, Rauch, Baker, & Williams, 1999; Voas & Tippetts, 1995; Voas, Tippetts, & Lange, 1997a; Voas et al., 1997b).

The driver's license suspension sanction is imposed by one of two State authorities: the criminal court system or the department of motor vehicles. The failure of many of the courts to apply licensing sanctions in a timely fashion resulted in passage of the administrative license suspension (ALS) or administration license revocation (ALR) laws in the 1980s, which provided the DMVs with the authority to immediately suspend an offender's license at the time of a DWI or DUI arrest. This has resulted in more certain and more immediate license actions and has reduced the court's role in imposing that penalty. While vehicle sanctions have primarily been a court function, some States have adopted administrative vehicle registration suspension and/or license plate impoundment and have added alcohol ignition interlock programs to the reinstatement requirements, programs that must be managed by DMVs.

This report updates through December 2004 a 1992 NHTSA-funded study of vehicle sanctions (Voas, 1992). That study found relatively few jurisdictions with active vehicle sanction programs. Although 32 States were found to have laws providing for various vehicle sanctions, such procedures were rarely used. Shortly after the 1992 report, States began to enact broader vehicle action laws and NHTSA initiated several studies of specific programs such as vehicle impoundment and immobilization, license plate actions, and alcohol ignition interlocks. In addition, the Federal government prodded States to take action with the TEA-21 legislation of 1998 and the SAFETEA-LU legislation in 2005.

This current study updates the 1992 effort with a contemporary overview of vehicle sanction laws and their application. It goes beyond the earlier study by reporting on the literature from abroad, incorporating a review of ignition interlock devices (not considered in the earlier study), and providing a more recent list of vehicle sanctions on a State-by-State basis.

This study also describes current barriers and issues associated with the implementation of these sanctions and recommendations to overcome or deal with them. With the substantial increase in vehicle sanction laws and the improvements in interlock technology, this report is intended to provide a clearer picture of the potential of vehicle sanctions on reducing recidivism of DWI offenders.

This is Volume I of a two-volume report: Volume I synthesizes and summarizes the findings; whereas Volume II describes vehicle sanctions status by State as of the end of 2004.

Methods

Information on State's vehicle sanctions laws was collected primarily from NHTSA's *Digest of State Alcohol-Safety Related Legislation*. The most recent version available at the time of data collection for this study was the 21st edition, current as of January 1, 2003 (NHTSA, 2003). Additionally, information was collected from MADD 's *Rating the States* report for 2002 (MADD, 2002) and from the 2003 edition of the Sourcebook for the Century Council (The Century Council, 2003). Information on the existence of vehicle sanctions laws, whether those laws appeared to be mandatory or discretionary, and whether they were applied through the courts or administratively (e.g., through a division of motor vehicles), was recorded in a database. Pertinent text describing the laws was copied from the NHTSA Digest into the database for easy reference. This was accomplished separately for each sanction type and for each offender type (first offender, multiple offender, DWS, or test refusal).

Information collected during this phase of the project was used to create written reports describing the vehicle sanctions laws for each State, based on the information found from the above sources. State highway safety office representatives were subsequently contacted in each State and the project was described to them. Highway safety representatives were asked for names and contact information of people who would be able to verify the accuracy of the vehicle sanctions that were documented for that State and provide additional information on their usage. In some cases the representatives were able to provide some or all of the information. Most often the representatives provided names of several contacts with knowledge or expertise on one or more of the States' vehicle sanctions. Often, it was necessary to speak with several contacts before it was possible to find State officials who were familiar with the way in which vehicle sanctions were being implemented in the State. Information was collected through the spring, summer and fall of 2004 and, where evidence suggested that laws may have changed, updated information was sought in the winter of 2004.

State officials were interviewed in open-ended discussions. They were asked to identify any corrections or clarifications needed in the reports of States' vehicle sanctions laws. Interview discussion also included:

- The extent to which individual vehicle sanction laws were being used.
- If laws were not being used, why they were not.
- The extent to which they were aware of any successes or problems associated with the enforcement of the laws.
- Knowledge of any studies of the effectiveness of the vehicle sanctions programs.

Given the limitations on the scope of the study, it was generally not possible to get exact numbers of the offenders who had been sentenced to the various vehicle sanctions. State officials were asked to provide their general impression of the extent to which the laws were being used. In some cases, officials were reluctant to provide even general impressions much less specific data. Given the difficulty of finding exact statistics, these cases generally resulted in a lack of information on vehicle sanctions usage.

A literature review was also conducted as part of this study. The first step in this process was to identify the appropriate documents to review. These were identified through two basic mechanisms: (1) conventional literature searches of the published literature and (2) networking with colleagues in the programmatic and research communities both within the United States and abroad. Project staff conducted a literature search of various literature databases (such as Lexis Nexis, Medline, TRIS, Dialog, NCJRS, the DOT Library, and the University of Michigan Transportation

Research Institute Library) to identify and obtain abstracts of publications and news articles relating to vehicle sanctions from 1990 to the present.

Additional information on potentially valuable studies was gained through the process of interviewing contacts in the States. Another source of information was existing summaries of the literature accessed via various abstract databases. Finally, NHTSA's research office was asked to provide any Federal government reports that may not have appeared in the published databases. All data in this report relate to laws and policies on the books as of the end of 2004.

Overview of Vehicle Sanction Laws

Vehicle sanctions for DUI and other alcohol-related offenses fall into six categories. Below is a brief overview of the States that, as of the end of 2004, had laws on the books pertaining to vehicle sanctions that were applied to impaired driving or driving while suspended offenders. Changes made or new laws adopted since that date are not covered in this report.

Summary of States With Vehicle Sanctions (2004)

License Plate/Registration Actions

Twenty-two States had laws permitting license plate and/or registration confiscation/suspension as of the end of 2004 (see Figure 1 below). This breaks down into 19 States (AL, DE, GA, HI, IA, IL, KS, KY, ME, MI, MN, ND, NE, NH, NJ, OH, RI, SD, & WY) with such laws for impaired driving offenses and 10 States (AR, DE, IA, IL, MA, MD, ME, MI, ND, & RI) with such laws for DWS offenses.

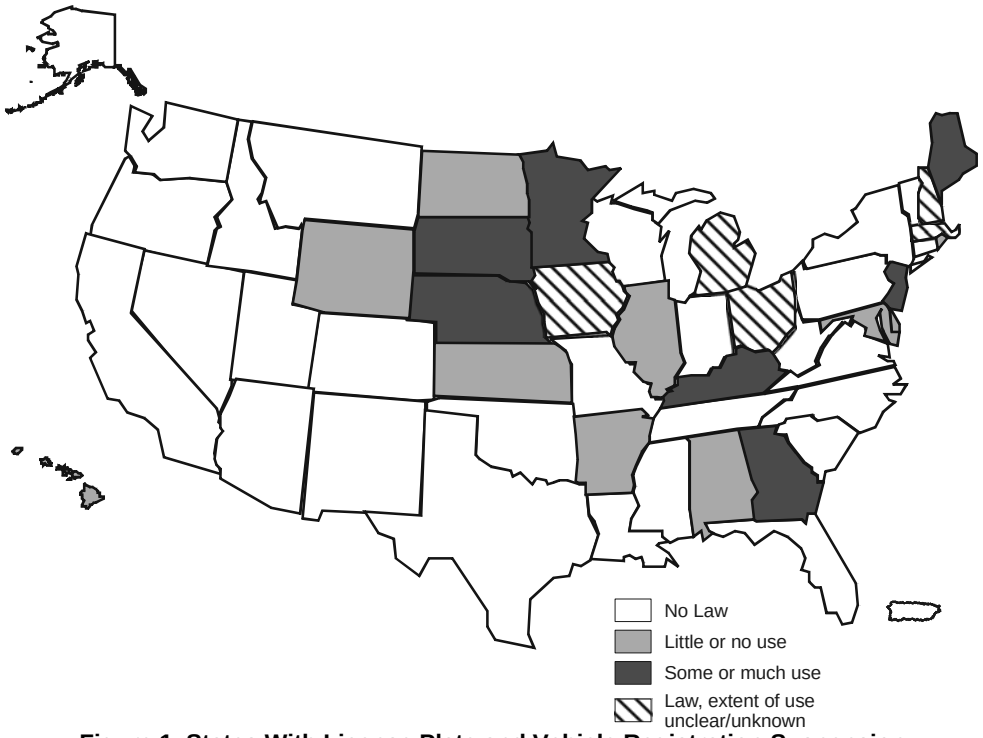

Figure 1. States With License Plate and Vehicle Registration Suspension Laws and Their Usage (2004)

Special License Plates

Six States (GA, HI, MI, MN, NJ, & OH) had laws permitting special license plates for impaired driving offenses as of the end of 2004 (see Figure 2 below).

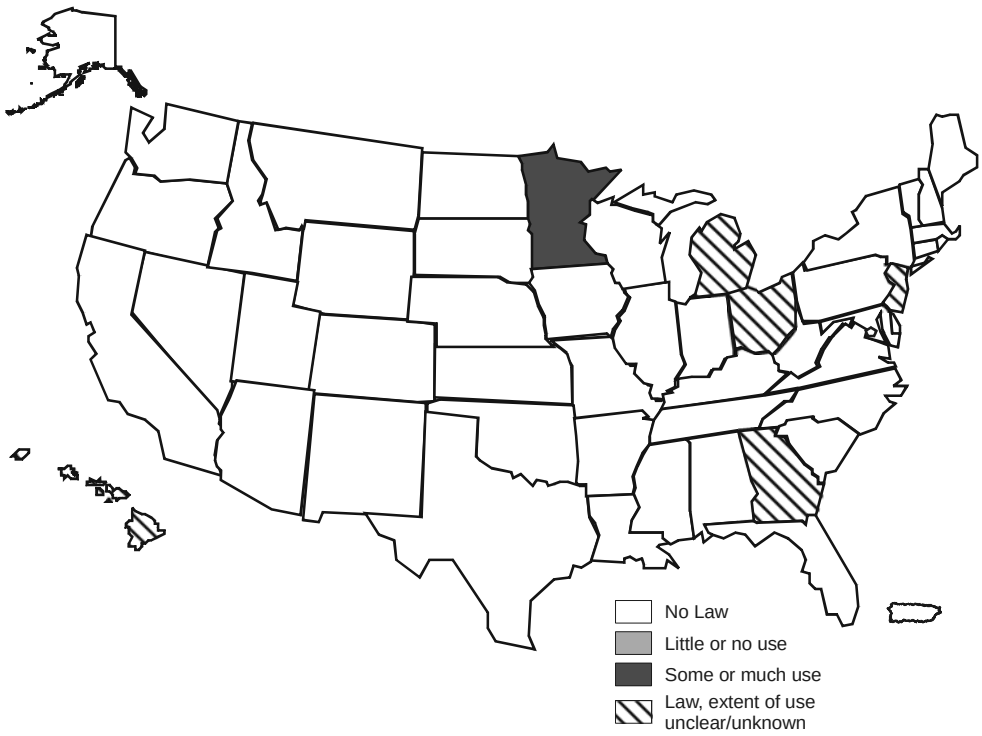

Figure 2. States With Special License Plate Laws and Their Usage (2004)

Impoundment

Fifteen States had laws permitting vehicle impoundment as of the end of 2004 (see Figure 3 below). This breaks down into 11 States with laws permitting impoundment for impaired driving offenses (AK, CA, CT, FL, IA, KS, MO, MS, OR, VA, & WA) and 9 States with laws for DWS offenses (AL, AZ, CA, CT, IA, MD, NE, OR, & VA). As can be seen, there is some overlap. This does not include State laws where the impoundment is temporary (hours) to prevent impaired offenders from driving after release from arrest.

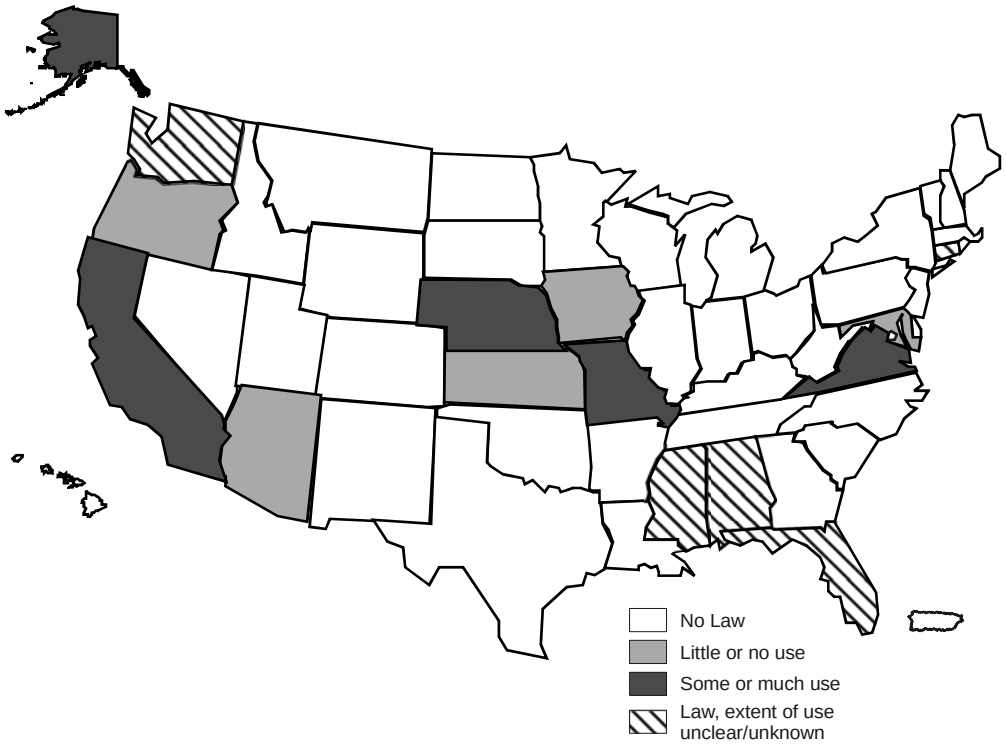

Figure 3. States With Vehicle Impoundment Laws and Their Usage (2004) [1]

[1] For the purposes of this report, only States with laws allowing long-term vehicle impoundment (e.g., at least several months) are considered impoundment law States. We identified an additional 8 States (Connecticut, District of Columbia, Florida, Illinois, Maine, Minnesota, New Jersey, and Wyoming) with laws limited to short-term impoundment (up to 48 hours). Nearly all of the impoundment laws in these 8 States allow for some period of vehicle impoundment for all DUI offenders, ostensibly preventing offenders from driving impaired after release from police custody. Illinois takes a somewhat different approach, increasing the number of hours of impoundment based on the number of prior offenses. Other States likely rely on policies at the local level to prevent DUI offenders from driving immediately after release from custody.

Immobilization

Thirteen States had laws permitting vehicle immobilization as of the end of 2004 (see Figure 4 below). This breaks down into 13 States (FL, IA, IL, KS, MI, MS, NM, OH, OR, SC, VA, VT, & WI) with laws permitting immobilization for impaired driving offenses and 4 States (IL, OR, SC, & VA) with additional laws permitting immobilization for DWS.

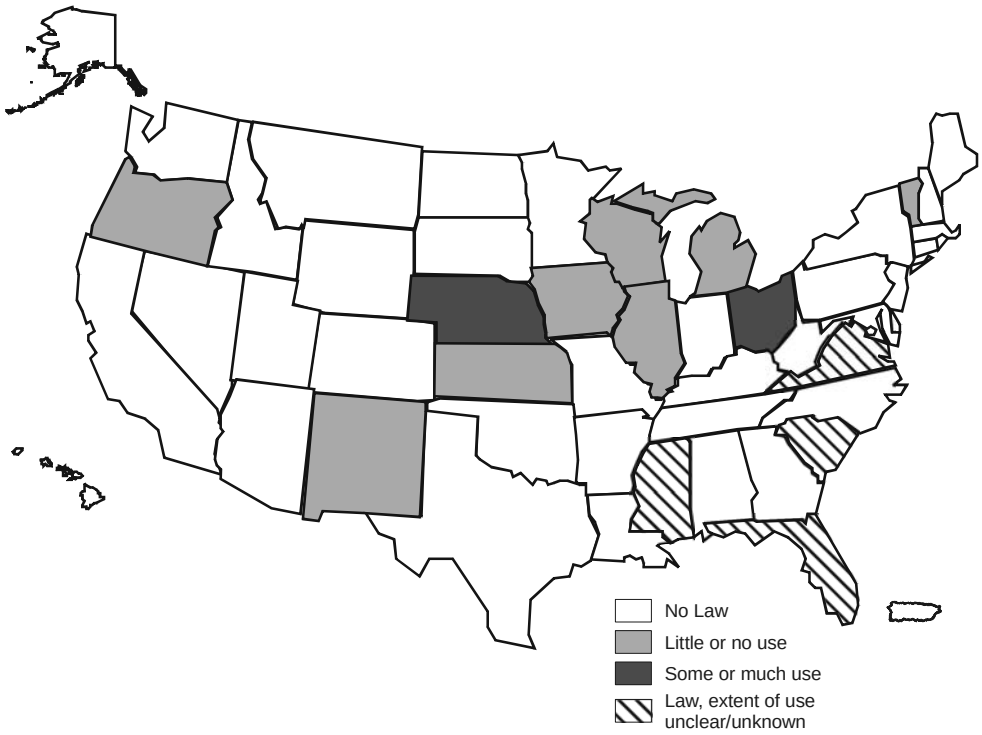

Figure 4. States With Vehicle Immobilization Laws and Their Usage (2004)

Forfeiture

Thirty States had laws permitting vehicle forfeiture as of the end of 2004 (see Figure 5 below). This breaks down into 29 States (AK, AR, AZ, CA, CO, GA, IA, IL, LA, MI, MN, MO, MS, MT, NC, ND, NM, NY, OH, OK, OR, PA, RI, SC, TN, TX, VT, WA, & WI) with laws permitting vehicle forfeiture for impaired driving offenses and 10 States (AZ, CA, CO, IA, IL, ME, MN, MO, NC, & TN) with laws permitting vehicle forfeiture for DWS offenses.

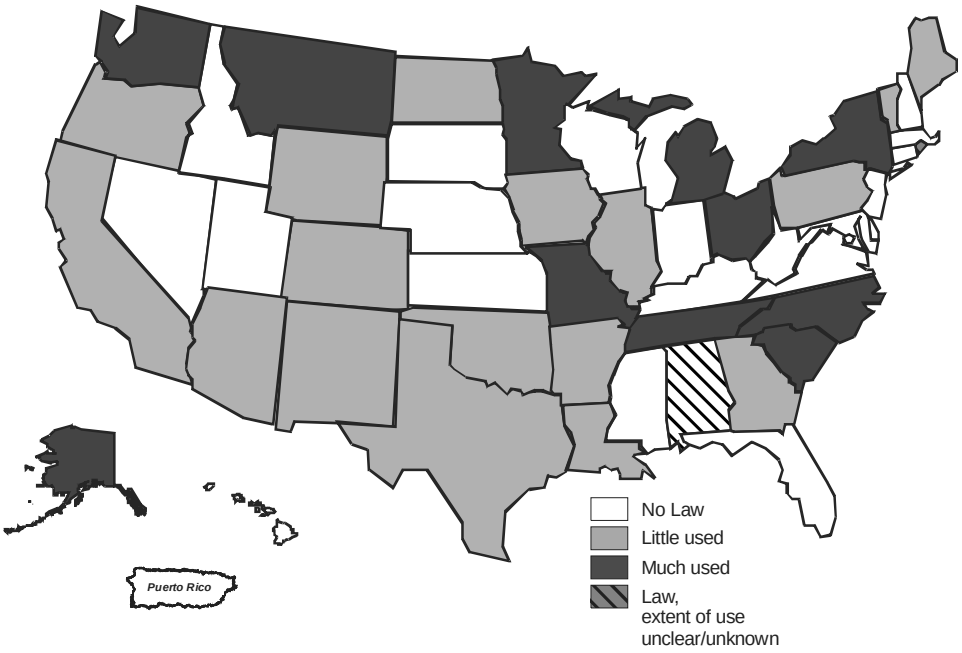

Figure 5. States With Vehicle Forfeiture Laws and Their Usage (2004)

Interlocks

Forty-three States had laws allowing the installation of alcohol ignition interlocks as of the end of 2004 (see Figure 6 below). This breaks down into 43 States (AK, AR, AZ, CA, CO, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, MI, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, TN, TX, UT, VA, WA, WI, & WV) with laws permitting interlocks for impaired driving offenses and 4 States (AR, AZ, CA, & CO) with additional laws permitting interlocks for DWS.

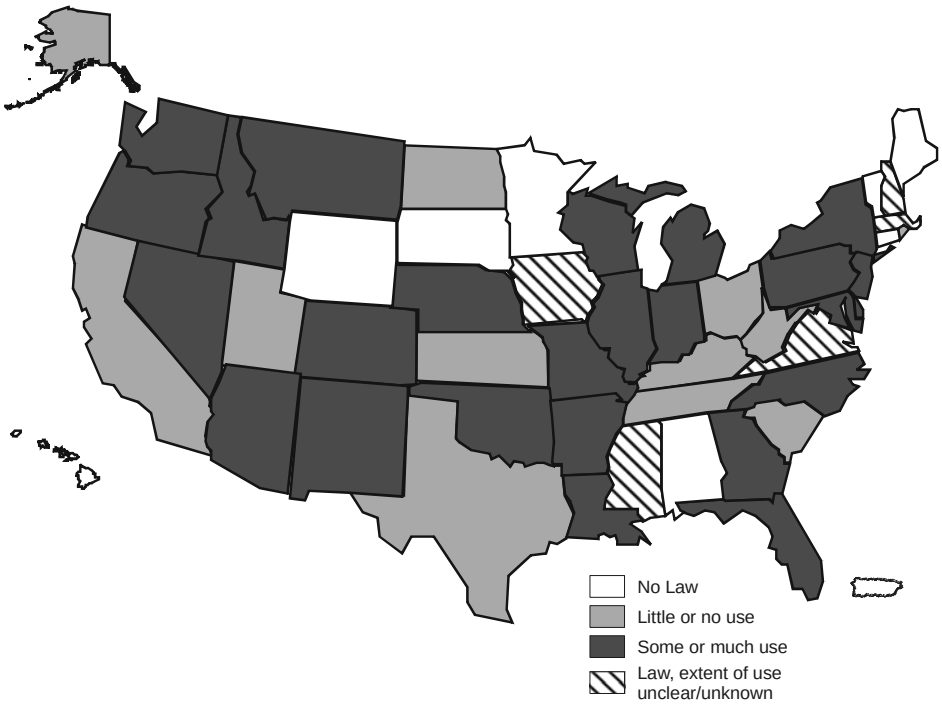

Figure 6. States With Alcohol Ignition Interlock Laws and Their Usage (2004)

Some appreciation for the increase in the use of vehicle sanctions can be gained from the Tables in Appendix A that provide a more detailed summary of the status of current State laws. Compared to the 1992 report (Voas, 1992) when only 32 States had any type of vehicle sanction and most of those were rarely imposed, in 2004 it was possible to identify 131 pieces of legislation, with all 50 States having at least one vehicle sanction law. Keep in mind, alcohol ignition interlock laws were not included in that earlier 1992 study. Although it was difficult to obtain quantitative information on the application of vehicle sanctions, it appears that at least 51 of the 131 are laws are used regularly (See Volume II: Vehicle Sanction Status by State). In considering these summary tables, note that alcohol ignition interlock laws are by far the most frequent in the States (43), followed by vehicle forfeiture laws (31). Half of the States (25) now have alcohol ignition interlock laws that are actively being applied on at least some of the eligible offenders.

Vehicle Sanctions in the United States

Actions Against Vehicle Registrations

State departments of motor vehicles have authority over vehicle registrations and the issuance of vehicle tags. In connection with vehicle sanctions, the department's administrative powers can be employed to: (1) cancel the registration of vehicles belonging to DUI offenders and impound or destroy the plates, (2) issue special license plates or impound the license plates of offenders for those vehicles, or (3) make an alcohol ignition interlock system a condition of license reinstatement.

Vehicle Registration Actions

Safety advocates have generally favored administrative application of the license suspension sanction because it can be conducted at or close to the date of the offense (swift) and can be applied with more certainty (sure) and consistently via the State DMV. Thus, ALR laws have received strong support and have been shown to be effective (Voas, Tippetts, & Fell, 2000a). Because the vehicle registration is a State administrative function, vehicle license plates belong to the State and are not private property. License plates can be seized and cancelled administratively. Twenty-two States had laws permitting license plate and/or registration confiscation/suspension for either DUI or driving while suspended; 17 States (AL, DE, GA, HI, IA, IL, KS, KY, ME, MI, MN, ND, NE, NH, NJ, OH, RI, SD, & WY) had such laws for impaired driving and 10 States (AR, DE, IA, IL, MA, MD, ME, MI, ND, & RI) for DWS offenses as of the end of 2004.

In some State registration systems the transfer of a vehicle is permitted without ensuring that the transfer is recorded. The registration goes with the vehicle and the transfer of the title is up to the purchaser. In such States, the DUI offender can purchase the vehicle but not register the transfer with the DMV. Thus, when the vehicle is seized, it will be listed as belonging to the previous non-offender owner. If the vehicle registration and license plate sanctions are to be effective, DMV record systems need to insure that ownership can not be transferred without a record appearing on the motor vehicle file.

License Plate Actions

Special License Plates

Six States (GA, HI, MI, MN, NJ, & OH) had laws permitting special license plates for impaired driving offenses as of the end of 2004. The original national study of vehicle sanctioning procedures (Voas, 1992) noted that several States provided for the suspension of the registration of vehicles owned by DWI offenders for the period of the driver's license suspension. Some States, notably Minnesota and Ohio, provided for a special license plate, or a "Family Plate," that would allow family members to drive the offender's vehicle. However, the license plate was marked so that the police could stop the vehicle and determine whether the suspended offender was operating it. That study also noted that several States had laws permitting the impoundment and the immobilization (in New Mexico) of the offender's vehicle. But that sanction was rarely applied, in part because the local community often was burdened with storage and towing costs when offenders failed to pick up their vehicles after the impoundment period. At that time, forfeiture programs were rare and primarily applied to multiple (three or more prior DWI) offenders. Also, the only large-scale vehicle plate tagging programs were in the States of Washington and Oregon, where the police could pick up the vehicle registration and place a sticker on the vehicle license plate of a car driven by an

unlicensed DWI offender. That program was shown to be effective in Oregon but not in Washington (Voas et al., 1997a).

The 1992 vehicle sanction study (Voas, 1992) found regulations in 12 States allowing the registration of a DUI offender-owned vehicle to be suspended for the same period as the driver's license. One purpose for this regulation was to ensure that the vehicle was properly insured. In most cases, however, paying a fee and demonstrating financial responsibility through the submission of a letter from the insurance company could remove the registration suspension. A significant limitation in most jurisdictions was that the DMVs had to depend upon local enforcement agencies to apprehend drivers operating vehicles with suspended registrations. Since many Sheriffs offices are over whelmed with large numbers of warrants to be served, and many of these are for serious criminal offenders, confiscating the license plates of suspended DUIs has generally proved to be impractical. Ohio was an exception: its DMV had its own enforcement section that could track down offender' vehicles and remove the plate if they were not surrendered by the owner.

In the 1992 study, the laws of two States, Ohio and Minnesota, provided for the offender's dependents by issuing 'family plates.' DUI offenders were required to turn in their vehicle plates but could apply for the special plates that permitted non-offending family members to operate the offender's vehicle. These special plates carried special numbers or colors that made them recognizable to the police and providing the "probable cause" basis that allowed officers to stop the vehicle to determine whether the operator was properly licensed. Unlike the occasional unique sentences of some judges that require DUIs to install plates saying 'drunk driver' or similar, these laws were intended to benefit family members, not penalize offenders. Despite this intent, relatively few offenders in either State took advantage of the opportunity to apply for 'family plates.'

Effectiveness of the Oregon and Washington Sticker Programs

The States of Oregon and Washington enacted "Zebra Tag" laws that allowed law enforcement officers to take the driver's vehicle registration when apprehending a driver without a valid license. The driver was given a temporary registration certificate, and a striped ("Zebra") sticker was placed over the annual sticker on the vehicle license plate.

Both the general and specific deterrent effects of Washington and Oregon's Zebra Tag laws were studied by Voas, Tippetts, and Lange (1997a) under NHTSA sponsorship. For the general deterrent analysis of reinstated DUI offenders, Voas and his colleagues used interrupted time series analysis (ARIMA) to determine whether the monthly rates of alcohol-related offenses, DWS offenses, moving traffic violations, and crashes among drivers suspended for DUI changed after the law went into effect. The results showed a significant general deterrent effect in Oregon, but not in Washington, which the authors attribute partially to weaker enforcement and fewer eligible offenders in Washington. These findings, though not definitive, were fairly convincing. The one potential threat to the validity of the study was the possible impact of actions outside the State that might have affected the results, because the control group was not entirely equivalent to the group impacted by the legislation. However, results similar to those of the Voas, Tippets and Lange study were observed by Berg, Bodenroeder, Finnigan, and Jones (1993) in Oregon and Salzberg (1991) in Washington.

The specific deterrent analysis conducted by Voas and his colleagues (1997a) was a quasi-experiment in which two groups of offenders in Oregon were studied. (In Washington, it was not possible to determine that eligible drivers actually were "stickered," so the study was limited to Oregon.) The treatment group consisted of DWS offenders whose vehicles received a sticker, while the control group consisted of similar drivers whose vehicles did not receive a sticker. Analysis of covariance was used to attempt to control group bias, resulting in statistically significant differences between the groups on three subsequent measures: DUI violations, DWS violations, and moving

violations, with the "sticker" group faring better. On a fourth measure, subsequent crashes, the differences between the groups were in the right direction but not statistically significant. While the results of the sticker program in Oregon appear promising, as of the end of 2004 no other State had passed such legislation and both Oregon and Washington allowed their sticker programs to expire.

Effectiveness of the Minnesota Plate Impoundment Law

For several years, a Minnesota law allowed judges to confiscate the license plates of third-time DUI offenders, but relatively few of them used this sanction and the law had little impact (Ross, Simon, & Cleary, 1995). Consequently, in 1991, the law was changed to provide for administrative confiscation of the license plates at the time of arrest. Rodgers (1994) evaluated this new law and found that license plate actions increased markedly. In addition, he conducted a quasi-experimental study using survival analysis to see whether the law reduced recidivism. The study found that after 2 years, third-time DUI violators whose license plates were confiscated had 50% fewer DUI convictions than similar offenders who were eligible but did not have their plates impounded. Although the treatment and control groups were not strictly comparable because they were not randomly assigned, the study did check for group bias with respect to age and gender and found none.

Minnesota strengthened its plate impoundment program beginning on January 1, 1998, by providing for the impoundment of the plates of first offenders with BACs at or above .20 grams per deciliter (g/dL). The law is stronger than generally applied in other contexts because it provides for impoundment of the plate on the vehicle in which the DUI offense was committed even if not owned by the offender. The law applies as long as the non-offender owner had given permission for the offender to drive the car. In addition to Minnesota, Michigan passed legislation providing that the license plates of vehicles driven by any repeat alcohol offender may be confiscated at the time of arrest. The law also applied to a third or subsequent DWS violator. This sanction was applied to approximately 45% of the repeat alcohol offenders and to 15% of the eligible DWS offenders. The impact of the law on recidivism has yet to be fully evaluated (Eby et al., 2002).

Given the results from Michigan and Minnesota, it appears that when the vehicle license plate is seized at the time of the DUI arrest, and particularly where it can be impounded even when the vehicle belongs to a non-offender owner, plate confiscation may be an effective specific deterrent. In comparison to these administrative actions, laws that depend on court conviction for the impoundment action are not as effective. Further it is clear that confiscating the plate at the time of arrest is important because State DMVs generally lack the resources to find and seize the plates once the vehicles have been returned to their owners.

Actions Against Vehicles

Vehicle Impoundment/Immobilization

The 1992 study (Voas, 1992) found 10 States with impoundment laws, but none used the sanction with sufficient frequency to permit evaluation. A good example of a State with a potentially strong, yet essentially unused, vehicle impoundment law was California. The legislation in California provided for a 30-day impoundment of the vehicle for first DUI offenders and 90 days for second offenders. A study of 149 of the 194 courts handling DUI offenders in California found that only 6 reported using that sanction, and a follow-up study found that its use was rare even in those 6 courts.

Another example of an underused impoundment sanction was the Aggravated Unlicensed Operation law in New York. It provided for impounding the vehicle of impaired and unlicensed drivers from the time of arrest through the trial. It was infrequently applied, however, because the local jurisdiction had to pay towing and storage costs in excess of the sales value of unclaimed

vehicles. A method of avoiding high storage costs is to immobilize the vehicle with a "club" or "boot" device on the owner's property. New Mexico was the only State that made any significant use of immobilization (perhaps in 10% to 15% of multiple DUI cases). The judges in Albuquerque, however, reported that immobilization was difficult to administer, unfair to the offender's family, and did not have much impact.

In contrast with this relatively limited use in 1992, 15 States were reported to have laws permitting impoundment as of December 2004. This breaks down into 11 States with laws permitting impoundment for impaired driving offenses (AK, CA, CT, FL, IA, KS, MO, MS, OR, VA, & WA) and 9 States with laws for DWS offenses (AL, AZ, CA, CT, IA, MD, NE, OR, & VA). As can be seen, there is some overlap. This does not include State laws where the impoundment is temporary (hours) to prevent impaired offenders from driving after release from arrest. Thirteen States had laws permitting vehicle immobilization. This breaks down into 13 States (FL, IA, IL, KS, MI, MS, NM, OH, OR, SC, VA, VT, & WI) with laws permitting immobilization for impaired driving offenses and 4 States (IL, OR, SC, & VA) with additional laws permitting immobilization for DWS.

While in 1992 there were no States that had evaluated the impact on recidivism of vehicle impoundment/immobilization programs, four large studies are currently available.

Canadian Province of Manitoba Impoundment Study

Manitoba enacted ALS and vehicle impoundment programs that went into effect in 1989. Under these programs, vehicles are seized and held for 30 days when an offender is apprehended for DWS. To retrieve their vehicles, offenders must pay towing and storage fees, which at the time of the study were approximately $264 (Canadian).

Beirness, Simpson, Mayhew, and Jonah (1997) evaluated both the general and specific deterrent effects of Manitoba's program. The general deterrent analysis used ARIMA time series models to evaluate whether there was a significant decline in fatal crashes and nighttime injury crashes of single vehicles associated with the introduction of vehicle impoundment. Although the analysis did show a decline in both measures contemporaneous with the introduction of impoundment, the results are ambiguous because Manitoba introduced the ALS law at the same time as the impoundment law. Therefore, the effects of the two laws are confounded, and it is not possible to isolate the effects of impoundment only.

The specific deterrent analysis of Manitoba's impoundment program was also assessed. Drivers suspended after the introduction of vehicle impoundment in Manitoba had fewer re-arrests for DWS than drivers suspended before the law. However, the lack of statistical and design controls, plus the fact that the analysis did not specifically target offenders whose vehicles were actually seized and impounded, render the findings open to interpretation.

California Specific Deterrence Study

In 1995, California enacted two vehicle sanction laws for the DWS offense. One law provided for a one-month administrative impoundment of the vehicle driven by an unlicensed driver. Implementation of this law varied to some extent between communities but, in general, a vehicle belonging to a non-offender was held for the month unless the owner claimed that the vehicle had been driven without permission. Most communities in California implemented this first DWI offender law. The second piece of legislation in 1995 was a criminal law that provided for vehicle forfeiture for the second DWI offense. Forfeiture action potentially requires a trial in court. As a result, that law was only infrequently applied due to concern over the time required of city attorneys to prosecute the cases in court (Peck & Voas, 2002).

As part of a series of studies of vehicle sanctions funded by NHTSA, DeYoung (1999) evaluated the specific deterrent effect of a 1995 California law allowing police officers to seize and impound vehicles driven by suspended/revoked or unlicensed drivers for 30 days. Drawing records of DWS offenders from four cities (Riverside, San Diego, Stockton, and Santa Barbara), he compared the 1-year driving records of offenders whose vehicles were impounded with similar offenders whose vehicles were not impounded in the prior year. DeYoung found that first offenders (no prior convictions for DWS or DWU [driving-while-unlicensed]) whose vehicles were impounded had significantly fewer DWS/DWU convictions (24%), total moving violation convictions (18%), and crashes (25%) than the comparison group of first offenders whose vehicles were not impounded.

Impoundment had an even greater impact for repeat offenders, that is, those who had prior convictions for DWS/DWU. They had significantly fewer 1-year subsequent DWS/DWU convictions (34%), moving violation convictions (22%), and crashes (38%) than repeat offenders whose vehicles were not impounded. Although random assignment was not feasible in this study, statistical controls were used at several levels to control pre-existing group differences. The control group offenders were selected based upon propensity score matching methods. Additionally, various demographic, individual driving, and aggregate zip code variables were used as covariates in the analyses. Thus, although pre-existing group differences remain a threat in interpreting the findings, the extensive statistical controls used give added confidence to the results.

California General Deterrence Study

To determine the general deterrent effect of the California impound law, DeYoung (2000) used interrupted time series analysis (ARIMA models) to study the change in the crash rate of all suspended or revoked drivers in California. He found that, when the vehicle impoundment law was implemented, there was a 13.6% decline in crashes among that group. However, a comparison group of nonsuspended/nonrevoked drivers also demonstrated an 8.3% reduction in crash involvements during the same period. When the experience of the comparison group was included in the analysis, the difference for the suspended/revoked group was only marginally significant, suggesting that the vehicle impoundment law had relatively little general deterrent impact. The author hypothesized that the lack of a general deterrent impact may have been partially caused by relatively sparse publicity about the new law. This study used a comparison group to control for historical effects, using it both as a separate time series and as a simultaneous transfer function model to show joint effects. Although fairly well controlled, differential history effects upon the nonequivalent treatment and control groups may have affected this study.

Franklin County, Ohio, Study

In September 1997, Ohio strengthened its vehicle "immobilization" law to include sanctions of 30 and 60 days applicable to first and second DWS offenders and 90 and 180 days applicable to second- and third-DUI offenders. While officially titled an immobilization law, vehicles were impounded at the time of arrest and only in some areas were they later immobilized on the property of the offender. Voas et al., (1997b) evaluated the Ohio program in Franklin County under NHTSA sponsorship, where both vehicle impoundment and immobilization were used. Upon arrest of an offender, the vehicle would be impounded pending a court hearing within 10 days, at which time it might be immobilized or continue to be impounded.

The research involved a quasi-experimental analysis of the effect of immobilization/ impoundment in Franklin County. The study used survival analysis, including Cox regression with two covariates, age and sex. The impact on moving violations and repeat DUI offenses while the vehicle was not available to the offender was analyzed separately from the post-sanction period when the vehicle was released to the registered owner. The comparison group consisted of DUI or DWS offenders who were eligible for a vehicle sanction but did not receive it. The results showed

that there was a significant reduction in both DWS and DUI offenses in the year following the sanction for offenders whose vehicles were impounded/immobilized, compared to the control group of offenders who did not experience this sanction.

Effect sizes of 50% to 60% were observed during the vehicle impoundment period, and effect sizes of 25% to 35% were found during the post-sanction period. These results demonstrate that the impact of vehicle impoundment may extend beyond the impoundment period itself. Whether this is a deterrent or incapacitation effect is not clear. The offender may avoid committing offenses fearing future vehicle impoundments—a deterrent effect. Alternatively, the offender may not have access to the vehicle once it is released by the police, either because it was not retrieved from impoundment or because the vehicle's owner would no longer allow the offender to use it—an incapacitation effect. This was a fairly well controlled quasi-experimental study. It was, however, limited as only covariates for age and gender were available, thus the control group may have differed from the impounded/immobilized group in ways that affected the results. Interestingly, the effect sizes are relatively large and in the same general range as those found by DeYoung in California.

Hamilton County, Ohio, Study

Voas et al. (1998) replicated the Franklin County study in Hamilton County under NHTSA sponsorship where only impoundment was used (immobilization was not used). The results were essentially similar to those in Franklin County. During the sanction period, recidivism for DUI offenders was reduced by 60% to 80%; during the post-sanction period, recidivism was reduced from a third to a half of the level of the comparison group.

The extended impact of impoundment is generally unique among vehicle sanctions, in that neither basic license suspension, nor interlocks have been definitely demonstrated to have a continuing impact beyond the period of the sanction itself.

Vehicle Forfeiture

The 1992 study (Voas, 1992) found laws in 12 States that provided for the confiscation of vehicles of certain multiple-DUI offenders. Because those laws applied primarily to individuals with more than two DUI offenses, few offenders were subject to this sanction. The review indicated that there was generally no central source for forfeiture records. Further, this sanction was underused because of the amount of administrative paperwork and the failure of vehicle sales to cover the cost of towing and storing the vehicle. For these reasons, relatively few vehicles have been forfeited; thus, few studies of forfeiture have been conducted. Thirty States had laws permitting vehicle forfeiture as of December 2004. This breaks down into 29 States (AK, AR, AZ, CA, CO, GA, IA, IL, LA, MI, MN, MO, MS, MT, NC, ND, NM, NY, OH, OK, OR, PA, RI, SC, TN, TX, VT, WA, & WI) with laws permitting vehicle forfeiture for impaired driving offenses and 10 States (AZ, CA, CO, IA, IL, ME, MN, MO, NC, & TN) with laws permitting vehicle forfeiture for DWS offenses.

The scientific data remains limited on the effectiveness of vehicle forfeiture on reducing recidivism and crashes. On the other hand, there is some evidence on the effectiveness of vehicle forfeiture from a quasi-experimental research study conducted in Portland, Oregon, and some anecdotal evidence from forfeiture programs in New York City and California.

Portland, Oregon

The city of Portland enacted a civil forfeiture program in 1989 that focused not on the behavior of the offender, but rather on the unlawful use of the vehicle irrespective of the culpability of the owner. Thus, in Portland, vehicles are seized for forfeiture as a public nuisance when drivers have lost their driving privilege because of a DUI conviction or when the driver is arrested as a

habitual traffic offender. A habitual traffic offender is defined as one who commits three or more serious traffic offenses, at least one of which is a DUI.

Crosby (1995) reported on a quasi-experimental study by The Reed College Public Policy Workshop, in conjunction with the Portland Police Bureau, evaluating the specific deterrent effects of Portland's forfeiture ordinance. All offenders whose vehicles were seized for forfeiture between 1990 and 1995 were compared with all offenders whose vehicles were not seized but were arrested for the same offenses. Cox regression was used with several demographic and prior driving variables to analyze the effects of forfeiture. The results showed that offenders whose vehicles were seized had a significantly longer time before re-arrest than offenders whose vehicles were not seized. Thus, seizure of the vehicle was associated with a better subsequent driving record. These findings were not only statistically significant, but were also large enough to be meaningful. The re-arrest rate was about 50% lower for offenders whose vehicles were seized than for their counterparts whose vehicles were not seized. The study also examined whether the effects of forfeiture were different than for impoundment, and found that offenders whose vehicles were simply impounded had about the same re-arrest rate as offenders whose vehicles were forfeited.

New York City Forfeiture

Safir, Grasso, and Messner (2000) have reported on an initiative in New York City that, like the local ordinance in Portland, is based on the city's administrative code providing for forfeiture of the "instrumentality" of the crime. Beginning in February 1999, the city police seized the vehicles of first and multiple DUI offenders. Forfeiture action was taken under three circumstances: (a) when the drunk driver owned the vehicle; (b) when the drunk driver was not the owner but the owner knew or should have known of the criminal use of the vehicle; or (c) when the drunk driver was the "beneficial owner" of the vehicle. As in Portland, the forfeiture process is a civil action that is completely separate from the underlying criminal DUI case, which is prosecuted by the District Attorney in criminal court. The New York Police Department's (NYPD) forfeiture program was challenged as being unconstitutional, but its constitutionality was upheld in New York State Supreme Court in *Grinberg v. Safir* (Grinberg v. Safir, 1999).

Between February 22, 1999, and December 31, 1999, the NYPD seized 1,458 vehicles in connection with DUI arrests and commenced 827 forfeiture actions. During that period, the police department instituted a pilot settlement policy for DUI forfeiture cases that allowed the vehicle to be returned to the defendant upon successful completion of an authorized alcohol-treatment program and the payment of a sum of money ($1,000 or less) to cover administrative and litigation costs. To qualify for that program, the driver had to have an arrest BAC of less than .20 g/dL and no previous DUI offenses. This allowed some first offenders to avoid having their vehicles forfeited. No evaluation of the effectiveness of this program was reported. The authors did report anecdotal evidence showing that while the ordinance was in effect, DUI arrests and DUI crashes decreased. However, because of the early stage in the application of the program and the lack of a research design with statistical controls, this report should be viewed with caution.

California Forfeiture Law

Concurrent with the implementation of a 30-day vehicle impoundment law for first-time DWS offenders on January 1, 1995, California also implemented a vehicle forfeiture law that prescribes forfeiture for repeat DWS/DWU offenders driving vehicles registered in their names. Although the impoundment law was widely applied throughout the State, with over 100,000 cars reportedly impounded in the first year of the legislation, the companion forfeiture law was fully used in only two or three communities. Peck and Voas (2002) conducted a survey of police departments receiving State grants to conduct impoundment programs to determine why they did not use the forfeiture provisions of the law. They identified five factors that accounted for the low application of

forfeiture: (a) the lack of support from the district attorneys (apparently because of prosecution costs); (b) the cumbersome administrative procedures; (c) the poor cost recovery (sale of vehicles does not return cost of seizure); (d) the high percentage of third-party owners for whom forfeiture does not apply, and (e) the 30-day impoundment was often equivalent to forfeiture because half of the offenders did not retrieve their vehicles. Despite the failure of most California communities to implement forfeiture programs, those that did (Santa Barbara and San Diego) found the process relatively straightforward and easy to apply. In Santa Barbara, 536 forfeiture cases were completed in the first 5 years that the law was in effect. Of these, only 16 cases required court hearings, and the district attorney prevailed in 15 cases. The average time between arrest and forfeiture was 6 to 7 weeks. In San Diego, 13% of the forfeiture cases went to court; of the 79 completed hearings, the district attorney prevailed in all but 8. Thus, in these selected communities forfeiture appeared to be implemented at relatively low cost, though no cost information was available. In San Francisco, where a special fee was assessed against the offender sufficient funds were collected to hire a special prosecutor to handle forfeiture cases. However, there are too few communities applying the forfeiture law in California to permit an objective evaluation of that law, particularly because the same communities are using the 30-day impoundment law that impacts a much larger offender group. Overall studies to date suggest that impoundment is an effective method of reducing the recidivism of DUI and DWS offenders. To be effective the vehicle must be impounded at the time of the arrest and a procedure must be devised to deal with non-offender owners. In Ohio, impoundment legislation was strengthened by two additional pieces of legislation, one that prevented an offender from registering another vehicle while the vehicle driven at the time of arrest was impounded and the other a law that allowed the police to hold the vehicle of a non-offender unless the owner could demonstrate that it had been driven without permission. Since a substantial proportion of offenders do not retrieve their vehicles, it is possible that some localities will be liable for storage and towing expenses where the sale of the offender's car does not raise sufficient funds to cover such expenses.

Controls Over Vehicle Operations

Alcohol Ignition Interlocks

Description

A BAIDD or Breath Alcohol Ignition Interlock Device is a device attached to the ignition of a vehicle that requires the operator to provide a breath sample for analysis prior to the engine being started. If the driver passes the breath test the car operates normally but if the test is failed the vehicle will not start. The units have four basic elements: (1) A breath alcohol sensor that records the driver's BAC and can be set to provide a warning if any alcohol is detected and to prevent engine ignition if the BAC is above a given threshold, often set at .02 or .03 g/dL; (2) A rolling retest system, which requires a new test be taken at predetermined intervals while the vehicle is driven to discourage drinking offenders from using a bystander to provide the breath sample prior to driving ; (3) A tamper-proof system for mounting the unit in the car that is inspected every 30 to 60 days; and (4) a data logging system that records both the BAC tests and engine operation, providing a record that insures that the offender is actually making use of the car and not simply parking it while driving another vehicle.

The first interlock was developed by the Borg Warner Company, an affiliate of General Motors, in 1969. Early devices employed semiconductor sensors and were somewhat unreliable. Moreover it was necessary to deal with the problem of non-drivers starting the vehicle for the DUI offender. Since the technology to provide a reliable system for identifying the person providing the

sample was not available at that time, it became necessary to require additional "rolling retests" after the vehicle was underway. Commercialization of the device was delayed for almost two decades pending the perfection of systems for preventing circumvention. By the late 1980s the industry began to produced "second generation" interlocks employing highly reliable fuel cell sensors, which were sufficiently tamper-proof to insure that the units could not be circumvented once installed without disclosing the fact at the monthly inspections.

In 1992, NHTSA issued "Model Specifications for Breath Alcohol Ignition Interlock Devices" (NHTSA, 2002) that recommended standards for sensitivity and reliability and provided for the incorporation of rolling retests and data recording systems on ignition interlocks to make circumvention difficult. The perfection of this technology left the use of a non-interlock vehicle as the only uncontrolled method for circumventing the interlock. The illicit driving of a non-interlocked car remains an important limitation of the interlock technology, which must be minimized by enforcement of the laws against driving while suspended. However, as noted below, there is evidence that despite this opportunity to use another vehicle, interlocks may reduce offender recidivism.

Compared to vehicle impoundment, vehicle plate seizure and registration cancellation, interlocks provide quite a different approach to controlling impaired driving by DUI offenders. Those vehicle sanctions are designed to prevent all driving by the offender while making some provision for the use of the vehicle by family members through special plates. The interlock permits family members and the DUI offender to operate the vehicle while preventing impaired driving of the instrumented car. Because the unit can function indefinitely at a cost of approximately $2 a day, it provides a method of maintaining control over the driving of DUI offenders for a relatively long time with minimum disruption of family activities or offender income.

To be effective, the interlock device must be implemented as part of a program to monitor the integrity of the unit and its installation in the vehicle. Generally a State-licensed service provider must install the unit and inspect it regularly (generally every 30 to 60 days) providing a report on any attempt to circumvent the device to a court probation officer or a department of motor vehicles driver analyst. Such monitoring systems, with substantial consequences for tampering with the device, are essential for insuring that offenders will not drive the interlocked vehicle while impaired. Courts vary in the stringency of the monitoring requirements they establish and the severity of the penalties they will impose for evidence of attempts to circumvent the device or high BAC tests.

Frequently, in addition to insuring that the offender does not circumvent the unit, courts will place limits on the BACs registered by the interlock recording system. The interlock may be used as a method of monitoring abstinence by establishing a sanction for any record of a high BAC recorded on the interlock, even though the device prevents the offender from driving. While the interlock BAC record can be used as an important source of information in court treatment programs (Marques, Voas, & Hodgins, 1998), it is also a strong predictor of recidivism following the removal of the interlock (Marques, Voas, & Tippetts, 2000).

Early implementation

During the later half of the 1980s, the production of effective hardware and the development of relatively low-cost service centers resulted in a number of local courts and statewide interlock programs targeting principally multiple-DUI offenders because most such offenders were viewed as having a drinking problem that prevented them from avoiding impaired driving. During this period, the interlock was generally offered to offenders as a method of driving legally for some portion to the time for which they would otherwise be fully suspended. West Virginia (Tippetts & Voas, 1998), California (DeYoung, Tashima, & Maston, 2005) and Alberta, Canada (Voas et al., 1999), among

others are examples of this policy. Because the decision to participate in an interlock program is left to the offender, such programs can be viewed as "voluntary" or "discretionary."

It soon became clear that only about 10% of the eligible offenders took advantage of such "voluntary" programs. Some of these eligible offenders may have decided not to drive during their suspension period. On the other hand, some offenders may avoid the units because they interfere with their drinking while other offenders may be annoyed or embarrassed if they installed an interlock on their vehicles. In most instances, the alternative for not selecting the interlock is much more attractive to the offender. Cost also appears to have been a factor. Many DUI offenders drive vehicles registered to others and may have been unable to get the owners to install the devices. Finally some State interlock programs were poorly advertised and some offenders were unaware of their existence (Tippetts & Voas, 1998).

One opportunity to increase the rate of installation of interlocks is to require them as a condition of posting bond for release from jail at the time of arrest. The interlock must then be maintained on the vehicle until the trial at which time the interlock requirement can be continued or canceled. This has both the advantage of immediately assuring control over the offenders impaired driving and ensuring that the vehicle is available for further application of the sanction at the time of the trial. Texas has such a provision for second DUI offenders, but it is not routinely applied and has not been evaluated. Another strategy to increase usage is to apply an alternative sanction that is much less appealing to the offender, such as electronic house arrest for 90 or more days. This strategy is being tried in New Mexico.

Evidence for effectiveness

The offenders who do participate in interlock programs have 50% to 90% lower DUI recidivism rates than similar DUI offenders who remain suspended (Voas et al., 1999; Coben & Larkin, 1999). Eight examples of the recidivism rate of offenders with interlocks installed on their cars compared to offenders who chose not to enter an interlock program is shown Figure 7. The horizontal line shows the recidivism level for non-interlock offenders, while each dark bar shows the recidivism level for similar offenders during the period that an interlock was installed on their vehicle. As can be seen while the interlock is on the offenders vehicle their recidivism is half or less that of the non-interlock offenders.

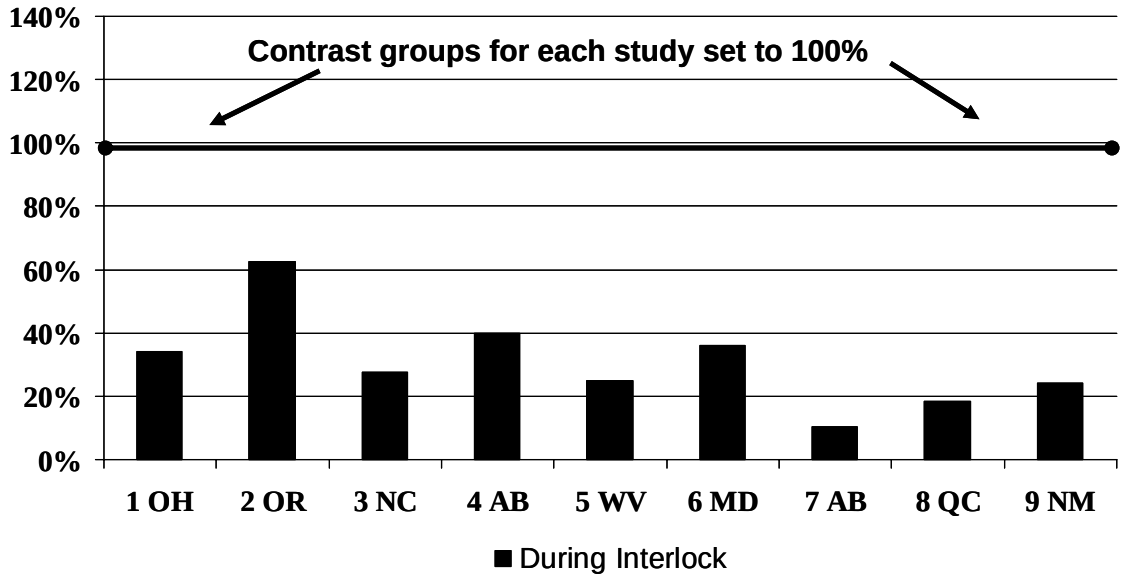

Figure 7. Nine Studies: Recidivism With an Interlock Relative to Contrast Groups

Although this would appear to provide relatively strong evidence for the effectiveness of interlocks, the small number of offenders who elect to install interlocks in discretionary programs leads to the question of whether this is simply the result of their being a selected group of offenders who might be expected to have lower recidivism rates in any case. The best answer to this question is to randomly assign offenders to interlock and non-interlock status, but this is difficult because not all offenders have cars and the offender must agree to have the interlock installed in the car. Only one study (Beck et al., 1999) has randomly restricted DUI offenders reinstating their licenses to driving an interlock vehicle while not imposing that requirement on a comparison group of offenders. While not all those assigned the interlock restriction installed such devices, those offenders who did had fewer re-arrests.

Given the lack of random assignment studies, the best evidence that interlocks are effective is provided by comparing the recidivism rates of interlock users while the unit is installed in their cars with the period after the unit is removed. This is done in Figure 8, for the same groups studied in Figure 7. The light bars show the recidivism rate following the removal of the interlock and that rate returns to the level of the non-interlock offenders. Figure 8 compares the same offenders with and without interlocks installed, so there is clear evidence of the impact of the interlock itself. This graph illustrates a limit of interlock programs; there is little carryover of the habits acquired during the period the unit was installed.

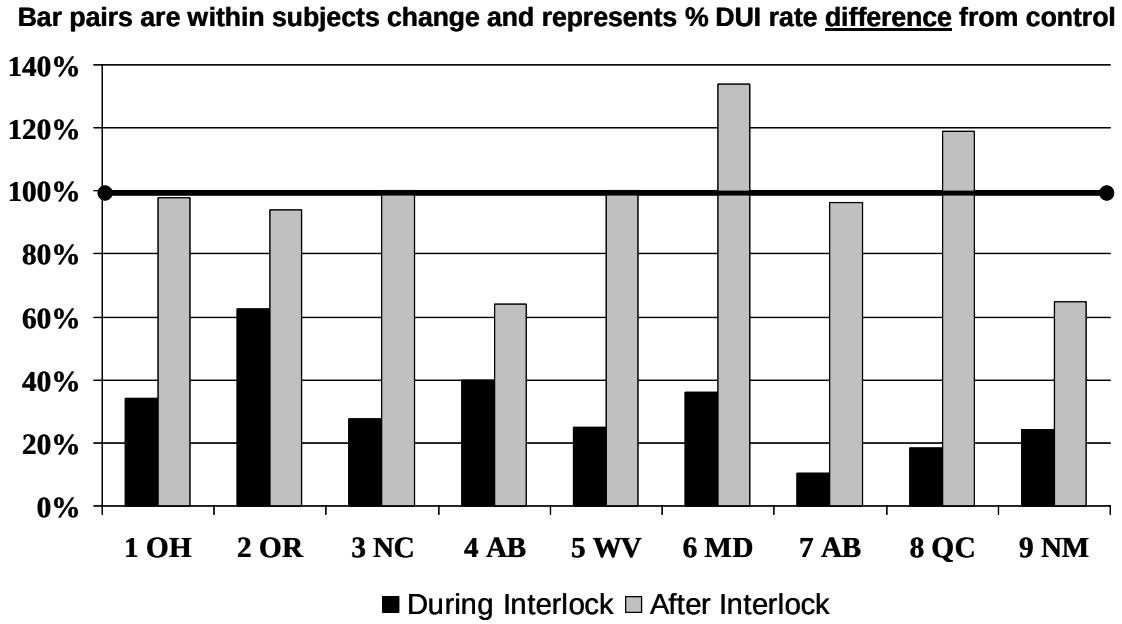

Figure 8. Within Subject Changes Among DUI Offenders With and Without Interlock: Anything Below the 100% Line Represents a Lower Recidivism Rate Compared to the Control

Mandatory Programs

The evidence for the effectiveness of interlocks has encouraged States to pass laws providing for interlock programs to be administered either through the courts or the motor vehicle department. As of the end of 2004, 43 States had enacted interlock legislation. Some of these call for mandatory installation of the units on the vehicles of multiple offenders. This was encouraged by Federal legislation, the Transportation Equity Act for the 21st Century (TEA-21) adopted in 1998, which provided for transfers of highway funds in States not mandating either vehicle impoundment or interlocks for repeat offenders. The transfer program related to this provision was eliminated in the recent reauthorization of the SAFETEA-LU highway safety bill, but a number of States have passed legislation designed to meet the requirements of the prior TEA-21.

To date, laws mandating interlocks have not been successful in substantially increasing the numbers of units actually installed on the vehicles of DUI offenders. Once again, the reasons for this are not entirely clear. Most such legislation exempts offenders who can prove they do not own a vehicle or agree not to drive. Not all courts are well informed on such mandatory legislation and some have no local interlock providers. Courts have also found the cost of the interlock program to be a barrier to requiring it for low income offenders even though most interlock service companies will reduce the price of the program for indigent offenders.

Because of these problems there has been some issue as to the ability of courts to mandate offenders to install interlocks. However, there is evidence from a study in Indiana (Voas et al., 2002), that offenders can be pressured into installing units if the alternative is more unpleasant. In that study, the court employed house arrest as the alternative to the interlock with the result that 62% of the offenders agreed to install interlocks. Thus, it appears that a larger proportion of the offenders can be motivated to install interlocks if a less desirable alternative is imposed if they fail to do so. Currently, most courts have the authority to impose substantial jail sentences on multiple offenders, but jail time is expensive for to the government and very disruptive to the life of the offender and family members. House arrest, especially with electronic monitoring, which has been shown to

reduce recidivism by reducing recreational driving (Jones, Wiliszowski, & Lacey, 1996) appears to be one practical alternative to incarceration.

On July 1, 2005, New Mexico implemented what is currently the most comprehensive interlock law, requiring a full year on the interlock for first-time DUI offenders, two years for second offenders, three for third offenders and lifetime for fourth offenders. The legislation requires that the offender obtain and show to the court an interlock license, which in turn is obtained by taking a vehicle with an interlock installed to the department of motor vehicles that issues the special license. The legislation is silent on the sanctions to be applied to offenders who do not comply with this mandate, but does contain the provision for excusing those who claim not to own a car. It remains to be seen whether this mandatory law will result in a larger percentage of offenders installing interlocks.

A number of States, Michigan, Florida, and Colorado, among others, have enacted laws requiring up to a year on the interlock as a mandatory requirement for reinstating the license of a suspended multiple DUI offender. Such laws were stimulated by the TEA-21 Federal requirement mandating interlocks for second offenders. This type of legislation generally makes it impossible for offenders to ever regain their license status without installing an interlock. This should provide a very strong incentive to comply with the interlock requirement. However, recent studies (Voas, Roth, & Marques, 2005; Tashima & Helander, 1999) have shown that substantial numbers of DUI offenders currently delay their license reinstatement, some for three years or more. It is not clear whether the requirement to install the interlock will increase the numbers of offenders delaying applications for reinstatement.

Conflict with suspension legislation

Since a large number of studies have demonstrated that license suspension reduces recidivism and crash involvements (Peck et al., 1985), the substitution of the interlock for full suspension has been approached with caution. Considerable effort of safety advocates has gone into adoption of administrative license suspension (ALS) laws and the extension of the periods of full suspension for multiple offenders. Most notably, this effort resulted in the inclusion in the TEA-21 Federal legislation a provision that required a full year of hard suspension for second offenders. This effectively prevented requiring multiple DUI offenders to install interlocks for the first year following their conviction. In some cases, such as in California and Texas, it created potential conflict between State legislation mandating interlocks and the TEA-21 requirement for a full year of hard suspension.

The growing evidence for the effectiveness of interlock programs has resulted in activist organizations such as MADD supporting the installation of interlocks as an alternative to hard suspension. New Mexico was among the first to implement this concept by passing a law in 2003 that allows any suspended driver to receive a permit to drive an interlock equipped car. However, offenders must continue to drive with the interlock until their original suspension periods expire ------ which may be many years. This option was made available to offenders convicted in the past and serving long license revocation periods some up to 10 years. This law is currently being evaluated in a study funded by NHTSA. It remains to be determined how many long-term suspended DUIs will take advantage of the opportunity to drive legally by installing an interlock.

Issues for the Future of Interlock Programs

Several important questions remain with respect to the ultimate contribution of interlocks to the control of high risk drinking drivers:

Can the number of offenders on interlocks be increased? Most immediately, there is the issue of whether current mandatory programs will succeed in motivating a larger percentage of the offenders to install interlocks. Past experience suggests that it will be necessary to apply pressure

through the use of alternatives such as house arrest or incarceration to motivate offenders to install interlocks.

Will offenders pressured into installing interlocks have reduced recidivism? Most of the experience with interlocks to date has been with the selected group of offenders who chose to install them in order to drive legally. Offenders who are pressured by the threat of jail or house arrest to install an interlock may be higher risk drivers than those in "discretionary" or "voluntary" programs and they may make a greater effort to circumvent the interlock by driving another vehicle. Therefore, these offenders may not show the same reductions in recidivism that have been documented in studies to date.

Will the courts be willing and able to pressure offenders to install interlocks? To employ jail or electronic home confinement as an alternative to the interlock, the criminal justice system will need to have these alternatives readily available to them. They will also need to have the legal authority to impose relatively lengthy periods of home confinement not only on multiple offenders, but also first DUI offenders if they are to be effective in motivating acceptance of periods of up to a year on the interlock. Thus, the threatened penalties necessary to motivate interlock program participation, while rarely imposed, would be more severe than those currently typical of the DUI sanctioning process.

While interlocks reduce impaired driving, will they reduce overall crash involvement? Most studies of the effectiveness of interlocks have been limited to recidivism as the measure of effectiveness because crashes are relatively rare events and therefore more difficult to use in evaluation studies. More studies of the impact of interlock programs on crashes are needed. This need is exemplified by the study by DeYoung, Tashima, & Masten (2004) where they found interlock users had fewer DUI offenses, but experienced more non-alcohol-related crashes than fully suspended offenders. They interpreted this result as indicating that while interlocks prevent impaired driving, offenders in interlock programs will tend to drive more than offenders who are suspended because they do not fear apprehension for driving while suspended (DWS). As a result of the increased driving mileage of interlock users, they are more exposed to non-alcohol-related crashes than are suspended offenders, who tend to minimize their illicit driving to reduce their chances of apprehension for DWS. Since alcohol related crashes generally produce greater injury and property damage than non-alcohol related crashes, interlock programs may be cost effective even if participants have more total crashes (but not severe ones). However, this remains to be demonstrated.

Opportunities for Integrating Interlock With Treatment Programs

Studies of convicted impaired drivers have demonstrated that many are classifiable as alcohol abusers or as dependent on alcohol (Simpson, Mayhew, & Beirness, 1996; Miller & Windle, 1990). As a result, most State laws call for the screening of DUI offenders for alcohol problem status and their assignment to a treatment or educational program based on that assessment. Suspension and vehicle sanctions serve to protect the public from high risk DUI drivers while such intervention efforts assist offenders to recover from their alcohol problem. Bjerre (2002) found that number of applications for medical services related to drinking problems was reduced in interlock users compared to other similar offenders. The interlock record of all breath tests associated with driving can provide the treatment specialist with important information for use in evaluating the status of participating offenders and the information can also be used in therapy sessions to help the offenders confront their drinking problem. Marques and Voas, (1995) and Timken and Marques, (2001a , 2001b) have developed a "Support for Interlock Program" that makes use of the data from the interlock in therapy sessions for DUI offenders that is currently being evaluated in Texas (Marques, Voas, & Timken, 2004; Marques, Voas, Timken, & Field, 2004; Bjerre, 2005).

The interlock data recorder also provides important information for predicting future recidivism (Marques, Tippetts, & Voas, 2003b; Marques, Voas, & Tippetts, 2003; Marques, Tippetts, & Voas, 2003a) particularly when combined with the prior record of the offender. This opens up the possibility that courts and motor vehicle departments could develop objective BAC test performance requirements to be met before the offender is allowed to remove the interlock. The status of the interlock BAC record could also be used by therapists to assist in determining how long DUI offenders should remain in treatment. Currently, a problem exists because therapists rarely have access to the interlock record. The use of interlock BAC information in the treatment and the monitoring of DUI offenders will require courts to modify their current record systems and make them more readily available to treatment providers.

Impaired Driving Vehicle Sanctions in Other Countries

This section describes two basic types of impaired-driving vehicle sanctions being used in other countries as of December 2004. The first sanction type can be described as actions taken against the vehicle or its license plates, such as impoundment, confiscation, immobilization, and forfeiture. The second type deals with the installation of an alcohol ignition interlock device on an impaired driver's vehicle. These two types of sanctions are discussed separately in this section. The information is based on discussions with key informants in other countries, an e-mail inquiry, and a review of the literature.

Sanctions Taken Against the Vehicle

With a few exceptions, the impounding, confiscating, immobilizing, or forfeiting of a vehicle because of an impaired driving offense does not seem to be in use in most countries around the world. Although the laws in almost all countries appear to give the police and the courts the authority to take action against the vehicle, the sanction is rarely carried out. The exceptions are in New Zealand and in several Canadian jurisdictions. Table 2 contains a summary of vehicle sanctions usage in other countries.

The laws generally allow the vehicle to be impounded or seized if it was "used in the commission of a crime" or for other serious offenses that vary from country to country. These offenses include driving without a valid license, no insurance, driving under the influence of alcohol or drugs, hit and run, dangerous or reckless driving, drag or street racing, and numerous other offenses. Vehicle sanctions are applied for two main offenses: driving without a valid license (primarily driving while suspended) and for driving without insurance.

Sanctions against the vehicle, for any type of offense, are rarely used in European countries and the Australian States. A brief summary of the current situation in some of these countries follows:

Australia

One Australian official noted, "The impounding of vehicles as a penalty for impaired driving has been discussed from time to time and rejected for political and social justice reasons." In the Australian State of Victoria, the Vehicle Confiscation Act allows for an application to a court for the vehicle used in extreme cases of dangerous driving as "an instrument used in the commission of a crime" to be confiscated and sold. However, it is rarely enforced. In the past 5 to 7 years, a police official reports it may have been used on fewer than five occasions.

Sweden

In Sweden, confiscation is authorized by judicial action for repeat DWI offenders, but the sanction is used rarely because of procedural problems.

Belgium

On March 1, 2004, new road safety legislation became effective in Belgium. One of the measures enacted is the impoundment of a vehicle when it is being operated by a driver whose driving license has been revoked or suspended. Police will store the vehicle for a period equal to the duration of the driver's license suspension. Vehicle impoundment is an administrative sanction, but

requires the approval of the prosecutor. This sanction is only applied when the driver is also the owner of the vehicle.

United Kingdom

In the United Kingdom, a vehicle can be impounded for any drink-drive offense, at a police officer's discretion. Confiscation can be judicially imposed. A few police forces adopted the policy, particularly in drink-drive "blitzes" around Christmas. However, vehicle sanctions are very rarely used in the United Kingdom, in part because many offenders for both impaired driving and other offenses are from low-income households, have vehicles of very low value, or are often using stolen vehicles.

Table 2. Vehicle Sanctions for Driving While Impaired (2004)

Jurisdiction	Penalties: Impoundment	Confiscation.	Immobilization.	License Plate Confiscation	Which Offenders	How Applied: Judicial	Admin.
Australia							
Victoria		Yes			Very serious cases-used rarely	X	
Belgium		Yes	Yes		Many various offenses	X	
Canada							
Alberta	Yes				Many various offenses	X	x
British Columbia	Yes				DWVL-30 days		x
Manitoba	Yes	Yes			DWI and DWS-duration based on BAC		x
Nova Scotia	Yes				DWS for DWI-90 days		x
Ontario	Yes				DWS for driving conviction-45 days		x
Saskatchewan	Yes				DWS-30 days-1st, 60 days subsequent		x
Quebec	Yes				DWS-30 days		x
Yukon	Yes				DWS, No insurance		x
Denmark		Yes			DWVL		x
New Zealand	Yes	Yes			DWVL for impound-found effective		x
					Serious offenses for confiscation	X	
Norway	Yes	Yes	Yes	Yes	Repeat offenses, DWVL-used rarely	X	x
Spain			Yes		High BAC offenders	X	x
Sweden		Yes			DWI-used rarely-procedural problems	X	
United Kingdom	Yes	Yes			DWI-used rarely	X	

Abbreviations:
DWVL—Driving without a valid license
DWS—Driving while suspended
DWI—Driving while impaired

New Zealand

New Zealand has the most comprehensive vehicle sanction program of any country outside the United States covered by the current survey. To summarize the process:

- A police officer must seize a motor vehicle at the roadside and impound it for 28 days if there are reasonable grounds to believe that the driver is disqualified from holding or obtaining a license or the license is suspended or revoked. These provisions also apply to unlicensed drivers and those with expired licenses if they have previously been forbidden to drive until they obtain a valid license.

- Police will call for a tow truck to take the vehicle away to a storage facility, and owners must pay towage and storage fees at the end of 28 days before retrieving their vehicles. However, if the driver is not the car's owner, under some circumstances, the owner can appeal to the Commissioner of Police. But owners cannot appeal on the grounds of undue hardship. Owners can appeal to a District Court if their appeal to the Commissioner of Police is unsuccessful.
- When a vehicle is not claimed after 28 days, the storage provider can dispose of it after obtaining police approval. If this occurs, the storage provider is partially reimbursed by the Land Transport Safety Administration (LTSA) with a flat fee set by regulation.

The results so far:

- The roadside impoundment of more than 25,000 vehicles driven by disqualified or otherwise unlicensed drivers between May 1999 and May 2001. There are about 2,700,000 registered vehicles in New Zealand.
- A fall in the proportion of fatalities attributed to unlicensed drivers from 10% of all fatalities (1998) to 6.9% (2000), and an equivalent fall of one-third in all casualties attributed to unlicensed drivers.
- A fall in the number of driving-while-disqualified offenses by about one-third.
- Very few appeals against these orders.
- A large proportion of vehicles (approximately 40 to 50%) go unclaimed after they have been impounded (a generic problem with this type of regime).
- The permanent removal of a large number of un-roadworthy vehicles from the road (a beneficial side effect).
- Any effect on alcohol-related crashes has not been reported yet.

New Zealand also has a vehicle confiscation sanction. In 1996, Parliament extended and strengthened the power of the courts to confiscate motor vehicles owned by serious traffic offenders. Following conviction and court order, the vehicle is sold at public auction. The money received offsets seizure costs, monies owed on the property to third parties (e.g., finance companies), and outstanding fines. The remaining funds, if any, are returned to the owner. The courts also may issue an order stopping the offender from owning another vehicle for 12 months. The confiscation rate of eligible vehicles is about 1 in 10. Table 3 shows the breakdown, by year and offense, for confiscated vehicles.

Table 3. Number of Cases Where a Court Order Was Made for Confiscation of a Motor Vehicle, 1996 to 2001, New Zealand

Most serious offense	1996	1997	1998	1999	2000	2001
Excess alcohol	34	93	252	462	614	642
Suspended license	33	173	377	480	558	480
Reckless/dangerous driving	2	4	18	28	20	25
Other traffic offense	1	2	6	9	5	13
Non-traffic offense[1]	9	9	17	19	16	19
Total	79	281	670	998	1,213	1,179

[1]For example: aggravated robbery, burglary, and dealing in cannabis.

The New Zealand LTSA believes that impoundment is the most effective vehicle sanction for the following reasons:

- There is evidence it works in terms of removing the target group from the road and reducing crashes.
- It is simple, clear-cut, and immediate, and thus constitutes good deterrence.
- The grounds of appeal are restrictive enough to make it hard to avoid.

It remains to be seen if this sanction is associated with any reductions in alcohol-related crashes.

Canada

Several Canadian jurisdictions have vehicle impoundment programs, with most operated administratively. Some examples follow.

British Columbia

In British Columbia, vehicles can be administratively impounded for 30 days if the driver does not have a valid license. A large portion of the driving-while-prohibited offenders lost their licenses because of DWI. In 2001, 9,314 vehicle impoundment notices were issued in British Columbia (the Province has approximately 2,700,000 licensed drivers), with a successful appeal rate of less than 5%. They have found that the cost of storage and disposal of unclaimed vehicles often exceeds the vehicle's value. It is reported that the program is very popular with police.

Manitoba

Manitoba was the first province in Canada to undertake a vehicle impoundment programs. Drivers who test higher than .08 BAC or refuse to provide a sample at the roadside are subject to immediate vehicle impoundment. The period of impoundment is based on the BAC level and number of previous vehicle impoundments. For a BAC of .16 g/dL or less, the impoundment period is 30 days. For a BAC higher than .16, it is 60 days. The period of impoundment increases with every seizure, and there is no maximum. Vehicles also are impounded for drivers caught driving while suspended. For the 12-month reporting period ending in March 2002, there were 3,636 vehicles seized and impounded as a result of suspension and/or alcohol-related offences. The administratively run program has not reported any problems. There have been no evaluations of the program.

In December 2002, new legislation went into effect that allows for the forfeiture of a vehicle upon conviction of a Criminal Code driving offense involving death or bodily harm, or upon conviction of three Criminal Code driving offenses in 5 years.

Ontario

Ontario has an administratively run vehicle impoundment program. Those caught driving while their licenses are suspended for a driving-related Federal Criminal Code of Canada conviction, including impaired driving, will have their vehicles automatically impounded for a minimum of 45 days. Vehicle owners are responsible for all towing and storage costs. Since the program was implemented in February 1999, more than 5,100 vehicles have been impounded. No evaluations of the program have been conducted.

Québec

The Province of Québec impounds vehicles for 30 days when driven by a driver without a license or while disqualified for impaired driving or any other offense. In 2002, 20,820 vehicles were impounded (there were 4,881,265 vehicles registered in Québec). Of these, about 1,600 were for the driving while suspended for an alcohol or drug offence. To date, there have been no effectiveness evaluations of this impoundment program.

Saskatchewan

The impound period is 30 days for a first offence of driving while disqualified and 60 days for a second incident in a 2-year period. About 2,500 vehicles are impounded each year, but the Province reports some problems in disposing of abandoned vehicles. Early in the program, an evaluation showed about a 50% reduction in driving while disqualified. There have been no recent reviews.

Yukon

The Yukon Territory has an administratively operated vehicle-impoundment program that doubles the impoundment period if the offender's BAC is twice the .08 g/dL legal limit. Impoundment also is used when a person is driving without a valid license or for lack of insurance. About 250 offenders receive this sanction each year. Yukon has a population of about 30,000 people.

Alcohol Ignition Interlocks

Alcohol ignition interlock devices have begun to be used in other countries. As of 2004, Australia's five largest States had either recently begun, or were about to begin, interlock programs. In Canada, the criminal code has been amended to enable provinces and territories to begin interlock programs, and, consequently, most of the Canadian jurisdictions have instituted them. In Europe, Sweden has a small program in use and other countries have undertaken feasibility or pilot studies, in coordination with the European Union (Marques et al., 2001).

Australia

Ignition interlock programs are now in operation in the 5 largest States. As a result, 85% of Australians who drink and drive (almost 75,000 drivers) are eligible for interlock programs. Programs are now up and running in New South Wales, Queensland, South Australia, Victoria, and Western Australia. A brief description of these programs follows.

New South Wales

The New South Wales' voluntary program began in mid-2003. Approximately 20,000 alcohol offenders were eligible to participate in the program that was run by the licensing agency. License suspension periods have to be completed before the interlock can be installed. The length of time an interlock is installed is fixed, but the court has an option to extend it if the interlock program conditions are not met.

Queensland

The Queensland trial program began in July 2000. Magistrates at a limited number of courts can offer the interlock to offenders at their discretion. Magistrates can advise an offender that without the interlock they may be disqualified longer, receive a higher fine, or go to jail. The interlock is usually offered to repeat offenders (where first offence includes breath or blood test refusal) and first offenders with high (more than .15) BACs. Very few offenders have actually been placed on the interlock program. In 2002, 38 offenders agreed to the interlock probation order; however, as they must first complete their license suspension period, officials are not sure how many of those who agree actually follow through and have the interlock installed. In the entire State, 22,000 offenders would be eligible for the interlock if it were available statewide. The average time on the interlock set by the magistrates is approximately 11 months. Evaluation of the interlock trial will be included in a review of impaired-driving legislation that began in late 2003.

South Australia

The voluntary interlock program in South Australia began in July 2001. Run by the licensing authority, interlocks can be installed for twice the remaining license suspension period, once the mandatory suspension period has been served. There are 4,700 offenders eligible for the interlock program each year, but in the first year of operation, only 65 drivers—or 1.1% of those eligible—were placed in the program (Coxon, 2003).

Victoria

In May 2003, first offenders were eligible to participate in the interlock program in Victoria. Repeat offenders (determined by a 10-year look back) must obtain court approval to be relicensed following their suspension periods and MUST have an interlock fitted for 3 years or more to any vehicle they drive. First offenders with a BAC of .15 or more (also includes test refusals and causing alcohol-related death) must also apply to the court to be relicensed, which may order the fitting of an interlock for 6 months or more. The interlock is additional to clinical assessments and treatments and a drink-driver education course. The actual duration on the interlock will be determined by the offender's downloaded records while in the program. Drivers must apply to the court for permission to end their participation in the interlock program. About 5,000 offenders per year have a BAC of .15 or higher and are eligible for the interlock program (Swann, 2003).

Western Australia

In Western Australia there are 1.26 million licensed drivers, 12,000 drink-driving offenses each year, and 4,000 repeat offenses each year. Twenty-two percent of fatal crashes are attributed to alcohol, with 63% involving a BAC of at least .15. An expert group was established in February 2003 to review the issue of drinking and driving in Western Australia. They considered interlocks within an integrated program to the problem. Statewide implementation was planned for 2004. However, by the end of that year, the legislation had not yet been enacted. The proposed model includes the following provisions:

- Targets all drink-driving offenders (first and repeat).
- Interlock available 1 month following drink-driving offense.
- Six months minimum interlock period and never less than original disqualification period.
- Maximum interlock period is performance based with compliance rewarded (Hands, 2003).

Canada

Under Federal legislation, courts may authorize offenders to operate a vehicle with an ignition interlock device, if registered in a provincial interlock program. Interlocks can be installed: after 3 months for the first offense, after 6 months for second offense and after 12 months for subsequent offenses. Provinces are under no obligation to match provincial suspension with Federal prohibition. All the major Provinces, except British Columbia, have implemented ignition interlock programs as has the Yukon Territory. The program in two Provinces (Alberta and Québec) has been in existence long enough for effectiveness to be evaluated. Several major programs are discussed below.

Alberta

The Alberta interlock program began in 1990. It is a voluntary, court-run system that offers offenders a reduced period of license suspension for those who choose to participate. Fewer than 10% of those who are eligible actually receive an interlock. Evaluation of the program verified the effectiveness of the device in reducing impaired driving while the offender was in the program.

Ontario

The program began in December 2001. After completion of the period of license suspension, offenders are only reinstated if they agree to participate in the interlock program. They are issued an "I" license for a period of 1 year for a first offence, 3 years for second offence and indefinitely for a third offence. After they complete their required time on the interlock (or not drive during that period), offenders can apply to the Registrar of Motor Vehicles for an unrestricted license, but it will be granted only if they are free of program violations. Each year, approximately 16,000 drivers convicted of impaired driving will be notified that must have interlocks installed if they wish to drive during the period in which the ignition interlock condition is on their vehicles (Fawcett, 2002).

Québec

The Québec alcohol interlock program applies to all offenders of impaired-driving laws. There is a voluntary program to reduce the length of hard license suspension and a mandatory program, after the end of the suspension, in order to get a license reinstated. In the voluntary program, the court may authorize the offender to operate a motor vehicle equipped with an alcohol ignition interlock device after 3 months for a first offense, after 6 months for a second offense and after 12 months for each subsequent offence. The total length of suspension is 1, 3, or 5 years, depending on whether, in the 10 years preceding the cancellation or suspension, the person incurred no suspension, one suspension, or more than one suspension. In the mandatory program, the mandatory period of alcohol ignition interlock after the end of the suspension as a requirement of license reinstatement is as follows: 1 year for first offender if the summary assessment has established that the person's relationship with alcohol does compromise the safe operation of a road vehicle (no mandatory period if no alcohol problem is detected), 2 years for second offender, and 3 years for third (or more) offender.

About 25% of those eligible for the voluntary program participate. Participation in the voluntary program, which began in December 1997, has resulted in a reduction in the repeat DWI rate of 80% during the first 12 months for first-time offenders and 74% during the first 24 months among repeat offenders. The program also lowered the incidence of impaired driving mishaps (crashes). In both cases, the results tend to disappear when the interlock is removed (Vezina, 2002).

Yukon Territory

The Yukon Territory also conducts a voluntary interlock program, which began in 2001. Offenders may have their driving privileges restored earlier with an interlock than without it. It was reported that a high percentage of offenders who qualify for the interlock program actually receive an interlock. The Driver Control Board requires the interlock to be in place until at least the end of the original disqualification period and until the person has been able to demonstrate 100% compliance with the interlock program for 6 consecutive months.

Europe

In 2000 and 2001, the European Union (EU) conducted a feasibility study and literature review of interlock programs. Results of the literature review included:

- an average 65% reduction of re-offense rate during program participation,
- indications of substantially reduced crash rates,
- no beneficial effects during post-program period,
- generally low participation rates,
- problems of selection bias in most studies (no random assignment/no matched control group).

Despite methodological shortcomings, the results of Canadian and American evaluation studies justify a large-scale interlock field trial in one or more EU countries. As a result, late in 2003 or early in 2004, an in-depth qualitative EU field trial, incorporating small-scale trials, was scheduled to begin in Belgium, Germany, Norway, and Spain. This is a voluntary program. The specific objectives of the EU trial program are to examine the psychological, sociological, behavioral, and practical impact of interlocks[2] on the following target groups and on their related subjects: public transport drivers and passengers (Norway, Spain); goods transport drivers and company owners (Germany); recidivists and alcohol dependent patients and relatives, i.e., people living together with the subject (Belgium) (Ward, Vanlaar, & Drevet, 2003). This study was ongoing during 2004.

The following discussion summarizes what is taking place in other European countries.

Sweden

The Swedish alcohol interlock program for DWI offenders started as a pilot project in 1999. It is a voluntary program and includes very strict medical regulations with regular check-ups by a physician and extends over a period of 2 years. During the program, alcohol consumption is monitored through the use of a self-report questionnaire about alcohol use and five different biological markers.

Preliminary data show a noticeable reduction in alcohol consumption among the participants, as determined by questionnaire scores, as well as by significantly decreased levels in the biological markers. The number of participants is still small (285 individuals). Until this point, no case of recidivism has been found during the program. Data about recidivism after completion of the program are not yet available. The preliminary results showed impressive reductions of alcohol consumption, drink-driving recidivism, and crash rate during interlock installation period, though there was no *statistically significant* difference with matched control group. Based on the pilot, the interlock program was extended to all counties and all driver categories (Bjerre, 2002).

The use of the interlock device is becoming prevalent in the commercial area and for prevention in Sweden. At present, interlocks are installed in approximately 2,000 commercial vehicles, including school buses, taxis, heavy trucks, and driving school vehicles. In January 2004, heavy trucks working for the Swedish National Road Administration (Vägverket) had to have an interlock installed. Swedish communities plan to follow the Vägverket example by requiring interlock installation in all public transportation contracts. This means that over the next few years, more than 20,000 interlocks will be installed in commercial vehicles. The Swedish Total Abstainer Driver Association has recommended that in 2004, all buses, taxis, and trucks have an interlock installed, and in 2015 all cars (Mathijssen, 2003).

The Netherlands

The Ministry of Transport and the Central Licensing Bureau requested a change to the Road Traffic Act that allowed them to start an alcohol interlock experimental program in 2004. They conducted a controlled experiment whereby the use of the interlock was integrated into a rehabilitation program. The target group for the program was hardcore DUI offenders who underwent assessments of fitness-to-drive and were declared "not unfit." The program ran 2 years, with a 6-month extension. The program included approximately 800 subjects and was financed by participants (two-thirds of the cost) and the Ministry of Transport (a third of the cost). The program was conducted administratively and was independent from public prosecutors and judges (Mathijssen, 2003). No results of this study were available at the time of this report.

[2] In Europe, alcohol ignition interlock devices are known as "alcolocks."

France

France is conducting an experimental program in two court districts. The voluntary program is offered as an alternative to license suspension, fines, or jail. It is aimed at first DWI offenders with a BAC over .08 percent and is run through the judicial system. It considers an offender's need to drive in order to work, plus a positive medical assessment. It is planned that the experiment will include 30 offenders from each of the two court districts each year. The interlocks will initially be installed on offender's vehicles for a period of 6 months.

Finland

A working group of the Finnish Ministry of Transport was scheduled to present a proposal for a national interlock field trial and a draft amendment of the law sometime in 2005 or 2006.

United Kingdom

The UK Department of Transport began a 30-month field trial to examine the practicality and social implications of utilizing interlocks in 2004.

Summary

With a few exceptions, most countries around the world do not apply the vehicle sanctions of impoundment, immobilization, confiscation or forfeiture. These are apparently considered too harsh. Alcohol ignition interlock programs, however, are active in several countries and there are indications that there is much more enthusiasm for their use in many countries. Despite some of the problems encountered in implementing interlocks in the United States, it remains the heaviest user of such devises, along with Canada.

Barriers to Adoption and Operation of Vehicle

Although vehicle sanctions appear to be effective in reducing recidivism of DWI offenders when they are applied, there are a number of barriers to their implementation in States and communities. Some of these barriers are described in the following section.

Alcohol Ignition Interlock Programs

Voluntary Interlock Programs Managed by the Courts

- Experience with such programs indicates that only a relatively small percentage (generally, less than 10% of offenders) participate in interlock programs (Voas et al., 2002). DeYoung (2002), in a sample of California DUI offenders, found that only 10% of the eligible offenders received court orders to install the interlock and only 22% of those complied with the order. This suggests that only a small fraction of DUI offenders are sufficiently motivated to install interlocks in order to drive legally. These devices are intrusive in that they must be used every time the vehicle is started and also used frequently while driving. Further, the perceived probability of being apprehended for DWS is low, as is suggested by the low rate at which DUI offenders reinstate their licenses when they become eligible to do so (Tashima & Helander, 1999; Voas, 2001).
- If the reward for going to the expense (around $60 per month) and annoyance of installing an interlock is the ability to drive that interlock vehicle legally, ***it appears likely the participation of DUI offenders in interlock programs will remain low, unless the perceived probability of being apprehended for DWS is increased through intensified enforcement or the alternative to the interlock is considered to be more harsh--such as house arrest with electronic monitoring.***

Mandatory Interlock Programs Managed by the Courts

The provisions of TEA-21 and some of the responding State legislation have called for "mandatory" interlock programs. The courts have the authority to coerce the installation of the interlock under the provisions of probation powers where the alternative to compliance can be incarceration. In actual practice, however, it is very difficult to ensure that all, or even most, offenders participate in an interlock program. One court in Indiana that attempted to use the threat of jail or house arrest to force the installation of interlocks achieved a 62% compliance rate (Voas et al., 2002). This was substantially higher than the rate achieved under typical voluntary systems and produced a lower recidivism rate than similar courts in the same area.

- A major barrier to coercing installation is the plea that the offender does not own a vehicle. Courts have encountered this "no vehicle" problem in the past in connection with vehicle forfeiture programs. If forfeiture or even impoundment is a consequence of conviction for a DUI or DWS offense, defense attorneys will advise their clients to transfer the vehicle before trial. ***Therefore, an effective forfeiture or impoundment program must provide for holding the vehicle from the time of arrest (Voas, 1992; Voas & DeYoung, 2002).***

- Another barrier to mandatory interlock installation is cost. The approximately $60 a month fee for the interlock should not be prohibitive for individuals who have been purchasing gas and expending significant sums on alcohol; yet, inability to pay is frequently accepted by the courts as a reason for not requiring an interlock. Further, the punitive value of incarceration may be overrated with some DUI offenders who may already have experienced jail. When jail is an alternative to the interlock, treatment, and perhaps other sanctions, some offenders will elect to accept incarceration rather than the alternative sanctions. In many jurisdictions, DUI offenders serve only a short jail sentence and are allowed to serve their time on weekends. ***The availability of indigent funds, installment plans and cost sharing programs may help alleviate some of the cost issues in the future.***

Mandatory Interlock Programs Managed by the State Motor Vehicle Departments

An alternative to assigning a mandatory interlock program by the criminal justice system is for the State legislature to provide authority to the motor vehicle department to require the interlock as a condition of reinstating the licenses of DUI offenders following their suspension period. This provision, which has been implemented by some States such as Michigan and Colorado, has the effect of making it impossible for the offender to drive legally without an interlock, not only during the normal suspension period but also at any time in the future unless the interlock is accepted for at least a limited period (normally 1 year as part of the process of reinstating the license).

- A potential limitation to the effectiveness of this coercion system is that currently a large proportion of DUI offenders do not reinstate their licenses when eligible to do so (Voas & Tippetts, 1994, 1995). In California, only 16% of DUI offenders reinstated their licenses within a year of their eligibility (Tashima & Helander, 1999).
- DUI offenders already face several disincentives to reinstatement: greatly increased insurance costs; relicensing fees; and, in some cases, completion of a treatment program. The addition of an interlock requirement is likely to further discourage the already limited reinstatement level, thus increasing the number of illicit and probably uninsured motorists who are driving while suspended. ***Increased detection and enforcement of offenders driving without a valid license may help alleviate this barrier.***

Vehicle Impoundment, Immobilization, and Forfeiture

The current studies have provided evidence of the effectiveness of these sanctions in reducing recidivism. However, several issues surrounding these particular sanctions have emerged. These are highlighted below from Voas and DeYoung (2002):

- Impoundment appears to be effective for reducing recidivism for both DUI and DWS offenders. However, it may be easier to apply to DWS offenders because the elements of the offense (in control of the vehicle; not legally licensed) are easier to prove than DUI.
- ***Impoundment programs implemented administratively appear to be much less cumbersome than when they are implemented through the courts. This is the case because they take less time to administer the sanction and they tend to track compliance.***

A limitation on vehicle impoundment programs is that at least half the vehicles driven by suspended drivers are owned, in part or in whole, by a non-offender. The criminal justice system will generally support impoundment of non-offender-owned vehicles if the owner knew or should have known that the driver was unlicensed or intoxicated (Voas, Tippetts, & Taylor, 2000b). However impoundment laws generally provide that vehicles must be returned to non-offender owners if they can prove they were unaware of the offender's status. In such cases, the owner is usually required to execute a "stipulated vehicle release agreement," which provides that the vehicle must be forfeited to the State if the owner allows the offender to operate the vehicle while still suspended. Such agreements appear to be effective in making the vehicle less accessible to offenders (Voas et al., 2000b; Peck & Voas, 2002).

- Most vehicle impoundment programs provide collection of towing and storage charges before the vehicle is returned to a non-offender owner. The owner can then attempt to recover those costs from the offender (Voas et al., 2000b). ***A potentially successful alternative to vehicle impoundment is to immobilize the vehicle with a "boot" or "club" right in the driveway. This avoids storage costs.***
- ***The most successful vehicle impoundment and forfeiture laws provide for a service fee (generally at least $100) for the return of a seized vehicle. This helps to defray the costs of operating impoundment programs (Peck & Voas, 2002).***
- Nearly all successful impoundment programs provide for seizing and holding the vehicle at the time of arrest. Waiting for the outcome of the court trial often results in the vehicle having been disposed of and, thus, not available to the police. ***To deal with this problem, Ohio passed a law prohibiting offenders from transferring vehicle titles following a DUI or DWS arrest (Voas et al., 2000b; Peck & Voas, 2002; Voas, 1992).***
- ***Because many DUI and DWS offenders are driving "junkers" (vehicles of little value), successful forfeiture programs provide for rapid hearings and forfeiture actions to allow for quick lien sales, thus avoiding high storage costs (Voas, 1992; Peck & Voas, 2002).***
- Peck and Voas' (2002) study in California indicated that many vehicles seized for impoundment ultimately go to lien sale, so many cases of impoundment become de facto forfeitures. There is some limited evidence suggesting that, as compared to impoundment, forfeiture provides no added traffic safety benefits (Crosby, 1995).

Discussion

This report is a follow-up as of December 2004 to a 1992 NHTSA-sponsored study of vehicle sanctions (Voas, 1992). That study found relatively few jurisdictions with active vehicle sanction programs. Alcohol ignition interlocks were not considered in that study. Compared to the 1992 study, when only 32 States had any type of vehicle sanction and most of those were rarely imposed, in this report covering the period from 1992 through 2004, it was possible to identify 131 pieces of legislation, with all 50 States having at least one vehicle sanction law. Although it was difficult to obtain quantitative information on the application of vehicle sanctions, it appears that at least 51 of the 131 are laws are used regularly. Alcohol ignition interlock laws are by far the most frequent in the States (43), followed by vehicle forfeiture laws (31).

Special License Plates

Six States had laws by the end of 2004 permitting the issuance of special license plates to impaired driving offenders. In Minnesota and Ohio, such plates were principally issued to allow family members to drive the offender's car whose plates had been confiscated. The States of Washington and Oregon passed similar legislation permitting an officer to seize the registration of a vehicle driven by an unlicensed driver and place a decal over the year portion on the vehicle plate. Subsequently, officers could stop tagged vehicles and request that the driver produce a valid license. The law was effective in reducing DUI recidivism in Oregon but not in Washington.

Interlocks

Alcohol ignition interlocks, which prevents a drinker from driving impaired by requiring a breath test to start the vehicle, have become the most popular vehicle sanction for DUI offenders. Forty-three States had laws allowing the installation of alcohol ignition interlocks by the end of 2004 for impaired driving offenses and 4 States had additional laws permitting interlocks for DWS. There is some evidence from research studies that when interlocks are installed on offenders' vehicles, DUI recidivism may be reduced substantially; however, the reduced risk of recidivism does not persist after the interlocks are removed. Many of these studies may have had a selection bias since offenders volunteered for these interlock programs. Also, there is little information on the effects of interlocks on DWI related crashes. When data loggers are used in conjunction with interlock devices, records of all breath test results are recorded and this information can be used in estimating the probability of future recidivism and in treating an offender's drinking problem.

License Plate Actions

Twenty-two States had laws permitting license plate and/or registration confiscation/suspension in 2004: 19 States with such laws for impaired driving offenses and 10 States with such laws for DWS offenses. Eight States have license plate suspension only; 5 States have registration suspension only; and 9 States have laws allowing both license plate and registration suspension. Many of these laws, which generally provide for the vehicle registration to be cancelled during the period when the offender's driver's license is also suspended, have not been demonstrated to be effective in reducing DWI recidivism. This is because in most States the Department of Motor Vehicles has limited authority to actually seize the vehicle license plates. Minnesota seizes the plates at the time of the arrest and there is evidence that this approach is effective in reducing recidivism for first and multiple DUI offenders.

Immobilization

Immobilization generally occurs in conjunction with at least a brief period of impoundment, because to be effective the vehicle must be seized and held by the police at the time of arrest before it can be immobilized. Thirteen States had laws permitting immobilization in 2004: 13 States with laws permitting immobilization for impaired driving offenses and 4 States with additional laws permitting immobilization for DWS. One study in Ohio demonstrated that immobilization was effective in reducing recidivism. Immobilization has the advantage over impoundment in that it essentially eliminates storage costs to the offender and the vehicle is less likely to be abandoned. With vehicle impoundment, when offenders don't bother to retrieve their vehicles after the impoundment period, the community is required to cover the cost of towing and storage.

Impoundment

This study identified 15 States that had laws permitting the impoundment of offender vehicles in 2004: 11 States with laws permitting impoundment for impaired driving offenses and 9 States with laws for DWS offenses. Four large studies of impoundment for DUI and/or DWS were available and all provided evidence that vehicle impoundment reduces DUI recidivism. Two studies in Ohio indicated that the impact of impoundment carried over to the period following release of the vehicle, apparently because some offenders did not retrieve their cars. It is also possible that where the car did not belong to the offender, the owner denied access to the vehicle following its return by the government. There was no evidence that impoundment has a general deterrent effect on non-offender drivers who drink and who may be at risk for a DUI offense.

Forfeiture

Thirty States had laws permitting vehicle forfeiture in 2004: 29 States with laws permitting vehicle forfeiture for impaired driving offenses and 10 States with laws permitting vehicle forfeiture for DWS offenses.

There is only limited evidence pertaining to the effectiveness of vehicle forfeiture. This is primarily due to low usage rates that precludes controlled testing. Nonetheless, there is information on one quasi-experimental study conducted on the forfeiture program in Portland, Oregon. All offenders whose vehicles were seized for forfeiture between 1990 and 1995 were compared with all offenders whose vehicles were not seized but were arrested for the same offenses. The results showed that offenders whose vehicles were seized had a significantly longer time before re-arrest than offenders whose vehicles were not seized. The re-arrest rate was about 50% lower for offenders whose vehicles were seized than for their counterparts whose vehicles were not seized. The study also examined whether the effects of forfeiture were different than for impoundment, and found that offenders whose vehicles were simply impounded had about the same re-arrest rate as offenders whose vehicles were forfeited.

Vehicle Sanctions in Other Countries

In the study of other countries it was found that, except for alcohol ignition interlock programs, vehicle sanctions were rarely used. Impoundment and forfeiture were considered too harsh and too much of a hardship for family members. The one exception is New Zealand. It has a comprehensive impoundment and confiscation program in use.

However, the use of alcohol ignition interlocks has become very popular in Canada and Australia and some of the better studies are originating from experience in those countries. Australia's five largest States began interlock programs. In Canada, the criminal code was amended to enable provinces and territories to begin interlock programs, and, consequently, most of the

Canadian jurisdictions have instituted them. In Europe, Sweden has a small program in use and other countries have undertaken feasibility or pilot studies, in coordination with the European Union.

Looking to the future

The substantial increase in vehicle sanction legislation over the last decade suggests that actions against offender's vehicles will become an important and ubiquitous feature of the sanctioning of DUI and DWS offenders. This is likely because the primary alternative to reducing illicit driving by suspended offenders is to increase the police resources devoted to enforcement of DWS laws. In an era where homeland security is demanding more attention from police departments, such resources are unlikely to be available. Thus, a prevention approach through increased control of the vehicles of offenders appears to be the best method of protecting the public despite some of the barriers to vehicle sanction programs.

At least temporary impoundment is likely to be an element in any vehicle sanction program because the government must take possession of the vehicle at the time of arrest in order to be able to exert control of the car for the implementation of any other vehicle action. Seizure of the vehicle license plate may provide that control if the offender and/or the non-offender owner can be prevented from obtaining substitute plates. Evidence from the experience of Minnesota (with plate confiscation) and California (with impoundment) suggest that the most effective laws will provide for administrative action rather than attempting to seize and hold the vehicle as part of a criminal process. Forfeiture action against the vehicle under civil law has appeared to work in Portland Oregon, but was not widely implemented in California. The effectiveness of larger programs in the New York City area is unclear.

The ultimate vehicle sanction legislation that may evolve over the next decade is expected to combine administrative impoundment at the time of arrest with the vehicle released only after an interlock has been installed. The interlock should stay in place until the breath test record demonstrates that the offender's risk of impaired driving has been reduced to an acceptable level. Establishing such a system will require timely hearings for vehicle owners and a system for dealing with hardship situations. Future laws should require releasing the vehicle to a non-offender owner who signs a stipulation that the offender will not be allowed to operate the car (at least not without an interlock). Provisions for requiring house electronic house arrest or similar severe restrictive sentences as the alternative to the interlock program may also be necessary.

Thus, among the various vehicle sanction options, impoundment (or license plate confiscation) and interlocks appear likely to be the most used methods for controlling unlicensed driving by DUI and DWS offenders. While some localities such as California cities (DeYoung, 1999) and Ohio cities (Voas et al., 1997b) have very effective impoundment programs, interlock programs have significant advantages over the more traditional impoundment and forfeiture actions, because the latter actions prevent all driving by the offender and potentially by some innocent family members, threatening the family's economic wellbeing. The interlock, in contrast, permits driving by the offender when sober and by family members while at the same time preventing impaired driving. Further, there is evidence that the data from the interlock can be used therapeutically in assisting the recovery of the offender and in determining when the program can be safely terminated. While there is some evidence that interlocks reduce recidivism, evidence for their crash reduction benefits is still limited. There is also evidence that current systems can be improved to allow for the identification of the driver, avoiding the annoying rolling retest requirement. A current movement by MADD in the United States is calling for greater use of the interlock on all DWI offenders and the investigation of emerging technology that has the potential to substantially reduce

alcohol impaired driving. It remains to be seen whether this movement will increase interlock usage. The cost of the units and program monitoring will also likely be reduced with wider use of the technology.

Summary

In summary, every State in the United States has adopted at least one law allowing for vehicle sanctions for DWI or DWS offenders and several States now allow multiple vehicle sanctions. In many States, however, these laws are not being used often. Administrative application of these sanctions helps, but there are still a number of barriers that need to be overcome. Family hardship issues and the monitoring of compliance with sanctions are significant system problems that need to be addressed. Strategies that may increase the use and effectiveness of vehicle sanctions include:

(1) Imposing mandatory electronic house arrest (allowing only travel to and from work) for at least 90 days on offenders as an alternative to installing an alcohol ignition interlock in their vehicles. This can serve as an incentive to install the interlock.

(2) Not allowing the sale or transfer of title of any vehicle(s) owned by offenders after their arrest for DWI or DWS and not before the adjudication of the charges.

(3) Using DWI fines to compensate State or local officials (or their contractors) to follow up on offenders to ensure that vehicle sanctions are implemented appropriately.

References

Beck, K., Rauch, W., Baker, E., & Williams, A. (1999). Effects of ignition interlock license restrictions on drivers with multiple alcohol offenses: A random trial in Maryland. *American Journal of Public Health, 89*(11), 1696-1700.

Beirness, D. J., Simpson, H. M., Mayhew, D. R., & Jonah, B. J. (1997). The impact of administrative license suspension and vehicle impoundment for DWI in Manitoba. In C. Mercier-Guyon (Ed.), *Proceedings of the 14th International Conference on Alcohol, Drugs and Traffic Safety* (pp. 919-925). Annecy, France: Centre d'Etudes et de Recherches en Medecine du Trafic.

Berg, H., Bodenroeder, P., Finnigan, M., & Jones, B. (1993). *Final report on the effectiveness of Oregon's vehicle cancellation program. Sixty-Seventh Session of the Oregon Legislative Assembly*. Portland, OR: Motor Vehicles Division.

Bjerre, B. (2002). *Preliminary evaluation of Swedish alcohol interlock program: Two years of good experience.* Paper presented at the 81st Annual Transportation Research Board Meeting, Jan 13th - Jan 17, 2002, Washington, DC.

Bjerre, B. (2005). Primary and secondary prevention of drinking and driving by the use of alcolock device and program: The Swedish experience. In P. R. Marques (Ed.), *Alcohol Ignition Interlock Devices – Volume II: Research, Policy, and Program Status 2005* (pp. 11-24). Oosterhout, The Netherlands: International Council on Alcohol, Drugs and Traffic Safety (ICADTS).

Coben, J. H., & Larkin, G. L. (1999). Effectiveness of ignition interlock devices in reducing drunk driving recidivism. *American Journal of Preventive Medicine, 16*(1S), 81-87.

Coppin, R. S., & Oldenbeek, G. (1965). *Driving under suspension and revocation: a study of suspended and revoked drivers classified as negligent operators.* Sacramento, CA: California Department of Motor Vehicles.

Coxon, C. (2003). Australian Interlock Programs, *4th Annual Interlock Symposium*. Hilton Head, SC: Traffic Injury Research Foundation. (Available online: www.ignitioninterlocksymposium.com).

Crosby, I. B. (1995). *Portland's asset forfeiture program: The effectiveness of vehicle seizure in reducing rearrest among "problem" drunk drivers*. Portland, OR: Reed College Public Policy Workshop.

DeYoung, D. J. (1999). An evaluation of the specific deterrent effects of vehicle impoundment on suspended, revoked, and unlicensed drivers in California. *Accident Analysis and Prevention, 31*, 45-53.

DeYoung, D. J. (2000). An evaluation of the general deterrent effects of vehicle impoundment on suspended and revoked drivers in California. *Journal of Safety Research, 31*(2), 51-59.

DeYoung, D. J. (2002). An evaluation of the implementation of ignition interlock in California. *Journal of Safety Research, 33*(4), 473-482.

DeYoung, D. J., Peck, R. C., & Helander, C. J. (1997). Estimating the exposure and fatal crash rates of suspended/revoked and unlicensed drivers in California. *Accident Analysis and Prevention, 29*(1), 17-23.

DeYoung, D. J., Tashima, H. N., & Masten, A. S. (2004, September). *An Evaluation of the Effectiveness of Ignition Interlock in California: Report to the Legislature of the State of California* (CAL-DMV-RSS-04-210/AL0357). Sacramento, CA: California Department of Motor Vehicles.

DeYoung, D. J., Tashima, H. N., & Maston, S. V. (2005). An evaluation of the effectiveness of ignition interlock in California. In P. R. Marques (Ed.), *Alcohol Ignition Interlock Devices – Volume II: Research, Policy, and Program Status 2005* (pp. 42-52). Oosterhout, The Netherlands: International Council on Alcohol, Drugs and Traffic Safety.

Eby, D. W., Kostyniuk, L. P., Spradlin, H., Sudharsan, K., Zakrajsek, J., & Miller, L. (2002). *Evaluation of Michigan's repeat offender package*. Ann Arbor, MI: University of Michigan Transportation Research Institute.

Fawcett, T. (2002). Ontario's Ignition Interlock Program, *3rd Annual Ignition Interlock Symposium*. Vero Beach, FL: Traffic Injury Research Foundation. (Available online: www.ignitioninterlocksymposium.com).

Griffin III, L. I., & DeLaZerda, S. (2000). *Unlicensed to kill*. Washington, DC: AAA Foundation for Traffic Safety.

Hands, M. (2003). Working with the Benefit of Hindsight: A Perspecective from Western Australia, *4th Annual Ignition Interlock Symposium*. Hilton Head, SC: Traffic Injury Research Foundation. (Available online: www.ignitioninterlocksymposium.com).

Hedlund, J., & Fell, J. (1995). Persistent drinking drivers in the U.S., *39th Annual Proceedings of the Association for the Advancement of Automotive Medicine, October 16-18, 1995, Chicago, IL* (pp. 1-12). Des Plaines, IL: Association for the Advancement of Automotive Medicine.

Jones, R. K., Wiliszowski, C. H., & Lacey, J. H. (1996). *Evaluation of alternative programs for repeat DWI offenders* (DOT HS 808 493). Washington, DC: National Highway Traffic Safety Administration, Office of Program Development and Evaluation.

Marques, P., Bjerre, B., Dussault, C., Voas, R. B., Beirness, D. J., Marples, I. R., et al. (2001, November). *Alcohol ignition interlock devices – I: Position paper*. Oosterhout, Netherlands (Also available online: www.icadts.org/reports/Alcoholinterlockreport.pdf. Accessed October 13, 2003): International Council on Alcohol, Drugs and Traffic Safety (ICADTS).

Marques, P. R., Tippetts, A. S., & Voas, R. B. (2003a). The alcohol interlock: An underutilized resource for predicting and controlling drunk drivers. *Traffic Injury Prevention, 4*(3), 188-194.

Marques, P. R., Tippetts, A. S., & Voas, R. B. (2003b). Comparative and joint prediction of DUI recidivism from alcohol ignition interlock and driver records. *Journal of Studies on Alcohol, 64*(1), 83-92.

Marques, P. R., & Voas, R. B. (1995). Case-managed alcohol interlock programs: A bridge between the criminal and health systems. *Journal of Traffic Medicine, 23*(2), 77-85.

Marques, P. R., Voas, R. B., & Hodgins, D. (1998). Vehicle interlock programs: Protecting the community against the drunk driver. *Journal of Prevention & Intervention in the Community, 17*(1), 31-44.

Marques, P. R., Voas, R. B., & Timken, D. S. (2004). Preliminary outcomes from a Texas manual-based group motivational intervention supplement for court-stipulated interlock DUI offenders. In J. Oliver, P. Williams, & A. Clayton (Eds.), *Proceedings of the 17th International Conference on Alcohol, Drugs and Traffic Safety, August 8-13, 2004*. Glasgow, UK: X-CD Technologies.

Marques, P. R., Voas, R. B., Timken, D. S., & Field, C. T. (2004). Motivational enhancement of ignition interlock offenders to reduce DUI. *Alcoholism: Clinical and Experimental Research, 28*(5 Suppl), 154A.

Marques, P. R., Voas, R. B., & Tippetts, A. S. (2000). BAC failures in alcohol interlock record strongly predict repeat DUI offenses after license reinstatement, *Supplement to Alcoholism. Clinical and Experimental Research. 2000 Scientific Meeting of the Research Society on Alcoholism. June 24-29, 2000 – Denver, CO* Vol. 24, (pp. 114A). Santa Barbara, CA: Lippincott Williams & Wilkins.

Marques, P. R., Voas, R. B., & Tippetts, A. S. (2003). Behavioral measures of drinking: Patterns in the interlock record. *Addiction, 98*(Suppl 2), 13-19.

Mathijssen, R. (2003). Growing EU Interest in Alclock Implementation, *4th Annual Ignition Interlock Symposium*. Hilton Head, SC: Traffic Injury Research Foundation. (Available online: www.ignitioninterlocksymposium.com).

McCartt, A. T., Geary, L. L., & Nissen, W. J. (2002, September). *Observational study of the extent of driving while suspended for alcohol-impaired driving* (DOT HS 809 491). Washington, DC: U.S. Department of Transportation, National Highway Safety Administration.

McKnight, A. J., & Voas, R. B. (1991). The effect of license suspension upon DWI recidivism. *Alcohol, Drugs and Driving, 7*(1), 43-54.

Miller, B. A., & Windle, M. (1990). Alcoholism, problem drinking, and driving while impaired. In R. J. Wilson & R. E. Mann (Eds.), *Drinking and driving: Advances in research and prevention* (pp. 68-95). New York: The Guilford Press.

Mothers Against Drunk Driving. (2002). *Rating the states: An assessment of the nation's attention to the problem of drunk driving & underage drinking*. Irving, TX: MADD.

National Highway Traffic Safety Administration. (2002, March). *Traffic safety facts: Model specification for breath alcohol ignition interlock devices*. Washington, DC: National Center for States and Analysis, National Highway Traffic Safety Administration. (Available online: http://www.nhtsa.dot.gov/staticfiles/DOT/NHTSA/Traffic%20Injury%20Control/Articles/Associated%20Files/Vehicle-License2005.pdf).

National Highway Traffic Safety Administration. (2003). *Digest of State Alcohol Highway Safety Related Legislation*. (21st ed.). Washington, D.C.: National Highway Traffic Safety Administration.

Peck, R., & Voas, R. (2002). Forfeiture programs in California: Why so few? *Journal of Safety Research, 33*(2), 245-258.

Peck, R. C. (1991). General and specific deterrent effects of DUI sanctions: A review of California's experience. *Alcohol, Drugs and Driving, 7*(1), 13-42.

Peck, R. C., Sadler, D. D., & Perrine, M. W. (1985). The comparative effectiveness of alcohol rehabilitation and licensing control actions for drunk driving offenders: A review of the literature. *Alcohol, Drugs and Driving: Abstracts and Reviews, 1*(4), 15-40.

Rodgers, A. (1994). Effect of Minnesota's license plate impoundment law on recidivism of multiple DWI violators. *Alcohol, Drugs and Driving, 10*(2), 127-134.

Ross, H., & Gonzales, P. (1988). The effect of license revocation on drunk-driving offenders. *Accident Analysis and Prevention, 20*(5), 379-391.

Ross, H. L., Simon, S., & Cleary, J. (1995). *License plate impoundment for multiple offender drunk drivers*. Adelaide, Australia: NHMRC Road Accident Research Unit, The University of Adelaide.

Safir, H., Grasso, G., & Messner, R. (2000). The New York City police department DWI forfeiture initiative - Prevention Section. In H. Laurell & F. Schlyter (Eds.), *Alcohol, Drugs and Traffic Safety - T 2000: Proceedings of the 15th International Conference on Alcohol, Drugs and Traffic Safety, May 22-26, 2000* Vol. 3, (pp. 837-840). Sweden: ICADTS.

Salzberg, P. M. (1991). *Vehicle registration cancellation for driving with a suspended drivers license: An evaluation of substitute House Bill 196 (1987 Legislative Session)*. Olympia, WA: Washington Traffic Safety Commission.

Simpson, H. M., Mayhew, D. R., & Beirness, D. J. (1996). *Dealing with the hard core drinking driver*. Ottawa, Canada: Traffic Injury Research Foundation.

Swann, P. (2003). Victoria (Australia) Alcohol Interlock Program, *4th Annual Ignition Interlock Symposium*. Hilton Head, SC: Traffic Injury Research Foundation. (Available online: www.ignitioninterlocksymposium.com).

Tashima, H. N., & Helander, C. J. (1999, January). *1999 annual report of the California DUI Management Information System* (CAL-DMV-RSS-99-179). Sacramento, CA: California Department of Motor Vehicles, Research and Development Section.

The Century Council. (2003). *National hardcore drunk driver project: Promising strategies, law and programs*. The Century Council. Accessed May, 2007, from the World Wide Web: http://www.dwidata.org/.

Timken, D., & Marques, P. R. (2001a). *Support for Interlock Planning (SIP): Participants Workbook*. Calverton, MD: Pacific Institute for Research and Evaluation.

Timken, D., & Marques, P. R. (2001b). *Support for Interlock Planning (SIP): Providers Manual*. Calverton, MD: Pacific Institute for Research and Evaluation.

Tippetts, A. S., & Voas, R. B. (1998). The effectiveness of the West Virginia interlock program. *Journal of Traffic Medicine, 26*(1-2), 19-24.

Vezina, L. (2002). The Quebec Alcohol Ignition Interlock Program: Impact on Recidivism and Crashes. In D. Mayhew & C. Dussault (Eds.), *Proceedings of T2002 - the16th International Conference on Alcohol, Drugs and Traffic Safety*. Montreal: International Conference on Alcohol, Drugs and Traffic Safety. (Available online: www.saaq.gouv.qc.ca/t2002).

Voas, R. B. (1986). Evaluation of jail as a penalty for drunken driving. *Alcohol, Drugs and Driving: Abstracts and Reviews, 2*(2), 47-70.

Voas, R. B. (1992, June). *Assessment of impoundment and forfeiture laws for drivers convicted of DWI. Phase I report: Review of state laws and their application.* DOT HS 807 870. Washington, DC: National Highway Traffic Safety Administration.

Voas, R. B. (2001). Have the courts and the motor vehicle departments adequate power to control the hard-core drunk driver? *Addiction, 96*(12), 1701-1707.

Voas, R. B., Blackman, K. O., Tippetts, A. S., & Marques, P. R. (2002). Evaluation of a program to motivate impaired driving offenders to install ignition interlocks. *Accident Analysis and Prevention, 34*(4), 449-455.

Voas, R. B., & DeYoung, D. J. (2002). Vehicle action: Effective policy for controlling drunk and other high-risk drivers? *Accident Analysis and Prevention, 34*(3), 263-270.

Voas, R. B., Marques, P. R., Tippetts, A. S., & Beirness, D. J. (1999). The Alberta Interlock Program: The evaluation of a province-wide program on DUI recidivism. *Addiction, 94*(12), 1849-1859.

Voas, R. B., Roth, J., & Marques, P. R. (2005). The hard suspension barrier: Does New Mexico's interlock licensing law solve the problem? In P. R. Marques (Ed.), *Alcohol Ignition Interlock Devices – Volume II: Research, Policy, and Program Status 2005* (pp. 62-73). Oosterhout, The Netherlands: International Council on Alcohol, Drugs and Traffic Safety.

Voas, R. B., & Tippetts, A. S. (1994, January 9-13). *Unlicensed driving by DUIs – A major safety problem?* Paper presented at the 73rd Annual Meeting of the Transportation Research Board, Washington, DC.

Voas, R. B., & Tippetts, A. S. (1995). Evaluation of Washington and Oregon license plate sticker laws, *39th Annual Proceedings of the Association for the Advancement of Automotive Medicine (AAAM)* (pp. 29-44). Des Plaines, IL: Association for the Advancement of Automotive Medicine.

Voas, R. B., Tippetts, A. S., & Fell, J. C. (2000a). The relationship of alcohol safety laws to drinking drivers in fatal crashes. *Accident Analysis and Prevention, 32*(4), 483-492.

Voas, R. B., Tippetts, A. S., & Lange, J. E. (1997a). Evaluation of a method for reducing unlicensed driving: The Washington and Oregon license plate sticker laws. *Accident Analysis and Prevention, 29*(5), 627-634.

Voas, R. B., Tippetts, A. S., & Taylor, E. P. (1997b). Temporary vehicle immobilization: Evaluation of a program in Ohio. *Accident Analysis and Prevention, 29*(5), 635-642.

Voas, R. B., Tippetts, A. S., & Taylor, E. P. (1998). Temporary vehicle impoundment in Ohio: A replication and confirmation. *Accident Analysis and Prevention, 30*(5), 651-655.

Voas, R. B., Tippetts, A. S., & Taylor, E. P. (2000b, October). *Effectiveness of the Ohio vehicle action and administrative license suspension laws*. Final Report DOT HS 809 000. Washington, DC: National Highway Traffic Safety Administration.

Ward Vanlaar, W., & Drevet, M. (2003). Alcolocks in Belgium: the Road to Implementation, *4th Annual Ignition Interlock Symposium*. Hilton Head, SC: Traffic Injury Research Foundation. (Available online: www.ignitioninterlocksymposium.com).

Williams, R. L., Hagen, E. R., & McConnell, E. J. (1984). A driving record analysis of suspension and revocation effects on the drinking-driving offender. *Accident Analysis and Prevention, 16*(5/6), 333-338.

Appendix A: Presence and Status of Vehicle

Table A-4. Presence of Vehicle Sanction Laws in the States and Their Usage (2004)

State	Alcohol Ignition Interlock	Vehicle Impoundment[1]	Vehicle Immobilization	Vehicle Forfeiture	License Plate and Vehicle Registration Suspension	Special License Plates
Alabama	0	9	0	0	1	0
Alaska	1	2	0	2	0	0
Arizona	2	1	0	1	0	0
Arkansas	2	0	0	1	1	0
California	1	2	0	1	0	0
Colorado	2	0	0	1	0	0
Connecticut	0	9	0	0	0	0
Delaware	2	0	0	0	1	0
District of Columbia	1	0	0	0	0	0
Florida	2	9	9	0	0	0
Georgia	2	0	0	1	2	9
Hawaii	0	0	0	0	1	9
Idaho	2	0	0	0	0	0
Illinois	2	0	1	1	1	0
Indiana	2	0	0	0	0	0
Iowa	9	1	1	1	9	0
Kansas	1	1	1	0	1	0
Kentucky	1	0	0	0	2	0
Louisiana	2	0	0	1	0	0
Maine	0	0	0	1	2	0
Maryland	2	1	0	0	1	0
Massachusetts	9	0	0	0	9	0
Michigan	2	0	1	2	9	9
Minnesota	0	0	0	2	2	2
Mississippi	9	9	9	9	0	0
Missouri	2	2	0	2	0	0
Montana	2	0	0	2	0	0
Nebraska	2	2	0	0	2	0
Nevada	2	0	0	0	0	0
New Hampshire	9	0	0	0	9	0
New Jersey	2	0	0	0	2	9
New Mexico	2	0	1	1	0	0
New York	2	0	0	2	0	0
North Carolina	2	0	0	2	0	0
North Dakota	1	0	0	1	1	0
Ohio	1	0	2	2	9	9
Oklahoma	2	0	0	1	0	0
Oregon	2	1	1	1	0	0
Pennsylvania	2	0	0	1	0	0
Puerto Rico	0	0	0	0	0	0
Rhode Island	1	0	0	9	1	0
South Carolina	1	0	9	2	0	0
South Dakota	0	0	0	0	2	0
Tennessee	1	0	0	2	0	0
Texas	1	0	0	1	0	0
Utah	1	0	0	0	0	0
Vermont	0	0	1	1	0	0
Virginia	9	2	9	0	0	0
Washington	2	9	0	2	0	0
West Virginia	1	0	0	0	0	0
Wisconsin	2	0	1	1	0	0
Wyoming	0	0	0	0	1	0
Total# w/ law	43	15	13	30	22	6
Total# w/ law sometimes or often used	25	5	1	11	7	1

Key: 0 = No law; 1 = Little or no use; 2 = Some or much use; 9 = Law, but extent of use unclear/unknown

[1] For the purposes of this table, only laws allowing long-term vehicle impoundment (e.g., several months) will be counted. Laws allowing short-term impoundment (up to 48 hours) will not be counted. States that allow for short-term impoundment are Connecticut, District of Columbia, Florida, Illinois, Maine, Minnesota, New Jersey, and Wyoming. Nearly all of the impoundment laws in these 8 States allow for some period of vehicle impoundment for all DWI and/or DWS offenders, ostensibly preventing offenders from driving impaired after release from police custody. Illinois takes a somewhat different approach, increasing the number of hours of impoundment based on the number of prior offenses.

Table A-5. Presence of Vehicle Sanction Laws in the States and Type of Offender Application (2004)

State	Alcohol Ignition Interlock	Vehicle Impoundment[1]	Vehicle Immobilization	Vehicle Forfeiture	License Plate and Vehicle Registration Suspension	Special License Plates
Alabama	0	2	0	0	1	0
Alaska	1, 4	1, 3, 4	0	1, 3, 4	0	0
Arizona	1, 2, 4	2	0	1, 2, 4	0	0
Arkansas	1, 2, 3, 4	0	0	1	2	0
California	1, 2, 4	1, 2, 4	0	1, 2, 4	0	0
Colorado	1, 2, 3, 4	0	0	1, 2, 4	0	0
Connecticut	0	1, 2, 3, 4	0	0	0	0
Delaware	1, 3, 4	0	0	0	2, 3	0
District of Columbia	1	0	0	0	0	0
Florida	1, 3, 4	1, 4	1, 4	0	0	0
Georgia	1	0	0	1	1	1
Hawaii	0	0	0	0	1, 3	1, 3
Idaho	1, 4	0	0	0	0	0
Illinois	1	0	1, 2	1, 2	1, 2	0
Indiana	1, 4	0	0	0	0	0
Iowa	1, 3	1, 2	1	1, 2	1, 2	0
Kansas	1, 4	1, 4	1, 4	0	1	0
Kentucky	1, 4	0	0	0	1	0
Louisiana	1, 4	0	0	1	0	0
Maine	0	0	0	2	1, 2	0
Maryland	1, 4	2	0	0	2	0
Massachusetts	1	0	0	0	2	0
Michigan	1, 4	0	1, 4	1	1, 2, 4	1, 4
Minnesota	0	0	0	1, 2, 4	1, 4	1, 4
Mississippi	1	1	1	1	0	0
Missouri	1, 4	1, 3, 4	0	1, 2, 3, 4	0	0
Montana	1, 4	0	0	1	0	0
Nebraska	1, 3	2	0	0	1, 3	0
Nevada	1, 4	0	0	0	0	0
New Hampshire	1, 4	0	0	0	1	0
New Jersey	1, 4	0	0	0	1, 4	1, 4
New Mexico	1, 4	0	1	1	0	0
New York	1	0	0	1	0	0
North Carolina	1, 4	0	0	1, 2	0	0
North Dakota	1, 4	0	0	1	1, 2, 4	0
Ohio	1, 4	0	1	1	1	1
Oklahoma	1, 4	0	0	1, 4	0	0
Oregon	1, 4	1, 2	1, 2	1, 4	0	0
Pennsylvania	1, 4	0	0	1, 4	0	0
Puerto Rico	0	0	0	0	0	0
Rhode Island	1	0	0	1	1, 2, 3, 4	0
South Carolina	1, 4	0	1, 2, 3, 4	1	0	0
South Dakota	0	0	0	0	1, 4	0
Tennessee	1, 4	0	0	1, 2, 4	0	0
Texas	1, 4	0	0	1	0	0
Utah	1, 4	0	0	0	0	0
Vermont	0	0	1	1	0	0
Virginia	1, 4	2, 3	2, 3	0	0	0
Washington	1, 3, 4	1, 4	0	1	0	0
West Virginia	1, 3, 4	0	0	0	0	0
Wisconsin	1, 3, 4	0	1, 3	1, 3	0	0
Wyoming	0	0	0	0	1	0
Total# w/ law	43	15	13	30	22	6
Total# w/ law first off. DWI	34	7	4	11	6	3

Key: 0 = No law; 1 = Multiple DWI offender; 2 = DWS offender; 3 = Refusal; 4 = 1st DWI offender; 9 = Law, but unclear as to whom it applies

[1] For the purposes of this table only, laws allowing long-term vehicle impoundment (e.g., several months) will be counted. Laws allowing short-term impoundment (up to 48 hours) will not be counted. States that allow for short-term impoundment are: Connecticut, District of Columbia, Florida, Illinois, Maine, Minnesota, New Jersey, and Wyoming. Nearly all of the impoundment laws in these 8 States allow for some period of vehicle impoundment for all DWI and/or DWS offenders, ostensibly preventing offenders from driving impaired after release from police custody. Illinois takes a somewhat different approach, increasing the number of hours of impoundment based on the number of prior offenses.

Table A-6. Presence of Vehicle Sanction Laws in the States and Mandatory or Discretionary Application (2004)

State	Alcohol Ignition Interlock	Vehicle Impoundment[1]	Vehicle Immobilization	Vehicle Forfeiture	License Plate and Vehicle Registration Suspension	Special License Plates
Alabama	0	1	0	0	2	0
Alaska	1	1	0	1	0	0
Arizona	2	1	0	2	0	0
Arkansas	1	0	0	1	2	0
California	3	1	0	1	0	0
Colorado	1	0	0	9	0	0
Connecticut	0	1	0	0	0	0
Delaware	1	1	0	0	1	0
District of Columbia	0	0	0	0	0	0
Florida	1	0	2	0	0	0
Georgia	1	0	0	1	2	2
Hawaii	0	0	0	0	1	1
Idaho	3	0	0	0	0	0
Illinois	1	0	1	1	1	0
Indiana	1	0	0	0	0	0
Iowa	1	1	1	1	1	0
Kansas	3	1	1	0	1	0
Kentucky	1	0	0	0	1	0
Louisiana	3	0	0	2	0	0
Maine	0	0	0	2	3	0
Maryland	1	1	0	0	1	0
Massachusetts	2	0	0	0	1	0
Michigan	1	0	3	1	2	1
Minnesota	0	0	0	3	2	1
Mississippi	1	2	2	1	0	0
Missouri	1	1	0	1	0	0
Montana	3	0	0	2	0	0
Nebraska	1	1	0	0	2	0
Nevada	3	0	0	0	0	0
New Hampshire	1	0	0	0	2	0
New Jersey	1	0	0	0	1	1
New Mexico	1	0	1	1	0	0
New York	1	0	0	1	0	0
North Carolina	3	0	0	9	0	0
North Dakota	1	0	0	1	1	0
Ohio	3	0	9	9	1	1
Oklahoma	2	0	0	1	0	0
Oregon	3	1	1	1	0	0
Pennsylvania	3	0	0	1	0	0
Puerto Rico	0	0	0	0	0	0
Rhode Island	1	0	0	1	1	0
South Carolina	1	0	2	2	0	0
South Dakota	0	0	0	0	2	0
Tennessee	1	0	0	3	0	0
Texas	3	0	0	1	0	0
Utah	3	0	0	0	0	0
Vermont	0	0	1	1	0	0
Virginia	3	1	1	0	0	0
Washington	3	1	0	1	0	0
West Virginia	1	0	0	0	0	0
Wisconsin	1	0	1	3	0	0
Wyoming	0	0	0	0	2	0
Total # with law	43	15	13	31	22	6
Total # with law with mandatory application	2	1	3	5	8	1

Key: 0 = No law; 1 = Law, discretionary application; 2 = Law, mandatory application;
3 = Depends on circumstances (e.g. first vs. multiple); 9 = Law, but unclear as to how it is applied

[1] For the purposes of this table only laws allowing long-term vehicle impoundment (e.g., several months) will be counted. Laws allowing short-term impoundment (up to 48 hours) will not be counted. States that allow for short-term impoundment are: Connecticut, District of Columbia, Florida, Illinois, Maine, Minnesota, New Jersey, and Wyoming. Nearly all of the impoundment laws in these 8 States allow for some period of vehicle impoundment for all DWI and/or DWS offenders, ostensibly preventing offenders from driving impaired after release

from police custody. Illinois takes a somewhat different approach, increasing the number of hours of impoundment based on the number of prior offenses.

Table A-7. Presence of Vehicle Sanction Laws in the States and Their System Application (2004)

State	Alcohol Ignition Interlock	Vehicle Impoundment[1]	Vehicle Immobilization	Vehicle Forfeiture	License Plate and Vehicle Registration Suspension	Special License Plates
Alabama	0	2	0	0	9	0
Alaska	1	3	0	3	0	0
Arizona	3	2	0	1	0	0
Arkansas	3	0	0	1	2	0
California	1	3	0	1	0	0
Colorado	3	0	0	3	0	0
Connecticut	0	2	0	0	0	0
Delaware	1	1	0	0	1	0
District of Columbia	9	0	0	0	0	0
Florida	1	1	1	0	0	0
Georgia	2	0	0	1	1	1
Hawaii	0	0	0	0	2	2
Idaho	1	0	0	0	0	0
Illinois	1	0	1	1	1	0
Indiana	1	0	0	0	0	0
Iowa	1	1	1	1	1	0
Kansas	1	1	1	0	1	0
Kentucky	1	0	0	0	1	0
Louisiana	3	0	0	1	0	0
Maine	0	0	0	1	3	0
Maryland	3	1	0	0	1	0
Massachusetts	1	0	0	0	1	0
Michigan	1	0	1	1	2	2
Minnesota	0	0	0	3	1	1
Mississippi	1	1	1	1	0	0
Missouri	1	1	0	1	0	0
Montana	1	0	0	1	0	0
Nebraska	1	1	0	0	1	0
Nevada	1	0	0	0	0	0
New Hampshire	1	0	0	0	1	0
New Jersey	1	0	0	0	1	1
New Mexico	1	0	1	1	0	0
New York	1	0	0	1	0	0
North Carolina	1	0	0	1	0	0
North Dakota	1	0	0	1	3	0
Ohio	2	0	1	1	1	1
Oklahoma	3	0	0	1	0	0
Oregon	1	1	1	1	0	0
Pennsylvania	1	0	0	1	0	0
Puerto Rico	0	0	0	0	0	0
Rhode Island	1	0	0	1	2	0
South Carolina	1	0	3	2	0	0
South Dakota	0	0	0	0	1	0
Tennessee	1	0	0	3	0	0
Texas	1	0	0	1	0	0
Utah	1	0	0	0	0	0
Vermont	0	0	1	1	0	0
Virginia	1	1	1	0	0	0
Washington	1	1	0	1	0	0
West Virginia	9	0	0	0	0	0
Wisconsin	1	0	1	1	0	0
Wyoming	0	0	0	0	2	0
Total # with law	43	17	13	31	22	6
Total # with law administratively or both	8	5	1	5	6	2

Key: 0 = No law; 1 = Courts only; 2 = Administratively; 3 = Both administrative and courts; 4 = Other; 9 = Laws but details unknown/unclear

* For the purposes of this table, only laws allowing long-term vehicle impoundment (e.g., several months) will be counted. Laws allowing short-term impoundment (up to 48 hours) will not be counted. States that allow for short-term impoundment are Connecticut, District of Columbia, Florida, Illinois, Maine, Minnesota, New Jersey, and Wyoming. Nearly all of the impoundment laws in these 8 States allow for some period of vehicle impoundment for all DWI and/or DWS offenders, ostensibly preventing offenders from driving impaired after release from police custody. Illinois takes a somewhat different approach, increasing the number of hours of impoundment based on the number of prior offenses.

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