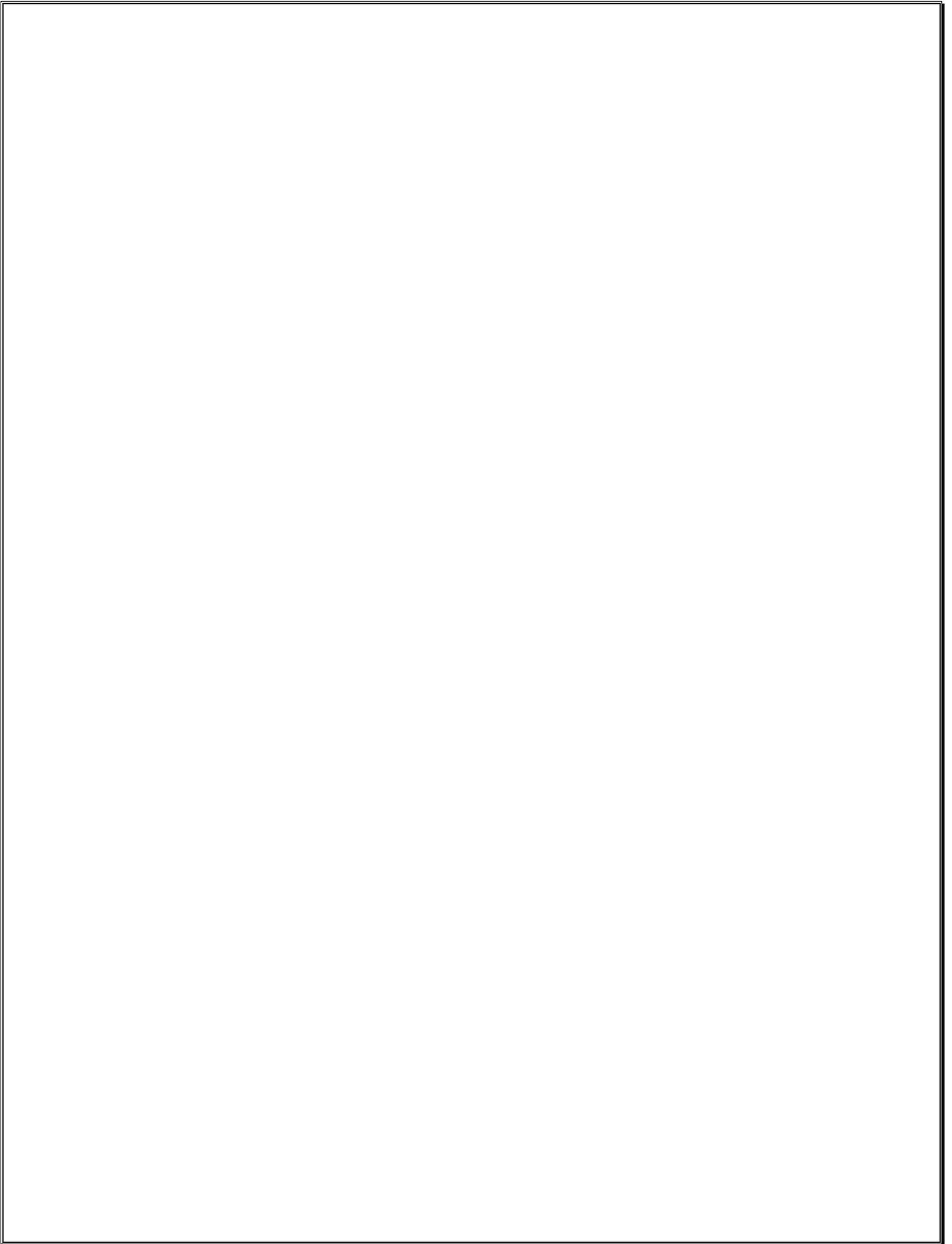


**MICHIGAN
DWI/SOBRIETY
COURT IGNITION
INTERLOCK
EVALUATION**

2012 REPORT

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INTRODUCTION & BACKGROUND

Purpose of the Report

This report was commissioned by the Michigan Association of Drug Court Professionals (MADCP), and was produced pursuant to Michigan Public Act 154 of 2010, in cooperation with the State Court Administrative Office (SCAO). Its purpose is to provide the legislature, the Secretary of State, and the Michigan Supreme Court documentation related to the program participant's compliance with court ordered conditions. This 2012 report provides the reader with a description of the data, implementation issues, innovative practices, obstacles, lessons learned, and results from the first year of the DWI/sobriety court interlock pilot project that began in 2011. This document is the first of three annual reports. Subsequent reports (2013 and 2014) will provide additional qualitative and statistical analyses related to the implementation and outcomes of PA 154.

Use and Audience

This report is directed toward legislators, court administrators, and other criminal justice practitioners who are interested in the use of ignition interlock devices as a means of controlling and reducing drunk driving recidivism in the state of Michigan. Section 1 of this report provides the reader with information regarding the nature and extent of drunk driving, traditional prevention practices, an overview of ignition interlock technologies, and criminological theories that support the use of interlocks in controlling drunk drivers. Following this review, Sections 2 and 3 provide the methods used, and the findings from the first year of the ignition interlock pilot program. Section 4 provides conclusions, and a summary of lessons learned during the first year of the project.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	i
INTRODUCTION & BACKGROUND	ii
Purpose of the Report	ii
Use and Audience	ii
EXECUTIVE SUMMARY.....	3
Introduction.....	3
Method.....	3
Results	3
SECTION 1: THE PROBLEM OF DRUNK DRIVING	5
THE PHENOMENON OF DRUNK DRIVING	5
CORRELATES & CAUSES OF DRUNK DRIVING.....	5
Correlates of Drunk Driving	6
Causes of Drunk Driving.....	8
PREVENTING DRUNK DRIVING.....	11
Problem Solving Courts & Drunk Driving	12
IGNITION INTERLOCKS	13
How Ignition Interlocks Work	14
Ignition Interlocks in Michigan	15
IGNITION INTERLOCKS AND THEORIES OF PUNISHMENT & REHABILITATION	18
A Classical / Neo-Classical Approach	18
A Positivist Perspective toward DWI & Ignition Interlocks	19
SECTION 2: THE STUDY	21
Overview of the Study Design	21
Participating Courts	21
The Target Population	22
Data	22
Data Analysis	22
SECTION 3: FINDINGS	23

PRIOR SUBSTANCE ABUSE	26
PROGRAM SUCCESS: IGNITION INTERLOCK DATA	28
DRUG & ALCOHOL VIOALTIONS UNDER PA 154	30
PROCESS RELATED INFORMATION FROM SITE VISITS	31
Implementation Issues	31
SECTION 4: SUMMARY AND CONCLUSION	35
UNDERSTANDING DRUNK DRIVING AND ITS PREVENTION	35
SUMMARY OF KEY FINDINGS FROM THE PRESENT STUDY.....	35
FUTURE DIRECTIONS.....	36
REFERENCES.....	38
APPENDIX A	47
APPENDIX B.....	49
APPENDIX C	53
ABOUT THE AUTHORS	54

EXECUTIVE SUMMARY

Introduction

This report was commissioned by the Michigan Association of Drug Court Professionals (MADCP), and was produced pursuant to Michigan Public Act 154 of 2010, in cooperation with the State Court Administrative Office (SCAO). Its purpose is to provide the legislature, the Secretary of State, and the Michigan Supreme Court documentation related to the program participant's compliance with court ordered conditions. This 2012 report provides the reader with a description of the data, implementation issues, innovative practices, obstacles, lessons learned, and results from the first year of the DWI/sobriety court interlock pilot project that began in 2011. This document is the first of three annual reports. Subsequent reports (2013 & 2014) will provide additional qualitative and statistical analyses related to the implementation and outcomes of PA 154.

Method

This study was guided by the following research questions set forth in the PA154 legislation:

- a) The percentage of program participants ordered to place interlock devices on their vehicles who actually comply with the order;
- b) The percentage of program participants who remove court-ordered interlocks from their vehicle without court approval;
- c) The percentage of program participants who consume alcohol or controlled substances;
- d) The percentages of program participants found to have tampered with court-ordered interlocks;
- e) The percentage of program participants who operated a motor vehicle not equipped with an interlock;
- f) Relevant treatment information about program, participants; and,
- g) The percentage of program participants convicted of a new offense under section 625(1) or (3) of the Michigan vehicle code, 1949 PA 300, MCL, 257.625.

The target population for this study included offenders (N=84) that met the eligibility requirements for entry into a DWI/sobriety court program, based on PA 154 criteria. Participating courts submitted offender data into the Michigan Judicial Data Warehouse/ Drug Court Case Management Information System (DCCMIS). The SCAO staff then provided the researchers with an identity stripped dataset that included information related to the each offender's demographics, criminal history, history of drug abuse, alcohol abuse, mental health issues, progress through DWI/sobriety court, compliance with interlock restriction, and information on re-offending. In addition to the official data from the SCAO, site visits were conducted with each participating court where Stakeholders (court administrators, judges, probation officers, etc.) involved the DWI/sobriety Court and ignition interlock program were given the opportunity to informally share their impressions of the initial implementation and administration of the pilot program.

Results

All program participants ordered to install interlock devices on their vehicles complied with conditions of the program. More specifically,

- All participants were compliant with the court order to install interlocks;
- No removals of the interlocks without court approval were reported;
- No reports of offenders tampering with interlocks were reported;

- No reported operation of motor vehicles not equipped with an ignition interlock was reported among offenders under interlock restriction;
- And, to date, no re-conviction of any offender in the program has occurred for a subsequent drinking and driving offense under 625(1) or (3).

Based on the analysis of available data from the first year of the ignition interlock program, it appears that implementation has gone relatively smoothly, offenders and court staff are enthusiastic about the program, and the vast majority of offenders have been compliant with conditions set forth by the court (at least those conditions specifically relating to ignition interlocks). There is insufficient data at this time to draw conclusions about the effectiveness of the program; however, this issue will be addressed in the 2013 and 2014 editions of this report.

SECTION 1: THE PROBLEM OF DRUNK DRIVING

THE PHENOMENON OF DRUNK DRIVING

The issue of drinking and driving is a serious problem in the United States. In 2010, the Centers for Disease Control (CDC) determined that approximately 112 million individuals engaged in some type of alcohol-impaired driving (NHTSA, 2010). Meanwhile, research conducted by the National Highway Traffic Safety Administration (NHTSA, 2008) found that one in five drivers reported driving a vehicle within two hours of consuming alcohol; this same study also estimated that the total number of drinking-driver episodes was between 74.4 and 96.6 million within a one-month period. Of further interest is that the number of individuals drinking and driving has remained relatively steady between 1993-2008; estimates show that approximately 20% of the total population has reported engaging in this behavior (Drew, Royal, Moulton, Peterson & Haddix, 2010).

Even more important is the issue of drunk driving. The National Highway Traffic Safety Administration (NHTSA) reported that there were 10,102 alcohol-related fatalities nation-wide in 2009. Moreover, drivers involved in fatal crashes were 8 times more likely than non-drunk drivers to have had a prior drunk driving conviction (Alcohol-Impaired Driving, 2009). Other studies have also identified that approximately 8% (or an estimated 17.2 million) of all drivers have driven over the legal limit within a 12-month period (National Survey, 2010), resulting in approximately 1.4 million arrests annually for drunk driving in the U.S. (Crime in the United States, 2010).

Of particular concern for criminal justice practitioners is the control of repeat drunk drivers: people who relapse and subsequently re-offend following a conviction for DWI. Repeat drunk driving is a serious public health issue: the scholarly literature shows that repeat drunk driving and recidivism within five years of the first offense can be as high as 26% for women, and as high as 38% for males under the age of 30 (Lapham, Skipper, Hunt & Chang, 2000). Repeat drunk drivers have also been found to be more likely to be involved in alcohol-related crashes and fatalities (Alcohol & Highway Safety, 2005).

While drunk driving has been recognized as a serious problem, determining who the drunk driver is has remained elusive. Traditionally, the criminal justice system, and perhaps the public too, has relied upon a “mythical conception” of the drunk driver. Primarily, this perception was based on the belief that the typical drunk driver was a law abiding social drinker who made an error in judgment, and whose actions could be corrected through traditional criminal justice sanctions (e.g. fines, license suspension, revocation and incarceration). However, the research shows that this is often not the case. Instead, typical drunk drivers are not first time offenders; they have usually driven intoxicated many times before; and, the reasons why they drink and drive are complex.

Drunk Driving in Michigan

In the state of Michigan, 41,883 arrests for drunk driving and 9986 alcohol-involved crashes were reported in 2010 (Michigan Drunk, 2011). The Office of Highway Safety and Planning (OHSP) determined that 34% of all traffic fatalities in the state of Michigan in 2009 were alcohol-related (Annual Evaluation Report, 2010).

CORRELATES & CAUSES OF DRUNK DRIVING

The reasons why individuals drink and drive are based on a myriad of factors that are reviewed below. However, before developing an understanding of who the drunk driver is, it is important to distinguish

between a correlate and cause of a(n) anti-social behavior(s) (MacDonald & Mann, 1996).¹ A *correlate* is a factor that is statistically associated with the behavior that one wishes to explain, but it *does not* actually influence the probability that this behavior will occur. A *cause*, meanwhile, is a factor, or variable, whose presence (or absence) influences the chances that the key behavior will happen. The distinction is an important one, particularly when one is dealing with issues of applied criminal justice policy. For example, if a policymaker creates an intervention that targets a correlate, as opposed to a cause, the intervention is unlikely to have any impact on the criminal, or anti-social, behavior that one is trying to prevent. Therefore, only by focusing on true causes of crime, will one's policy succeed. In this context, consider the following distinction between correlation and causality using the example of ice cream sales and the rate of robberies in the summer months:

It is well known that in months where a great deal of ice cream is sold (e.g. June, July, August) rates of robbery are higher than in months where ice cream sales are low (e.g. December, January, February). However, restricting the sale of ice cream will obviously not reduce the amount of robberies, since the two factors are not causally linked (instead, warm weather, and increased social interaction during the summer months, lead people to consume more ice cream, and help drive the process that leads to robbery).

While this example is simplistic, it does illustrate the importance of separating the correlates of drinking and driving behaviors from the causes of DWI, which will be explored in some detail below:

Correlates of Drunk Driving

A review of the academic literature has identified the following variables as correlates of drunk driving:

Gender

The literature is in general agreement that males drink and drive more than females. For example, in one study, males were found to be 10 times more likely to be convicted of drinking and driving than females (MacDonald and Mann, 1996). However, this ratio falls to approximately 5 to 1 if one examines offenders on probation, and it grows closer to 14 to 1 when considering offenders in either jail or prison. It also appears that the proportion of female offenders is increasing over time (Maruschak, 1999); and it is worth noting that males who report drinking specifically for the purpose of reducing inhibitions while courting females are disproportionately represented among DWI offenders (Pang et al. 1989).

The research also shows substantial gender differences among repeat drunk drivers. Generally, males are overrepresented among repeat DWI offenders (Chang, et al. 1996; C'de Baca, et al. 2002; Nochjski & Stasiewicz, 2006). The literature also shows that both male and female repeat DWI offenders have extensive, but different, psychiatric histories. LaPlante, et al. (2008), for example, studied 729 DWI offenders in a residential treatment facility and concluded that female repeat offenders were substantially different from male repeat offenders in lifetime and past-year psychiatric comorbidity patterns. Women had more extensive histories of psychiatric morbidity (i.e., a psychiatric disorder in addition to substance

¹ In a research context, a cause of a behavior can be distinguished from a correlate in one of two ways. First, researchers can set up an experimental research design that *physically isolates* the effect of a hypothesized cause from all other possible confounding factors (i.e. other possible correlates). This is done by comparing two groups that (ideally) differ only in so much as one has been exposed to the hypothesized cause, and the other has not. Second, researchers can estimate complex, multivariate empirical models that *statistically isolate* the effect of a hypothesized cause from other possible confounding variables. Researchers also attempt to distinguish between true causes and mere correlates by utilizing longitudinal research designs (i.e. studies where the key variables are repeatedly measured over time).

abuse/dependence, alcohol abuse/dependence, and pathological gambling) and were more likely than men to report a history of multiple morbidities (i.e., multiple psychiatric disorders in addition to substance-related or gambling disorders).

Age

People in certain age groups are also more likely to become DWI offenders than others. In general, DWI offenders are more likely to be middle aged or younger. Purely descriptive studies suggest that the average age of those convicted is in the mid-30's to the early 40's (MacDonald and Mann, 1996; Maruschak, 1999). Conversely, studies with more advanced methodologies tend to place the peak offending age somewhat younger, between 20 and 35 (MacDonald and Mann, 1996). It also appears that the mean age of offenders has dropped over time; mean ages are generally reported as younger in recent studies (MacDonald and Mann, 1996) and repeat DWI offenders tend to be older than first offenders (Cavaiola et al., 2003; Nochajski and Stasiewicz, 2006).

Correlates of Drunk Driving:

The literature shows that the following variables are associated with drunk driving:

- Gender
- Age
- Race/Ethnicity
- Socioeconomic Status
- Education
- Marital Status

Race / Ethnicity

Statistics indicate that DWI offenders are predominantly Caucasian. In 1999, the Bureau of Justice Statistics reported that 73.5% of offenders on probation for DWI were Caucasian, as compared to 11.9% Black, 9.4% Hispanic, and 5.1% from other races. An examination of jailed and incarcerated offenders shows similar results, although Hispanic offenders seem considerably more likely to receive custodial sentences for DWI (Maruschak, 1999). Caucasians are also proportionately overrepresented among repeat DWI offenders, although this finding varies by region of the country (Chang et al., 1996; C'de Baca et al., 2002; Nochajski and Stasiewicz, 2006).

Socioeconomic Status

Individuals convicted of drinking and driving are disproportionately likely to come from the lower socio-economic strata (MacDonald and Mann, 1996). This appears to be particularly true for repeat DWI offenders too (Wilson and Jonah, 1983; MacDonald and Pederson, 1990; Nochajski and Stasiewicz, 2006).

Education

DWI offenders are generally better educated than other types of offenders. For instance, in one study, 37.2% of DWI probationers reported having "some college education." ("high school graduate" was the next most common category at 27.0%). This compares to 26.7% of individuals who were on probation for other offenses who reported "some college education" and 29.9% who reported being high school graduates (Maruschak, 1999). These same trends held for incarcerated DWI offenders, although the differences as compared to other types of incarcerated inmates were not as great. Repeat DWI offenders also tend to be more poorly educated than first time offenders (Nochajski and Stasiewicz, 2006).

Marital Status

The literature suggests that individuals who are single, separated or divorced are more likely to become DWI offenders than those who are married (MacDonald and Mann, 1996). As with many other

characteristics, this correlate is even more evident among repeat offenders (Nochajski and Wieczorek, 2000; C'de Baca et al., 2002; Nochajski and Stasiewicz, 2006).

Causes of Drunk Driving

Identifying the “true” causes of drinking and driving behavior is far more challenging than simply listing known correlates. In some cases, the causes of drunk driving can be relatively “basic.” For instance, some individuals simply drive after consuming too much alcohol and are subsequently arrested because they did not know that they were legally intoxicated. This suggests that some offenders have subtle decision making defects (Kasar, et al., 2010). In other cases, DWI may be explained based on people's normative expectations related to drinking and driving: many offenders elect to drive drunk simply because they perceive that there is a low risk of apprehension and arrest. Community design and local ordinances can also represent “basic” causes: DWI tends to be highest where establishments that serve alcohol are located far away from where people live or work, thus requiring individuals to drive. Finally, even the time that liquor establishments close can control DWI's by indirectly limiting alcohol consumption (Scott, Emerson, Antonacci & Plant, 2006).

However, the review of the literature shows that most causes of drunk driving are much more profound and complex and include numerous behavioral and/or psychological disorders. This has led some researchers to conclude that the “DWI offender population is a product of several behavioral, attitudinal, and personality factors” (Schell, Chan & Morral, 2006, p. 37). In general, two important themes emerge from the literature. First, individuals who engage in DWI not only drink heavily and frequently, but they are disproportionately likely to exhibit symptoms of *problem drinking* and *clinical alcohol dependence*. Second, individuals who drink and drive display a variety of *antisocial attitudes*. In general, the literature suggests that “overall, these studies appear to show that problem drinking and antisocial behaviors are important predictors of DWI” (MacDonald and Mann, 1996, p. 273). The following section will review the causes of drunk driving in detail, based on these two broad categories.

Problem Drinking & Drunk Driving

There is abundant empirical evidence to support the position that many DWI offenders have alcohol dependency issues (MacDonald & Mann, 1996, p. 266). Alcoholism or alcohol dependency is defined as “a primary, chronic disease with genetic, psychosocial, and environmental factors influencing its development and manifestations” (Henderson, 2007, p. 18). Multiple studies comparing the general population of licensed drivers to DWI offenders have shown that offenders are more likely to be heavy drinkers (Norstrom, 1978; Wilson and Jonah, 1983; Argeriou et al., 1985). More specifically, Zylman (1974) found that drunk drivers tended to consume a greater quantity of alcohol per drinking occasion; a finding that has been replicated by Beck and Simmons (1985), as well as Brookoff, et al. (1994). Moreover, Wilson and Jonah (1983) reported that drunk drivers were more likely to self-report greater quantities of alcohol consumed than those who did not drive drunk. Other studies of the activities of drunk drivers prior to their conviction also concluded that individuals who could be classified as alcoholics reported more incidents of drunk driving (Winfree, Giever, Maupin & Mays, 2007). The Bureau of Justice Statistics (Maruschak, 1999) has shown that 37.4% of DWI offenders on probation, and 46.6% of those in jail, met the CAGE criteria (a screening tool used to measure clinical alcohol abuse or dependency) for having a history of alcohol abuse or dependence. For example, 31% of DWI probationers and 40% of those incarcerated for drinking and driving also reported drinking on a daily basis prior to being arrested (Maruschak, 1999). In fact, some early descriptive studies suggested that as many as 95% of individuals arrested for drunk driving reported prior alcohol related arrests (Nathan and Trumbull, 1974), and close to half of repeat DWI offenders self-identified as having “drinking problems” (Yoder and Moore, 1973). After conducting a comprehensive review of the literature dealing with the

causes and correlates of drinking and driving, MacDonald and Mann concluded that: “alcohol dependence and excessive or abusive drinking are *direct causes* (emphasis added) of impaired driving” (p. 279).

A number of other scholars have also reported that DWI offenders frequently exhibit the symptoms of clinical *alcohol dependence* (Schmidt et al. (1962); Hyman, 1968; Wilson and Jonah, 1985; Metzger and Platt, 1987, Yu and Williford, 1993a; Myerholtz and Rosenberg, 1997; Hubicka et al., 2010). Clinical alcohol dependence is considered to be the most serious, or severe, form of chronic alcohol misuse. Some of the characteristics of a person with clinical alcohol dependence include a high tolerance to the effects of alcohol (Rimondini, Sommer, Dall’Olio & Heilig, 2008), the presence of alcohol withdrawal syndromes (Gleeson, Jones, McFarlane, Francis, Gellion, Bradley & Peck, 2009), and continued use of alcohol regardless of the psychological and/or physical problems that result from drinking (Grant et al., 1994). Findings about alcohol dependence apply to both genders, although LaPlante, Nelson, Odegaard, LaBrie & Shaffer (2008) showed that it was more often diagnosed in first time male DWI offenders as compared to their female counterparts. Repeat DWI offenders have also evidenced higher lifetime and 12-month prevalence of alcohol use (Grant, Dawson, Stinson, Chou, Dufour & Pickering, 2004), while alcohol-related problems (or alcohol consumption) have been determined to be the best single predictor of drunk driving recidivism (Yu, 2000).

Psychiatric / Psychological Issues

Other research has shown a link between alcohol dependence and psychological problems. For example, Beck and Simons (1985) found that DWI offenders were more likely to drink to relieve stress, and less likely to drink simply because they enjoyed the taste of alcohol, relative to a sample of college students. This finding is also supported by Wells-Parker et al. (1983) and Donelson (1985) who discovered that DWI offenders were more likely to self-report being stressed than a comparison group of licensed drivers. Similarly, some authors have reported that drunk drivers tend to be disproportionately more likely to drink in order to cope with symptoms of depression (Hyman, 1968; Zylman, 1976; Lapham et al. 2001; Wells-Parker and Williams, 2002; Wells-Parker et al. 2006; Stoduto, et al., 2008), bi-polar disorder (Albanese et al., 2010) or post-traumatic stress disorder (PTSD) (Peller et al. 2010). It is plausible that many of these effects can be attributed to actual neurobiological differences between alcoholics and non-alcoholics, as well as physiological changes brought about by years of heavy drinking (Brown et al., 2005; 2009).

Causes of Drunk Driving:

The literature shows that the following variables are likely causes of drunk driving:

- Poor decision making
- Community design
- Problem drinking
- Alcohol dependency
- Psychological problems
- Anti-social attitudes
 - Aggression
 - Contempt for authority
 - Involvement in drug use and crime

Repeat drunk drivers have also been shown to have high rates of psychiatric disorders, which can impact recidivism. Windle and Miller (1990), for example, found that in some cases, drunk drivers may be suffering from depression, subsequently using alcohol as a coping tool. Shaffer et al. (2007) also reported that repeat drunk drivers were plagued by a myriad of psychiatric disorders: 97.6% had an alcohol use disorder; 40.6% had a drug use disorder, and 45% had a psychiatric disorder (conduct-related, PTSD, depression, etc.). The authors concluded that a “one size fits all” approach to treating offenders was inappropriate because of the psychiatric co-morbidity that exists among DWI offenders. Other research supports this position: it suggests that alcohol abuse or dependency, conduct disorder, posttraumatic stress disorder (PTSD), generalized anxiety disorder, and bipolar disorder are more prevalent among DWI offenders as compared to the general population. In fact, almost half of offenders in this study qualified for lifetime diagnoses of both addiction (i.e., alcohol, drug, nicotine, and/or gambling) and a psychiatric disorder. Furthermore, lifetime and past-year comorbidity (the presence of one or more disorders) rates were higher among drunk driving offenders than in the

general populace (Shaffer, 2007). This comorbidity can lead to increased recidivism; in fact, in a study of over 1200 repeat offenders in Massachusetts, offenders with enduring substance abuse disorders combined with a deviance etiology did not respond as well to treatment initiatives in comparison to those offenders who only had prior DWI-related offenses (LaBrie et al., 2007). This finding provides an effective segue into a discussion of anti-social attitudes as an important cause of DWI.

Anti-Social Attitudes

The literature suggests that individuals who drink and drive display a host of *anti-social attitudes*. While many scholars have attempted to disentangle the complex relationships between anti-social attitudes, criminal behavior (including drug use), poor driving habits, drinking, and DWI, McDonald and Mann (1996) provide an excellent summary of this literature where they conclude that while other variables might contribute to drunk driving “anti-social attitudes likely play the *most important* (emphasis added) role in DWI” (p. 279). Some aspects of anti-social attitudes may include the following:

Aggressiveness

A classic pair of studies by Hyman (1968) and Zylman (1976) demonstrated that DWI offenders tend to be more aggressive and hostile, and they are also more prone to sensation seeking and risk taking than the general population of licensed drivers. Argeriou et al. (1986) also replicated these findings with respect to aggressiveness and hostility, and Johnson and White (1989) reported similar findings with respect to sensation seeking and risk taking. Similarly, Wilson (1992) showed that drunk drivers exhibited elevated levels of assaultive behavior, impulsiveness, and sensation seeking, while McMillen et al. (1992) also reported that repeat DWI offenders scored particularly high on measures of hostility, sensation seeking and poor emotional adjustment. In addition to these studies, Hyman (1968) also concluded that drunk drivers tended to be deficient in a construct he termed “self-control,” while numerous authors have argued that “anti-social personality characteristics are ... associated with current DWI offender status and recidivism” (Nochajski and Stasiewics, 2006, p.185 – see also Beerman et al. 1988, and Nochajski et al. 1994). It is interesting to note that this pattern may be more prevalent among males than females: Brown et al. (2009), for example, argue that “DWI in women has been observed to more frequently involve alcohol misuse whereas DWI in men has more often been linked to a generalized pattern of risky behaviours ... including seatbelt-nonuse, speeding and smoking” (p. 410).

Negative Attitudes Toward Authority

A number of researchers (Zelhart et al., 1975; Wilson and Jonah, 1983; Ageriou et al., 1986; Beerman et al., 1988; Lucker et al., 1991) have also documented that drunk drivers tend to have generally negative attitudes toward law enforcement and the criminal justice system. It is also important to note that these characteristics precede DWI arrests and convictions (otherwise, it is possible that drivers who are caught and punished by the criminal justice system simply become more aggressive, hostile etc. - McCord, 1984).

Finally, the research has found relationships between repeat drunk driving and other criminal activities. As was the case with problem drinking / alcohol dependence, McDonald and Mann (1996) suggest that repeat DWI offenders may be the *most likely* to suffer from anti-social attitudes. For example, McMillen et al. (1992) reported that chronic drunk drivers scored higher on hostility, sensation seeking, and psychopathic deviance than first time DWI offenders. Similarly, MacDonald and Peterson’s (1990) comparison of first time alcoholic offenders to alcoholics with multiple DWI offenses showed that repeat offenders were more likely to take risks while driving, while exhibiting the highest level of disrespect for legal authorities.

Non-Law Abiding Behaviors and Problem Driving

Numerous studies have documented that DWI offenders are disproportionately likely to get into trouble with the law in ways that do not involve alcohol. For instance, Ageriou et al. (1985), Wells-Parker et al. (1986) and Nochajski et al. (1993; 1997) found that DWI offenders often reported criminal histories that included both alcohol and non-alcohol related offenses. They were also substantially more likely to report other kinds of reckless and dangerous driving. Additionally, earlier studies by Perrine (1975) and Maisto et al. (1979) both suggested that drunk drivers generally tended to have worse driving records than other motorists. These findings were confirmed by Hall et al. (1992) who showed that DWI offenders were at an increased risk of receiving speeding violations and being involved in collisions. Similarly, Wilson (1992) demonstrated that a group of DWI offenders had worse overall driving records than a control group of licensed drivers; and several groups of scholars (McMillen et al., 1992; Nochajski et al., 1994; Nochajski and Wieczorek, 2000) have documented that repeat DWI offenders are generally worse drivers than first time drunk drivers.

Drug Use

Drug use is also a commonly reported issue among drunk drivers. Numerous studies (see for example, Marzuk et al., 1990; Brookhoff et al., 1994; Nochajski et al., 1994; Solderstrom et al., 1995; Alberly et al., 2000; Christophersen et al. 2002 and White and Gasperin, 2007) have documented a substantial use of illegal drugs (including marijuana and cocaine and other “hard drugs”) among DWI offenders. In fact, some scholars are now focusing on *Driving Under the Influence of Drugs (DUID)* alongside DWI as part of the larger “impaired driving” problem (Nochajski and Stasiewicz, 2006). The issue of drug use has also been found among younger offenders; Barnes and Welte (1988), for example, showed that teenagers who drove drunk were also significantly more likely to self-report drug use and to face disciplinary problems at school. Similarly, Sarvela et al. (1990) revealed a relationship between drunk driving and the use of illegal drugs among adolescents from the Midwestern United States. Finally, drug use has been reported as a causal factor in the research on repeat drunk drivers. Research by Lapham et al. (2006) found that of over 380 repeat drunk driving offenders, 54% had drug abuse or dependence disorders.

PREVENTING DRUNK DRIVING

The information from the previous section of this report shows that the causes of drunk driving and repeat drunk driving are complex. There have been a variety of efforts taken by both the private and public sectors to address this issue. Primarily, these can be categorized into social marketing/educational, enforcement, and legal/legislative initiatives.

Social marketing initiatives have been used as a means to change behaviors while increasing an awareness and public support for anti-drunk driving programs and countermeasures (Scott, et al. 2006). In addition to the numerous activities by public sector agencies and organizations, private sector organizations, including faith and youth-based organizations, businesses, insurance companies, Mothers Against Drunk Driving (MADD), and the Ad Council, (e.g. “Friends Don’t Let Friends Drive Drunk”) have attempted to change behaviors related to alcohol consumption and DWI (Smith, 2006). Many of these efforts have been found to positively change behaviors (Smith, Atkin & Roznowski, 2006) resulting in declines in alcohol-related crashes (Rothchild, Mastin, & Miller, 2006; Shults, Elder, Nichols, Sleet, Compton & Chattapadhyay, 2009).

Drunk driving has also been heavily targeted by the law enforcement community. Generally, law enforcement efforts have been directed toward increasing the probability of detecting and arresting the drunk driver. Some strategies, for example, include crackdowns where police agencies, alone or in cooperation with other agencies, target or saturate a certain area, increasing the certainty of detection and

arrest (Tilley, 2004). In addition to crackdowns, some states allow for sobriety checkpoints. These initiatives have been found to be empirically effective, but are not heavily used because of legal challenges, or simply because police agencies lack the requisite resources (e.g. funding and staffing limitations) to use them consistently (Fell, Lacey & Voas, 2004). Additionally, the better training of police officers in alcohol detection through Standard Field Sobriety Tests (SFST) has also been found to improve the detection of drunk drivers (Brick & Carpenter, 2001). Regardless of these, and other, strategies and efforts, the probability of getting stopped for drunk driving is relatively low; standard police patrols may not be well suited to the apprehension of drunk drivers, and/or law enforcement agencies may not allocate sufficient resources to the detection and control of drunk driving (Benson, Mast & Rasmussen, 2010). In fact, some studies have concluded that the probability of arrest for drunk driving is less than 1% (Scott, et al., 2006; Beitel, Sharp, & Glauz, 2000).

In addition to these interventions, efforts to control drunk drivers can be based on legislative initiatives and court-related sanctions. Legislatures, for instance, have used a variety of interventions to deter or prevent repeat drunk drivers based on recommendations from the NHTSA (2004). These may include: vehicle sanctions, licensing sanctions, treatment and education programs, and mandatory sentencing. However, the scholarly research suggests that traditional sanctions, including increasing the severity of punishment, increasing fines, and longer terms of incarceration have limited effects on reducing and/or controlling drunk driving (see Scott, et al., 2006; Yu's, 2000) to the point that many convicted drunk drivers still drink and drive during the penalty phase of their DWI convictions (Wiliszowski, et al. 1996). Consequently, more innovative ways to address drunk driving have emerged. One of these is using problem-solving courts to address the issue of drunk driving.

Problem Solving Courts & Drunk Driving

Specialized problem-solving courts can be traced to the creation of the therapeutic drug court model that emerged in Miami in 1989. Over the last 20 plus years, these problem solving courts have spread throughout the United States. The state of Michigan alone now has 90 recognized drug courts. Additionally, the philosophy, concepts, and various models and practices related to drug courts have led to the creation of mental health, veteran, community based, domestic violence, and drunk driving courts. Regardless of the specific social problem they address, the common components that these courts share include enhanced judicial oversight and case management activities by the court, increased accountability on the part of the offender for his or her actions, and a proactive and restorative approach to the crime, offender, victim(s), and community. These courts, however, are not “soft” on crime. Offenders are still convicted and subsequently sentenced. Then, they engage in a variety of court-related activities (with other providers and organizations) to change the offenders' behaviors in order to prevent future criminal acts. The ultimate goal is to improve the overall safety of the community through the (anticipated) reduction of the root causes of crime (Berman & Feinblatt, 2001).

DWI courts first emerged in 1999 (Freeman-Wilson, 1999) and since then, they have grown in numbers throughout the United States. According to data from the National Drug Court Resource Center (2011), as of December 31, 2010 there are now over 1400 hybrid DWI / Drug courts, and 174 designated DWI courts operating throughout the United States (DUI Courts, 2011). Consistent with the philosophy of problem solving courts, DWI courts use a variety of therapeutic interventions that include the behavioral monitoring of activities, accountability measures, and substance abuse treatment initiatives that are beneficial in reducing recidivism (Nochajski & Stasiewicz, 2006). According to the NADCP (Marlow, 2009, p. 22) the core components of DWI courts include the following:

- Continuous judicial supervision through regularly scheduled status hearings in court;
- Mandatory completion of substance abuse treatment and other indicated services;
- Continuous or random biological testing for alcohol and other drug ingestion;

- Imposition of a progressively escalating sequence of punitive sanctions for infractions and positive incentives for achievements;
- Satisfaction of applicable legal restrictions and obligations, such as installation of ignition interlock devices, sales of relevant vehicles, or payment of fines and fees.

These courts also follow the National Center for DWI Courts' 10 Guiding Principles which can be found in Appendix A of this document.

The goals of DWI courts are multifaceted. Some of the direct goals include the reduction of the incidence of drinking and driving offenses. Other goals include: reducing the demand for criminal justice resources related to the arrest and incarceration of offenders in local jails; freeing up court dockets in the judicial system; and, reducing the demand for community corrections programs for sentenced offenders. DWI/sobriety courts also anticipate that there will be some long-term behavioral modifications which will result in reductions in alcohol use and abuse. This may lead to long-term offender changes that will further reduce the demand on public and private sector resources that are directed toward alcohol abuse and dependency issues.

As of December 2010, there are 24 DWI/sobriety courts operating in Michigan (Michigan Drug Treatment, 2010). Outcome evaluation studies of the existing courts done in 2004 found that they were effective at reducing re-arrest rates for DWI court participants. In fact, those offenders under traditional probation were 19 times more likely to be arrested for a DWI charge! This study also found that participants used illegal drugs less often while in the DWI court; graduation and retention rates increased to 84%; participants spent more time in treatment than those on traditional probation; and, the number of days spent in jail was also reduced (Fuller, Carey & Kissak, 2007).

While the actual structures of DWI/sobriety courts differ between jurisdictions, there are nevertheless many common components. First, these courts are post-conviction-based programs where the offender has already been convicted of an eligible offense. The "client" is then invited to participate in a DWI / sobriety court as a condition of probation. Next, these programs use a problem solving approach that employs a team of professionals to address the fundamental causes of the offender's actions, with the goal of diagnosing and treating the core alcohol-related problems and changing future behaviors. In this context, judges, probation officers, prosecutors, defense attorneys, and substance abuse practitioners work with the offender / client to ensure compliance with the court-ordered treatment plan. Finally, these treatment plans are progressive in nature; they often involve up to four stages (or "phases") that the offender progresses through over a two-year period (or more). Escalating sanctions for failing to comply with the treatment program designed by the court are also present (and used) during each phase. Conversely, there are many incentives that reward compliant behavior and progression through each phase, including the restoration of limited driving privileges in conjunction with the installation of an ignition interlock.

IGNITION INTERLOCKS

One of the more recent developments in the analysis of blood alcohol levels is the use of vehicle-based alcohol-detection systems. These are commonly referred to as ignition interlocks or Breath Alcohol Ignition Interlock Devices (BAIDDs). In their most basic sense, interlocks are transport intervention initiatives. Transport interventions are policies or programs that cause changes in public health. According to Morrison, Petticrew & Thomson (2003), transport intervention activities can be based on four different types of interventions: 1) health promotion; 2) engineering; 3) environmental; and, 4) legislative. Based on these categories, ignition interlocks are engineering interventions designed to prevent vehicles from being used if operators are above certain Blood Alcohol Content (BAC).

Additionally, they are also a legislative intervention tool. In this context, ignition interlocks may be part of a law that reinstates, but nevertheless limits the operation of the motor vehicle by an operator, based on an alcohol or other driving-related, offense. Ignition interlocks are also a vehicle incapacitation device. That is, if an offender's actions cannot be controlled, the vehicle can be targeted in order to prevent its use in a criminal activity (Marques, Voas & Hodgins, 1998). Currently, it is estimated that there are over 212,000 ignition interlocks being used throughout the United States (Roth, 2010).

The reader should also know that the technologies associated with the detection of blood alcohol levels are not new. In fact, blood alcohol in the breath was discovered by Dr. Emil Borgan in 1927. Early detection and measurement processes, however, were cumbersome and it was not until 1954 that Dr. Robert Borkenstein invented the "Breathalyzer," which is considered to be the first practical tool to measure breath alcohol. This "wet method" of analysis was widely used by the criminal justice community until infrared and fuel cell technologies emerged in the 1960's and 1970's (Swartz, 2004).

In the state of Michigan, law enforcement agencies use DataMasters, which are tabletop infrared spectrometry units to measure the blood alcohol content of suspected drunk drivers. This technology measures the concentration of ethyl alcohol through the process of infrared spectroscopy, measuring the amount of infrared light (at a specific wavelength) that ethanol alcohol molecules absorb (Swift, 2003). These devices are typically located at jails and lockup facilities. Other technologies, meanwhile, rely upon fuel cell technologies, where the alcohol undergoes a chemical reaction with acetic acid, subsequently generating an electrical current that is in proportion to the alcohol concentration in a person's breath (Swift, 2003). Two of the common breath analyzers that use fuel cell technologies are the hand held Preliminary Breath Tests (PBT's) and ignition interlocks.

As with blood alcohol devices, the use of ignition interlocks as a control and sanction is also relatively old. They were first developed by Borg Warner in 1969, and eventually, with improved technology, they started being used more often in the 1980's to monitor convicted drunk drivers (DeYoung, 2002; Marques & Voas, 2010). Another impetus for states to begin adopting interlocks occurred in 1998 when Congress passed the TEA-21 Transportation Act. This Act required states to have repeat intoxicated driver laws which included the impoundment or immobilization of an offender's motor vehicle(s), or the installation of an ignition interlock system. If states failed to have an appropriate law in place by October 1, 2000, they would risk losing some of their federal highway funding.

How Ignition Interlocks Work

According to the NHTSA (Marques, et al., 2010, p. 9) there are four elements of ignition interlocks:

- A sensor located in the compartment (and a control unit mounted on the engine) of the vehicle that records the driver's blood alcohol content (BAC);
- A rolling retest system that requires the operator to retest after the vehicle is underway;
- A tamper proof mounting system for the engine component that is inspected every 30 or 60 days, and a monitoring system that can detect any attempts to bypass the interlock device;
- A data recording system that records the BAC measurements, test compliance, and engine operation (to ensure that the offender is actually driving the designated vehicle(s), and not an alternative one).

While there are functional and design differences among manufacturers, all modern ignition interlock systems use fuel cell technologies and are designed along the same principles. A typical system consists of two main components: a handheld unit that is located in the vehicle, mounted in close proximity to the steering column, and a unit located under the vehicle's hood that is attached to the vehicle's starter system. In order to start the vehicle, an operator follows a series of audible and visual/color prompts on

the handheld device, beginning with the subject blowing into a mouthpiece. Here, the user is required to provide a continuous, and uninterrupted, flow of air (breath) for a certain period of time to ensure that a sample of “deep lung air” is measured. In this way, gases present in the lung’s alveoli are assessed, which are considered to be reliable measures of BAC’s found in the bloodstream. If the operator’s BAC exceeds a certain threshold limit, the vehicle will not start. Depending upon the conditions set by the courts, the vehicle may be permanently disabled, or there may be a minimum amount of time before the driver can attempt to re-start the vehicle. Some handheld units also have a built-in camera to record an image of the operator in order to ensure that another individual is not attempting to circumvent the device.

Ignition interlock systems can also require rolling retests. Under this procedure, the operator is prompted to provide a breath sample when the vehicle is underway. This must be done within a certain time period after the vehicle has been stopped and is parked in a safe location. Depending upon the conditions set by the courts, if the operator’s blood alcohol level exceeds a certain BAC, the vehicle will shut off and be permanently disabled. Or, in other “warn level” cases, it will record an alcohol violation, but it may still allow the vehicle to be driven. While the courts often have discretion in setting the thresholds for when a vehicle will start (or re-start) the NHTSA in 2010 recommended that the alcohol “set point” for locking ignitions should be set at 0.02 g/DL, a change from its 1992 Model Specification requirements which recommended a higher set point of 0.025 g/DL.

Modern ignition interlock systems can record a variety of vehicle-related activities. They can record all vehicle starts and re-starts. Moreover, they can record all program parameters, which may include passes where no alcohol is present; warnings (small amounts of alcohol, but below fail levels); aborts, where the test was not performed properly because of failure to provide readable BAC samples; fails, where BAC is above the set threshold limit ; and failure to pass required-retests. Modern BAIID’s can also record any tampering with the device and permanently disable the vehicle, based on criteria set by the court. All of this information can be downloaded from the unit by a certified technician on a periodic (usually a monthly) basis. This information is then sent to the court for compliance review. Some of the newest BAIID’s, meanwhile, provide for “real time” electronic downloads of information using a cell phone / Internet based system that can immediately be reviewed by the court.

Ignition Interlocks in Michigan

Per the Michigan vehicle code, 1949 PA 300, MCL 257.20d:

"Ignition interlock device" means an alcohol concentration measuring device that prevents a motor vehicle from being started at any time without first determining through a deep lung sample the operator's alcohol level, calibrated so that the motor vehicle cannot be started if the breath alcohol level of the operator, as measured by the test, reaches a level of 0.025 grams per 210 liters of breath, and to which all of the following apply:

- (a) The device meets or exceeds the model specifications for breath alcohol ignition interlock devices (BAIID), 57 FR 11772 - 11787 (April 7, 1992).
- (b) The device utilizes alcohol-specific electrochemical fuel sensor technology.
- (c) As its anticircumvention method, the device installation uses a positive-negative-positive air pressure test requirement, a midtest hum tone requirement, or any other anticircumvention method or technology that first becomes commercially available after July 31, 2007 and that is approved by the department as equally or more effective.

The use of ignition interlocks to control the actions of convicted drunk drivers in Michigan is not a new practice. Many courts in the state have used ignition interlocks as a condition of probation for first time offenders charged with Operating While Intoxicated (OWI) pursuant to 257.625(1) and/or Operating With the Presence of Drugs (OWPD) pursuant to 257.625(8). In addition to using interlocks to monitor first time offenders, they can also be used to restore the driving privileges of habitual offenders, defined as those individuals who have been twice convicted of Operating Under the Influence of Liquor, Unlawful Bodily Alcohol Content (UBAC) or Operating Under the Influence of Controlled Substance within a seven year period, or a combination of three offenses including Operating Under the Influence of Liquor, Unlawful Bodily Alcohol Content (UBAC), Operating Under the Influence of Controlled Substance, or Operating While Impaired by Liquor within ten years (MCL 257.303). Under MCL 257.322, for example, after a habitual offender completes the minimum period of license revocation (one year for a first revocation, and five years for a subsequent revocation within seven years of a prior revocation), he or she can be granted a restricted license by a Secretary of State Hearing Officer as long as the driver installs a BAAID. This restriction is granted for a one-year period during which ignition interlock providers are required to submit violation reports to the Secretary of State. If a driver should have any minor violations, the BAAID requirement is extended for three months; major violations, meanwhile, result in the reinstatement of the original license suspension or revocation (Driver License Appeal Practice Manual, 2005). A hypothetical case study can be found in Appendix C regarding its use in the control of convicted drunk drivers as prescribed in PA 154.

The Effectiveness of Ignition Interlock Devices

The effectiveness of ignition interlocks in controlling the actions of drunk drivers is supported both in the academic literature and by government experts who have studied this issue. The National Highway Traffic Safety Administration (2007) has concluded: “Technology for use with impaired-driving offenders (i.e., breath alcohol ignition interlock systems) is currently in use, and is practical, accurate, reliable, and relatively low cost” (p. iii). A review of the existing scholarly literature suggests that DWI offenders under interlock supervision have lower rates of recidivism in comparison to offenders not under supervision (Beirness and Marques, 2004; Willis, Lybrand and Belamy, 2004; Robertson et al. 2006; Elder et al. 2011). For example, Voas, Blackman, Tippetts & Marques (2002), found a 22% reduction in recidivism among the interlock group as compared to a non-interlock comparison sample in the state of Indiana. Likewise, In New Mexico, a one year analysis determined that offenders under interlock supervision had a recidivism rate of 2.5%, compared to 8.1% for non-interlock drivers (Roth, Voas & Marques, 2007). Beck et al. (1999) also found that alcohol-related offenses for individuals randomly assigned to ignition interlocks in Maryland dropped 65% the first year; although interestingly, no differences were found in the second year when BAAID restrictions were lifted. A NHTSA report also places the overall reduction in DWI offending because of interlock devices between 20 and 95% (with most studies reporting improvements between 62 and 81%). Meanwhile, an earlier review by Coben and Larkin (1999) reached essentially the same conclusion, although the effect sizes reported here were slightly smaller (they ranged between 16-69% improvement). These authors nonetheless concluded that “Based on the weight of the evidence found in this systematic review, we conclude that alcohol ignition interlock programs are effective in reducing DWI recidivism among repeat DWI offenders” (Coben and Larkin, 1999; p. 85). In general, it is fair to say that the literature is in general agreement that interlock devices are effective in reducing recidivism as compared to license suspension or other traditional court sanctions (see also Morse & Elliot, 1992).

Similar success with BAAID devices has been reported in foreign countries. Sweden, for example, enacted a voluntary pilot program in 1999 and expanded its program throughout the country because of reductions in accidents and fatalities (Bjerre, 2003). The Canadian province of Quebec also began an interlock project in 1997 with success. Venezina (2002), for example, found that there was an 80% reduction in repeat’s the first year, and a 74% reduction the second year among DWI repeat offenders; there was also a

substantial reduction in DWI-related collisions. Venzina's (2002) study also concluded that the ignition interlock "serves more as a restraining device than a tool for driver rehabilitation" (p. 97). Likewise, the province of Alberta also studied recidivism rates for its interlock program which was created in 1990. Voas et al. (1999) concluded that first and second time offenders in the interlock program had lower recidivism rates while under interlock supervision. However, after being taken off the ignition interlock, recidivism rates returned to the same rate as offenders not in the program. These types of conclusions have also been drawn by other investigators (Beirness and Marques, 2004) and by NHTSA experts (2007).

Besides reported reductions in recidivism, there are other benefits with BAIIDS. BAIIDS may serve to deter drinking and driving. Compared to other means of controlling drunk drivers (such as vehicle impoundment, license suspension and/or revocation, treatment for drug and alcohol abuse, police and law enforcement efforts, providing alternative ways of getting home, and increasing penalties), ignition interlocks were reported by the driving age population as the most effective means to reduce or prevent drunk driving (Drew et al., 2010). The use of interlocks also permits offenders to legally drive, allowing them to continue with their jobs and attend court ordered treatment programs, etc. Researchers have also reported reductions in the number of alcohol-related crashes (Elder et al. 2011); and, there is some preliminary evidence that, when used correctly, BAIIDS may represent effective predictive instruments for future, long-term drinking and driving issues: Marques, Tippetts & Voas (2003) found that interlock records that reported "fails" were the best predictor of recidivism 4 years after the removal of the interlock.

Finally, although many researchers have failed to document long term benefits from BAIID restriction (see, for instance, Marques, Voas & Hodgins (1998) in addition to the authors cited earlier), there is some preliminary evidence that interlocks may actually serve as long term educational devices. For instance, Bjerre (2003) reported that interlock program participants reported significantly fewer DWI arrests and crashes two years after completing the program as compared to their pre-program performance. This finding prompted the NHTSA (2007) to suggest that "another promising approach is to assign a DWI offender to drive an interlock vehicle and also to participate in an alcohol treatment and rehabilitation program" (p. 12) and to further conclude that, if implemented properly, interlock programs have the potential to save approximately 750 lives annually in the United States (NHTSA, 2007). Finally, and perhaps most significant, is a recently published study by Rauch, Ahlin, Zador, Howard & Duncan (2011). These authors used data from a randomized control trial (i.e. a "true experiment" – one of the strongest research designs available in the social sciences) to demonstrate that ignition interlock devices reduced drunk driving recidivism in a population of repeat DWI offenders. Unlike previous studies, Rauch et al. (2011) showed that the benefit of interlocks was still present during the 2-year restriction period (36%), and that it *persisted* (although it declined slightly, to 26%) in the 2-year post-intervention period. They wrote:

In essence, the ignition interlock device incorporates operant conditioning ... the ignition interlock ... should condition drivers to expect that the vehicle will not start if their breath alcohol concentration is ... above the preset limit. For each breath test taken and failed, the driver is "punished" ... it is therefore reasonable to hypothesize that drivers of cars with installed interlocks will eventually be conditioned to anticipate these reinforcers instead of those that encourage impaired driving (p. 142).

In sum, although there is some dispute in the literature regarding whether ignition interlock devices can promote long term change, and hence reduce DWI recidivism once they have been removed from client vehicles, there appears to be little or no dispute over whether these devices reduce recidivism while they are in place. Consequently, the authors of this report conclude that it is possible to draw the evidence based conclusion that BAIIDS represent a "best practice" in the field of DWI prevention and that, if used appropriately, they can reduce DWI related collisions, injuries and deaths.

Issues Related to Ignition Interlocks

There are a number of issues related to BAIID use that may limit their effectiveness as a means of controlling / reducing DWI. For example, research has found a low use of BAIIDs by sanctioning authorities (Marques, et al. 2001). This could be attributed to the fact that some criminal justice practitioners, including judges and prosecutors, may not believe that they are effective. For example, DeYoung (2002) found that courts in California issued orders for interlocks in only 10% of eligible cases due to the fact that city and/or district attorneys do not believe that the devices work. In other cases, judges may fail to order the installation of BAIIDS because the devices are perceived as too expensive for the offender, or because the monitoring of offenders is considered too time consuming and expensive for the courts (Kanable, 2010; DeYoung, 2002).

Offenders themselves may not be interested in BAIIDs. This may be based on the costs associated with the installation of devices, in addition to the monthly service fees and other court costs and sanctions (DeYoung, 2002). In other cases, the costs related to insuring a motor vehicle after a DWI conviction may simply lead some offenders to opt not to drive. Disinterest could also be associated with the annoyance (and perhaps social embarrassment) of using the BAIID before and during driving (Voas et al. 2002). And, in other cases, individuals may opt not to install ignition interlocks because they perceive that the risk of getting caught while driving unlicensed, or on a suspended/revoked license, is low.

IGNITION INTERLOCKS AND THEORIES OF PUNISHMENT & REHABILITATION

There are many criminological perspectives and theories that suggest that the use of ignition interlock devices will have an impact on the control and rehabilitation of the DWI offender. This section will provide the reader with a brief overview of the logic of interlock devices from a criminological perspective, showing that interlock programs integrate the principles of both the classical and positivistic theories of crime control.

A Classical / Neo-Classical Approach

Classical and neo-classical explanations for crime (and the control of crime) all start with the assumption that human beings are both *hedonistic* (i.e. we act so as to maximize pleasure, and minimize pain), and *rational* (i.e. we weigh the perceived risks and benefits of a particular behavior before we make the decision to engage in it). Therefore, according to these theories, a person makes the decision to consume alcohol because he or she finds it enjoyable, or drinks to relieve some physical or psychological pain from which he or she is suffering. Moreover, in some cases, the person then makes the “rational” decision to operate a motor vehicle because it will bring about some kind of benefit (e.g. not having to spend money on a taxi, not having to endure the “hassle” of going back and retrieving one’s car the next day, not having to “bother” with a designated driver, etc.), coupled with the belief that the chances of experiencing a negative outcome (i.e. an arrest or accident) are low.

Classical theorists argue that the best way to prevent crime is to increase the *certainty*, *swiftness* and *severity* of punishment. In this way, the choice to commit crime can be made “irrational” (i.e. the “pain” of the consequences outweighs the “pleasure” of engaging in the behavior) by an offender. Classical theorists further suggest that increasing the certainty and swiftness of punishment are far better strategies than increasing the severity of punishment (Siegel, 2000). Therefore, a rational person may still choose to engage in a behavior that carries an extremely severe penalty (e.g., a lengthy prison sentence associated with vehicular homicide) if he or she believes that there is a very low probability that there will be any consequences related to the act. Conversely, if a person is nearly 100% certain that a negative consequence will result, that person is likely to refrain from the behavior, even if the consequence only slightly outweighs the benefit.

Ignition interlock devices theoretically appear to represent a nearly ideal way of delivering both swift and certain consequences. For example, if a person drinks, and then attempts to drive an interlock equipped vehicle, the chances that the person will be caught and face a consequence (i.e. being prevented from driving, and having their “failure” reported to authorities, who will then take punitive action) is nearly 100% certain. Thus, classical theory suggests that the rational act for the person to decide upon is to refrain from drinking, or, at least, refrain from operating a motor vehicle after drinking.

One particular neo-classical theory that can be applied to ignition interlocks is the Routine Activities Theory by Cohen & Felson (1979). This theory posits that there are three elements to any crime: 1) motivated offender 2) the lack of capable guardians and 3) a suitable target. Under this theory, motivated offenders who have a prior history of drinking and driving will be deterred and/or prevented by the presence of an interlock device in their motor vehicles (the suitable target) which makes it physically impossible to commit the offense. In other words, the ignition interlock device acts as a capable guardian against the offense. Unlike other capable guardians, which include police officers, vigilant bartenders, caring family and friends, etc. the ignition interlock device remains “on duty” 24 hours a day, 7 days a week. As a full-time guardian, the device is particularly useful for inhibiting the behavior of experienced drinkers who have developed techniques for masking their state of intoxication and circumventing other kinds of guardianship. Theoretically then, drivers with a past DWI history (motivated offenders) will be deterred through technological means (capable guardians) from driving vehicles within their control (suitable targets). Therefore, even though ignition interlocks may not prevent all drinking and driving related behaviors, at a minimum they are at least likely to deter a significant portion of offenders (*ceteris paribus*) by increasing the certainty and swiftness of detection, and by providing capable guardianship against the behavior.

A Positivist Perspective toward DWI & Ignition Interlocks

In contrast to the classical perspective, positivists take the position that people are not completely rational at all times; instead, we may be *compelled* to behave in certain anti-social ways due to a variety of social, psychological and biological factors. While positivism is an extremely broad perspective, all positivists agree that if one wishes to reduce the incidence of an undesirable outcome (in this case, drinking and driving, and DWI related crashes) the causes of that behavior must first be identified using scientific techniques. Then, a proper treatment program can be developed in order to address, and hopefully prevent, future deleterious actions. Moreover, in those cases where “treating” the causes is impossible or impractical, most positivists suggest that an *incapacitation* strategy is needed in order to prevent further criminal acts (Muncie & Wilson, 2004).

From this criminological perspective, and in concert with the components of a sobriety court that include the diagnoses, monitoring, and treatment of the root causes which led an offender to drink and drive, the introduction of an ignition interlock adds one more “layer” of treatment and supervision. In the context of supervision, for example, for those offenders who decide to continue to drive with measurable blood alcohol levels, the interlock physically prevents them from operating motor vehicles. It is also plausible that an interlock device can help educate problem drinkers about the extent and seriousness of their anti-social behavior(s), leading to reductions in the compulsion to engage in them.

One specific branch of positivist criminology, the social learning theories, is particularly applicable to ignition interlock programs. Basically, social learning theories suggest that individuals engage in both pro and anti-social behaviors, oftentimes within “intimate social groups” (i.e. friends, peers and family members). By participating in such groups, people learn the techniques, values, and attitudes related to certain behaviors. While different learning theorists emphasize somewhat different processes that lead to learning, they all generally agree that when behaviors are rewarded and reinforced, they become increasingly likely to occur while punishment or condemnation of behaviors make such actions less likely to be repeated (Lilly, Cullen & Ball, 2011).

Drawing upon these learning theories, some recent scholarship has suggested that ignition interlocks have a role to play that goes beyond simply incapacitating offenders, and/or deterring them from making the decision to drink and drive. The research suggests that the technology can plausibly be part of the learning process that will eventually help turn someone who chronically drinks and drives into either a responsible drinker, or even someone who does not use alcohol at all (Grasmick, Bursik & Arneklev, 1993). This can plausibly occur in at least two different ways:

First, the technology provides immediate feedback regarding a person's sobriety status. Hence, one can envision a person who in the past routinely consumed alcohol, and then got behind the wheel of a car assuming that he "was fine to drive." If this person frequently made it to his destination without incident, he would eventually "learn" (through positive reinforcement) that consuming alcohol and then driving is at the very least harmless, and possibly even beneficial. Conversely, if this same person has been drinking, and then attempts to operate a motor vehicle equipped with an interlock, he will immediately be informed of the fact that he has alcohol in his system (i.e. the device will register a "fail" and the car will not start), and he will likely face an unpleasant consequence (i.e. having to arrange for alternative transportation, including the possibility of walking to his or her destination). Then, he will most likely face a second set of unpleasant consequences when he has to explain his "fail status" to his probation officer; after which he or she is likely to face yet another set of negative consequences from the court. Over time, learning theory suggests that such negative feedback should lessen the incidence of this behavior by changing the offender's perception of drinking and driving from a valued, useful, harmless activity to behavior that almost invariably brings about multiple unpleasant consequences.

Next, the presence of an interlock may also make it more difficult for a problem drinker to continue socializing with the intimate peer group that helped to reinforce irresponsible drinking (and driving) behavior. For example, a person who in the past routinely consumed large amounts of alcohol, and then drove, will now be prevented from doing so by the presence of an interlock device. While it is not impossible for an offender to circumvent the interlock restriction (by taking public transportation, asking a friend for a ride, consuming alcohol at home, or using a motor vehicle not equipped with an interlock) the interlock device (in addition to other terms of probation) will serve to reduce the offender's time spent with the criminogenic influences that encourage anti-social behaviors, including drunk driving. Over time, learning theory suggests that this will cause the behavior(s) to become progressively less likely to be repeated. In other words, it is possible that the interlock will reduce the overall amount of anti-social learning that takes place, which should translate to a reduction in the overall incidence of drinking and driving.

SECTION 2: THE STUDY

Overview of the Study Design

This study is additive and progressive in nature. That is, as more data from PA 154 offenders become available, additional research methodologies and statistical techniques will be used to address a greater range of research questions. Therefore, while this 2012 report focuses largely on *describing* the characteristics of the pilot program subjects to date (n=84), who are currently under interlock supervision by the partner courts (n=5); the forthcoming 2013 & 2014 reports will include advanced statistical analyses (including multivariate models) to determine if the pilot program is having the desired effect of reducing drunk driving recidivism, as well as other forms of dangerous driving and criminal behavior(s).

In general, this study was guided by the following research questions set forth in the PA154 legislation:

- a) The percentage of program participants ordered to place interlock devices on their vehicles who actually comply with the order;
- b) The percentage of program participants who remove court-ordered interlocks from their vehicle without court approval;
- c) The percentage of program participants who consume alcohol or controlled substances;
- d) The percentage of program participants found to have tampered with court-ordered interlocks;
- e) The percentage of program participants who operated a motor vehicle not equipped with an interlock;
- f) Relevant treatment information about program, participants; and,
- g) The percentage of program participants convicted of a new offense under section 625(1) or (3) of the Michigan vehicle code, 1949 PA 300, MCL, 257.625.

Participating Courts

The SCAO has established specific criteria regarding the selection of partner courts for this study (a complete list of these requirements can be found in Appendix C of this report). First, a list of DWI/sobriety courts was constructed based on the criterion that each participating court should have a minimum of 50 participants enrolled in the ignition interlock pilot program by 2013. Once this pool of courts was created, a purposeful sampling strategy was used to select five courts that broadly represented the state of Michigan in the context of 1) region 2) level of urbanization and 3) population. More specifically, this study included:

- The two largest urban / Standard Metropolitan Statistical Areas (SMSA's) in the state.
- Another, moderately large, urban / metropolitan area.
- One court from a mixed urban / rural area of the Northern Lower Peninsula.
- One court from a mixed urban / rural area in the Upper Peninsula.

The courts that best met the study criteria were invited to participate, and all agreed to do so. The final list of participating courts included the following:

- 61st District Court (Grand Rapids; Kent County).
- 86th District Court (Traverse City; Grand Traverse County).
- 8th District Court (Kalamazoo; Kalamazoo County).
- 96th District Court (Marquette; Marquette County).
- 51st District Court (Waterford; Oakland County).

A memorandum of understanding was drafted with each court, and the project investigators ensured that the research design met all federal and state human subject protection requirements.

The Target Population

This target population for this study included all subjects that met the eligibility requirements for entry into a DWI/sobriety court program, based on PA 154 criteria, and other criteria set by each participating court. In general, subjects had to have been convicted of a second, or subsequent drunk driving offense, and they had to be eligible to receive a restricted driver's license from the Secretary of State, after having completed at least a 45 day period of total ("hard") license suspension; and while making adequate progress within DWI/sobriety court.

Data

Participating courts submitted offender data through the Michigan Drug Court Case Management Information System DCCMIS. DCCMIS is a centralized data repository for almost all courts in the state of Michigan where information related to pending and closed court cases (offender data, dispositions, etc.) are archived for judicial, law enforcement, and research purposes. Following the submission of offender data into the JDW by participating courts, the SCAO staff provided the researchers with a dataset from each court that included information related to each offender's demographics, criminal history, history of drug abuse, alcohol abuse, mental health issues, progress through DWI/sobriety court, compliance with interlock restriction, and information on re-offending.

In addition to the official data from the SCAO, site visits were conducted with each participating court. The purpose of these site visits was to review and ensure that the participating courts were aware of all of the study's requirements related to the minimum number of participants and data collection procedures. Moreover, key stakeholders (court administrators, judges, probation officers, etc.) involved with the DWI/sobriety court and ignition interlock program were given the opportunity to informally share their impressions of the initial implementation and administration of the pilot program, and to discuss any concerns about the study. They were also asked whether there were any specific research questions that might be of interest to them or other court staff. The key findings from these discussions are presented in the findings section of this report.

Data Analysis

Because program participants were still being enrolled at the time this report was prepared, and because there have yet to be any cases involving successful graduation from a DWI/sobriety court program, or criminal reconviction (for drinking and driving, or any other offenses), the findings in this report are limited to providing only descriptive data regarding the mandated information directed by PA 154. These findings are presented in tabular form in Section 3 of this report.

SECTION 3: FINDINGS

This section of the report provides an overview of the performance of the ignition interlock pilot program to date, based on data submitted by participating courts to SCAO for the calendar year, 2011. This findings section is divided into three subsections: background information, program characteristics in the context of offenders; and program variables.

Table 1 shows the proportion of cases contributed by the five partner courts. As expected, the two courts from the metropolitan Detroit (the 51st District), and metropolitan Grand Rapids (the 61st District), areas contributed the largest number of cases. The smaller, semi-rural, courts from Traverse City and Marquette contributed slightly less than ½ as many cases. Somewhat surprising was the fact that the 8th District court in Kalamazoo contributed essentially as many cases as the larger Grand Rapids and Waterford area courts. Over the 3-year study period, these statistics suggest that the Kalamazoo, Waterford and Grand Rapids courts should enroll slightly more than the 50 target cases, while the Traverse City and Marquette courts may enroll slightly less. However, on balance, the sample size should be sufficient to meet the SCAO guidelines, and to analyze whether the pilot program is having a significant effect on offender recidivism.

Table 1. Participating Courts

Participating Courts			
Court	Location	Offenders Enrolled	Percent
8 th District Court	Kalamazoo	21	25
51 st District Court	Waterford	21	25
61 st District Court	Grand Rapids	22	26.2
86 th District Court	Traverse City	10	11.9
96 th District Court	Marquette	10	11.9
Total		84	100.0%

Tables 2a and b report the demographic characteristics of offenders admitted to the interlock program. The results are largely self-explanatory. As shown in Table 2a, the “typical” interlock program participant is Caucasian (85%), male (61%) and single (61%).

Table 2a. Offender Demographic Characteristics

Offender Profile: Demographic Variables

	n	%
Ethnicity		
Caucasian	71	84.52
Hispanic/Latino	6	7.14
African American	4	4.76
Native American	1	1.19
Asian/Pacific Islander	1	1.19
Other	1	1.19
	—	—
Total	84	99.99
Gender		
Male	51	60.71
Female	33	39.28
	—	—
Total	84	99.99
Marital Status		
Single	51	60.71
Divorced	21	25.00
Married	9	10.71
Widowed	2	2.38
Separated	1	1.19
	—	—
Total	84	99.99

The statistics in Table 2b suggest that the majority of subjects in the interlock pilot program are quite well educated. Over 70% reported at least some college education, and a further 10% reported having gone to trade school. Similarly, over 82% of subjects reported being employed (at least part time). This confirms the impression of many court staff with whom the research team spoke with who reported that the interlock program should be of particular interest to working professionals who are anxious to regain their driving privileges as quickly as possible.

Table 2b. Offender Profile: Education & Employment

Educational Levels			
	n	%	Cumulative Percent
College (n=59)			
Advanced Degrees	3	3.57	3.57
4 year (Bachelors)	10	11.90	15.47
2 year (Associates)	10	11.90	27.37
Some College (no degree)	36	42.85	70.22
Trade School			
Trade School Graduate	5	5.95	76.17
Some Trade School	4	4.76	80.93
High School Graduate	10	11.90	92.83
GED	3	3.57	96.40
Non-High School/GED	3	3.57	99.97
Employment Status			
Full Time Employment	54	64.28	64.28
Part Time Employment	15	17.85	82.13
Unemployed	14	16.67	98.80
Not in Labor Force	1	1.19	99.99

PRIOR SUBSTANCE ABUSE

Table 3 presents information about current and prior substance use by the study subjects. As one would expect in a sample of repeat offenders, most subjects reported prior substance abuse (92%) and substance abuse treatment (70%). The majority of subjects (91%) also reported either alcohol dependence or alcohol abuse as their primary DSM (Diagnostic and Statistical Manual of the American Psychiatric Association) -IV diagnosis.

Table 3. Offender Profile: Substance Abuse History & DSM-IV Diagnoses

Substance Abuse History		
	n	%
Prior Substance Abuse		
Yes	77	91.67
No	7	8.33
Total	84	99.99
Prior Substance Abuse Treatment		
Yes	59	70.23
No	25	29.76
Total	84	99.99
DSM-IV Diagnosis		
Primary DSM-IV		
Alcohol Dependence	66	78.57
Alcohol Abuse	11	13.09
Cannabis Abuse	3	3.57
Cannabis Dependence	2	2.38
Cocaine Dependence	1	1.19
Missing	1	1.19
Total Primary DSM-IV	84	98.8
Secondary DSM-IV		
None	68	80.95
Alcohol Dependence	5	5.95
Cannabis Dependence	3	3.57
Alcohol Abuse	2	2.38
Cannabis Abuse	2	2.38
Cocaine Dependence	1	1.19
Bipolar Disorder	1	1.19
Bulimia Nervosa	1	1.19
Diagnosis/Condition Defer...	1	1.19
Total Secondary DSM-IV	84	99.99

The reader should note that in future reports (2013 and 2014), the research team will assess whether the success or failure of the interlock pilot project varies based on these types of demographics and other offender characteristics.

Table 4 presents information about the experiences of the pilot program participants during their first year of DWI/sobriety court. The majority of the clients (51%) were in Phase II of their respective programs at the conclusion of 2011. It is notable that 3 clients had been terminated from DWI/sobriety court, 2 for “non-compliance”, and 1 for “other” (unspecified) reasons. There was no indication in the data that any of these unsuccessful cases involved interlock related violations.

Table 4. Treatment Information: Pilot Program Participants, year ending 2011

Sobriety Court Phase At End of Calendar Year 2011		
Sobriety Court Phase	n	%
I	23	27.4
II	43	51.2
III	10	11.9
IV	3	3.6
Case Closed	3	3.6
Suspended	2	2.4
Total	84	100.1

Treatment Information		
Treatment Variable	Mean	Standard Deviation
12-Step Program Meetings	54.8	24.5
Court Ordered Sanctions	1.4	1.6
Court Ordered Incentives	3.4	4.1
Treatment Contact Hours	39.7	82.7
Total Number of Drug Tests	140.8	73.4
Sobriety Days	124.9	78.6

Table 4 also provides treatment information. Pilot program participants attended an average of 54.8 12-step program meetings. They also received an average of 1.4 court ordered sanctions, and 3.4 court ordered incentives. Participants also completed an average of 39.7 treatment oriented contact hours; and, the DWI/sobriety courts averaged 140.8 drug tests per client, while participants spent an average of 124.9 days sober. There was substantial variation in each of these parameters (as evidenced by the fact that the standard deviations exceed their respective means). For instance, while 39 of the 84 clients received *no* court ordered incentives, 1 client received 15, and 6 others received more than 10.

At present, because there is insufficient outcome data to compare successful clients to unsuccessful clients (the group of unsuccessful clients [n = 3], is too small for meaningful analysis), or to compare the performance of pilot participants to comparison offenders (given that there is, as yet, no re-arrest data for any of the pilot program participants), these statistics are presented simply for informational purposes. In the 2013 and 2014 reports, however, these treatment parameters will be utilized in both bivariate and multivariate analyses in order to assess the effectiveness of the ignition interlock pilot program.

PROGRAM SUCCESS: IGNITION INTERLOCK DATA

Data related to the installation, use, and tampering with ignition interlock systems are shown in Table 5. Overall, the available data show that clients are complying with the conditions of interlock supervision.² More specifically:

- All program participants ordered to install interlock devices on their vehicles complied with conditions of the program;
- No removals of the interlocks without court approval were reported;
- No reports of offenders tampering with interlocks were reported;
- No reported operation of motor vehicles not equipped with ignition interlock was reported among offenders under interlock restriction;
- And, to date, no re-conviction of any offender in the program has occurred for a subsequent drinking and driving offense under 625(1) or (3).

² It should be noted that in many cases, the partner courts did not enter data for participants in the pilot interlock program. This is despite the fact that the courts were reminded to do so on two occasions, once by the research team, and again by the SCAO staff. In this initial report, the research team does not view the presence of missing data as particularly problematic. It is likely safe to assume that missing information represents “No” responses (i.e. if a client hasn’t removed the interlock, tampered with the interlock etc. court staff may not have been motivated to enter any data, but if the client had done so, it is likely they would have entered as “yes” for a violation). Still, the research team would like to emphasize that it will be critical to the validity of the 2nd and 3rd reports (2013 and 2014) that complete data is made available to the SCAO, who can then make it available to the research team. Failing this, we may not be able to reach valid conclusions about the effectiveness of the program.

Table 5. Ignition Interlock Measures

Ignition Interlock Data			
	n	%	Cumulative Percent*
Interlock Orders Issued/Actual Compliance			
Yes	58	69.05	100.00
No	0	0.00	0.00
Missing	26	30.95	-
Percentage Who Removed Interlocks w/o Approval			
Yes	0	00.00	0.00
No	16	100.00	100.00
Missing	68	-	-
Tampered w/Interlock Devices			
Yes	0	00.00	0.00
No	16	100.00	100.00
Missing	68	-	-
Operation of Motor Vehicle w/o Interlock Device			
Yes	0	0.00	0.00
No	16	100.00	100.00
Missing	68	-	-
Re-Conviction under 6725 (1) or (3)			
Yes	0	0.00	0.00
No	84	100.00	100.00
Missing	0	0.00	0.00

*Cumulative percentages do not include missing data

DRUG & ALCOHOL VIOALTIONS UNDER PA 154

Table 6 reports the percentage of program participants who consumed alcohol or controlled substances. The available data shows that the majority of program participants consumed alcohol or controlled substances in the interlock program (n=45 or 53.56% of those participating in the program). However, this should be interpreted with caution since the data also include violations that occurred prior to being placed under interlock restrictions. Moreover, the data do not allow the research team to separate out the number of alcohol related violations from the number of drug related violations. At best, what can be said is that the majority of interlock pilot program participants continue to struggle with drug and alcohol dependency, and therefore clearly represent an appropriate population for interlock intervention.

Table 6. Participants Who Consumed Alcohol and/or Controlled Substances

Positive Drug/Alcohol Drug Tests			
	n	%	Cumulative Percent
Yes (n=45)			
1 Occurrence	17	20.24	20.24
2 Occurrences	5	5.95	26.18
3 Occurrences	10	11.90	38.08
4 Occurrences	5	5.95	44.03
5 Occurrences	3	3.57	47.60
8 Occurrences	1	1.19	48.79
9 Occurrences	1	1.19	49.98
12 Occurrences	1	1.19	51.17
15 Occurrences	1	1.19	52.36
19 Occurrences	1	1.19	53.56
No (n=39)	39	46.43	46.43
Total	84	99.99	99.99

PROCESS RELATED INFORMATION FROM SITE VISITS

The research team conducted a series of site visits with each of the partner courts between July 25, 2011 and October 13, 2011. The goal of these visits was to become familiar with the operation of each of the courts, to gain insight into the implementation of the interlock pilot program, and to give court staff the opportunity to provide input into the developing research project. Although these visits were not designed as data gathering exercises (i.e. “interviews”) some relevant implementation / process information was collected and is presented in aggregate form below:

Implementation Issues

- *Perceived arbitrary exclusion of some offenders:*

Because of the nature of the pilot program legislation, individuals arrested for a second drinking and driving offense prior to January 1, 2011 were, by definition, not eligible for the program. Some courts indicated that they had received inquiries from attorneys and/or offenders regarding this issue. There was a perception of arbitrary “unfairness” on the part of some offenders and courts (e.g. two offenders were processed side-by-side, one had been arrested in late December, one in early January). The offender with the December arrest date was troubled by the fact that he/she was ineligible for the interlock while his/her “counterpart” with a January arrest date was. Similarly, some judges reported being frustrated that they could not place the “December offender” on interlock restriction).

- *Secretary of State (SOS) issues:*

Obtaining a license reinstatement occasionally took some time. It was reported by some courts that there was confusion at the SOS office regarding the issuance of restricted licenses after providing proof of an interlock. Staff in one court felt that this was most likely due to recent turnover in key SOS personnel. However, most courts reported that these issues were minor, and were quickly being resolved as both SOS and partner courts become more familiar with the pilot program. Phone calls or letters from judges seemed sufficient to deal with any issues that came up in the near term.

- *Significant demand for the program:*

All of the partner courts reported that there was considerable interest in, and demand for the interlock pilot program. Clients were excited about the prospect of regaining (restricted) driving privileges through the interlock. The courts reported that many clients were employed professionals who were struggling with maintaining their jobs without a driver’s license, and saw the interlock as a means of overcoming this problem. Some jurisdictions even reported that they had been approached about the prospect of transferring cases from other Michigan counties that do not have DWI/sobriety courts, so these offenders might be able to benefit from the program.

- *Confusion regarding the exact nature of the restricted license issued while under interlock supervision:*

Courts appeared to have somewhat differing interpretations of precisely where an offender on interlock restriction would be allowed to drive. Most agreed that it would be “to and from work” and “to and from court ordered treatment / monitoring.” However, some judges felt that “gray areas” remained within the law. For example, if an offender chose to attend an AA meeting that

hadn't specifically been ordered by the court, would that violate the interlock restriction condition?

In addition to judicial interpretation, some courts implied that there would be confusion among law enforcement, and that individual officers could plausibly interpret the provisions of the legislation differently. Several courts felt that law enforcement training on this issue would be desirable and necessary.

- *Variations in Eligibility for Interlock Program:*

Besides the mandatory 45-day "hard" license suspension set forth by law, most courts require offenders to complete the first phase of the DWI/sobriety court before being eligible for a restricted license in association with an interlock. Because the court phases vary from jurisdiction to jurisdiction, this means clients are becoming eligible at different times depending on the DWI/sobriety court program.

Some courts required that offenders pay all fines and court costs before interlock eligibility; other courts had no requirements of this nature. Some courts also mandated that interlocks be installed on all vehicles registered to the driver (who would then have to absorb the associated costs), whereas others did not. Consequently, it appears that "ability to pay" will be a greater issue in some jurisdictions than others. In general, there was a concern that excessive costs could disenfranchise low income individuals from participating in the program.

- *Interlock Vendor Related Issues:*

- Variation was noted in the vendors available from jurisdiction to jurisdiction. Some courts provided offenders with a list of approved vendors from which they could choose; other courts utilized a sole interlock provider (SmartStart[®]). Even in jurisdictions where there was variation by vendor, SmartStart[®] seemed to be the dominant provider.
- The interlock devices used in Michigan do not allow for immediate download of data to the courts. One court in particular reported failure by one interlock vendor to provide them with timely and complete data logs from the interlock devices. This made the court concerned that offenders may be registering "fails" yet could be continuing to drive before the court has had the opportunity to intervene.
- One court reported that one of the vendors inconsistently set "fail" thresholds (at a BAC between .015 and .025).
- One court expressed doubts about the "trustworthiness" of a specific vendor because violations would result in the loss of clients to the interlock provider.
- One court did report some installation issues. In one case, an interlock client was forced to repair his own interlock device (i.e. the vendor was unable to make the device work properly, but the offender was able to resolve the problem to the court's satisfaction!)

- *Participant Complaints regarding Interlock Devices:*

- Some participants reported frustration in using the device – particularly providing an adequate breath sample for the device to measure BAC. One court reported that female smokers (presumably due to their reduced lung capacity) had the greatest difficulties.
- One participant reported refusing the interlock device because it would create an unacceptable stigma. The participant reported that it was particularly troubling that the participant's children would be able to see the interlock device in operation.

- While some participants did express reservations about the cost of the interlock devices, or the cumbersome nature of the process, others actually reported that having the interlock streamlined the process (e.g. instead of having to go to a testing center to provide a breath sample, the participant could simply utilize the interlock device for this purpose, and the court would accept the interlock readings as part of the monitoring process).

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SECTION 4: SUMMARY AND CONCLUSION

UNDERSTANDING DRUNK DRIVING AND ITS PREVENTION

The scholarship and statistics reviewed in Section 1 of this report show that although substantial progress has been made in the fight against drunk driving, much remains to be done. While drunk driving related collisions, injuries and deaths have either declined or remained steady over the past few decades, arguably the economic and human toll associated with this behavior remains high.

Drunk drivers are a diverse group: they range from otherwise law abiding individuals who simply exercised bad judgment on one or more occasions, to individuals with serious, chronic alcohol dependence issues and other co-morbid behaviors and disorders. Generally, most individuals who are arrested for DWI are *not* just “normal folks” who made “one mistake.” The typical drunk driver drives while inebriated often, frequently exhibits problem drinking behavior, commonly suffers from one or more psychological issues, and usually engages in other types of anti-social behavior in addition to drunk driving (e.g. reckless driving, drug use, or other kinds of criminal activity). Moreover, such drivers often display anti-social attitudes, including contempt for law enforcement and other authorities.

Consequently, it is clear that a multi-faceted approach to controlling the phenomenon of drunk driving is necessary. Such an approach should involve educational, legislative and criminal justice related initiatives. The scholarly literature also suggests that ignition interlock devices, especially when used within the context of problem solving / sobriety court programs, represent a promising approach for controlling and possibly changing the behavior of drunk drivers. Numerous studies have documented that individuals placed on ignition interlock restrictions tend to exhibit lower rates of re-offending while in the program. In the time period after the device is removed, the evidence for the effectiveness of ignition interlocks is more limited. Most (though not all) studies show that rates of DWI recidivism return to levels that mirror those exhibited by individuals who have gone through other criminal justice programs (i.e. probation or sobriety court alone – without interlock restriction). Still, an overview of relevant criminological theories, particularly classical theory, neo-classical theory and positivist theory (particularly the social learning perspective) suggests that ignition interlocks do exhibit potential as a long term, rehabilitative device (in addition to their proven effectiveness as a short term means of controlling behavior); and, at least one recent and methodologically strong study backs up this assertion.

SUMMARY OF KEY FINDINGS FROM THE PRESENT STUDY

Because the present study is still enrolling subjects, and due to the fact that nearly all of the subjects are still in the program (i.e. none have graduated, and only 3 of the 84 have dropped out of the program), the findings presented in this first of three annual reports are limited. The research team is unable to comment on whether the ignition interlock pilot program is being “successful” at this time. It is our intention to address this issue in the 2013, and most certainly, in the 2014 annual reports. However, notwithstanding the limited amount of data presently available, it is possible to answer the legislatively mandated research questions set forth by PA 154, as well as to make a few general comments about the implementation and operation of the program to date. The findings of the analysis are as follows:

- In general, all pilot program participants appear to be in compliance with the interlock restrictions placed upon them by the partner courts. In fact, based on discussions with court staff, participants appear to be “enthusiastic” about the program; they are grateful for the opportunity to have their (limited) driving privileges reinstated. This is likely because most interlock

participants are (relatively) well educated, working individuals who need their cars in order to maintain their employment and family responsibilities.

- There is no evidence of tampering with, removal of, or other kinds of direct violations of the interlock restrictions. There is also no evidence to date that pilot program participants have been reconvicted of a drinking and driving related offense. However, it does appear that a substantial portion of the clients did, at some point, “drop dirty” (i.e. test positive for banned substances while in sobriety court, under interlock restriction).
- The typical client in the interlock pilot program ended the year in Phase II of sobriety court. There was wide variation in the number of treatment contact hours, drug tests completed, incentives, sanctions, and other DWI/sobriety court parameters between clients.
- Although there have been some minor implementation / process related issues (e.g. confusion regarding the nature of the restricted license, vendor related issues, Secretary of State related issues, perceptions of arbitrary exclusion based on the start date of the program, etc.) the research team did not note any serious problems that would lead us to express concern about the long term success of the pilot program. The vast majority of the issues seem to have been resolved in an efficient and timely manner, and it is our expectation that the program will only continue to run more “smoothly” in the future.

FUTURE DIRECTIONS

The most obvious general goal in years 2 and 3 of the present study will be to evaluate the effectiveness of the interlock program on preventing DWI recidivism. To do so, the performance of interlock pilot subjects will be compared against the performance of two comparison groups. In this context, the forthcoming reports will include a series of descriptive and diagnostic analyses to determine the extent to which experimental group participants are similar to comparison group participants on applicable criteria including gender, age, race, offense category and criminality. Multivariate statistical methods will also be used in order to determine whether pilot program subjects perform better than subjects in one, or both, of the comparison groups on the following process and outcome variables:

Process Variables (Pilot program group vs. pre-pilot program clients from partner courts):

1. Number of drug and alcohol screenings per week.
2. Proportion of failed drug and alcohol screenings.
3. Time in treatment.
4. Treatment compliance (i.e. number of missed treatment sessions).
5. Treatment contact hours.
6. Graduation rate.
7. Improvement in employment status while in program.
8. Improvement in educational attainment while in program.
9. Sanctions imposed while in treatment (e.g. number of days spent in jail while in program).

Outcome Variables (Pilot program group vs. both pre-pilot program clients from partner courts and a matched sample of offenders from other Michigan courts):

1. DWI recidivism (i.e. new arrests for DWI within the study period).
2. Traffic recidivism (i.e. number of traffic violations within the study period).
3. Criminal recidivism (i.e. number and type of arrests for criminal code violations within the study period).

The ability of the research team to meet these goals will depend on the availability of complete, valid and reliable data from the partner courts. As noted in Table 5, Section 3, a substantial portion of the data pertaining to interlock measures was missing when the SCAO downloaded relevant information from the DCCMIS system and made it available to the evaluators. While this is not a serious limitation at the present time (given that the project is in its early stages, and that the present analysis is largely descriptive and informational), it will be represent a serious impediment to the project in years 2 and 3 if it is not resolved. Given the enthusiastic willingness of all partner courts and their staff to participate in the project, the research team has every reason to believe this issue can be resolved. We note this point here merely for the sake of completeness.

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APPENDIX A

National Center of DWI Courts 10 Guiding Principles

GUIDING PRINCIPLE #1: Determine the Population

Targeting is the process of identifying a subset of the DWI offender population for inclusion in the DWI Court program. This is a complex task given that DWI Courts, in comparison to traditional Drug Court programs, accept only one type of offender: the hardcore impaired driver. The DWI court target population, therefore, must be clearly defined, with eligibility criteria clearly documented.

GUIDING PRINCIPLE #2: Perform a Clinical Assessment

A clinically competent and objective assessment of the impaired-driving offender must address a number of bio-psycho-social domains including alcohol use severity and drug involvement, the level of needed care, medical and mental health status, extent of social support systems, and individual motivation to change. Without clearly identifying a client's needs, strengths, and resources along each of these important bio-psycho-social domains, the clinician will have considerable difficulty in developing a clinically sound treatment plan.

GUIDING PRINCIPLE #3: Develop the Treatment Plan

Substance dependence is a chronic, relapsing condition that can be effectively treated with the right type and length of treatment regimen. In addition to having a substance abuse problem, a significant proportion of the DWI population also suffers from a variety of co-occurring mental health disorders. Therefore, DWI Courts must carefully select and implement treatment strategies demonstrated through research to be effective with the hardcore impaired driver to ensure long-term success.

GUIDING PRINCIPLE #4: Supervise the Offender

Driving while impaired presents a significant danger to the public. Increased supervision and monitoring by the court, probation department, and treatment provider must occur as part of a coordinated strategy to intervene with hardcore DWI offenders and to protect against future impaired driving.

GUIDING PRINCIPLE #5: Forge Agency, Organization, and Community Partnerships

Partnerships are an essential component of the DWI Court model as they enhance credibility, bolster support, and broaden available resources. Because the DWI Court model is built on and dependent upon a strong team approach, both within the court and beyond, the court should solicit the cooperation of other agencies, as well as community organizations to form a partnership in support of the goals of the DWI Court program.

GUIDING PRINCIPLE #6: Take a Judicial Leadership Role

Judges are a vital part of the DWI Court team. As leader of this team, the judge's role is paramount to the success of the DWI Court program. The judge must be committed to the sobriety of program participants, possess exceptional knowledge and skill in behavioral science, own recognizable leadership skills as well as the capability to motivate team members and elicit buy-in from various stakeholders. The selection of the judge to lead the DWI Court team, therefore, is of utmost importance.

GUIDING PRINCIPLE #7: Develop Case Management Strategies

Case management, the series of inter-related functions that provides for a coordinated team strategy and seamless collaboration across the treatment and justice systems, is essential for an integrated and effective DWI Court program.

GUIDING PRINCIPLE #8: Address Transportation Issues

Though nearly every state revokes or suspends a person's driving license upon conviction for an impaired driving offense, the loss of driving privileges poses a significant issue for those individuals involved in a DWI Court program. In many cases, the participant solves the transportation problem created by the loss of their driver's license by driving anyway and taking a chance that he or she will not be caught. With this knowledge, the court must caution the participant against taking such chances in the future and to alter their attitude about driving without a license.

GUIDING PRINCIPLE #9: Evaluate the Program

To convince stakeholders about the power and efficacy of DWI Court, program planners must design a DWI Court evaluation model capable of documenting behavioral change and linking that change to the program's existence. A credible evaluation is the only mechanism for mapping the road to program success or failure. To prove whether a program is efficient and effective requires the assistance of a competent evaluator, an understanding of and control over all relevant variables that can systematically contribute to behavioral change, and a commitment from the DWI Court team to rigorously abide by the rules of the evaluation design.

GUIDING PRINCIPLE #10: Ensure a Sustainable Program

The foundation for sustainability is laid, to a considerable degree, by careful and strategic planning. Such planning includes considerations of structure and scale, organization and participation and, of course, funding. Becoming an integral and proven approach to the DWI problem in the community however is the ultimate key to sustainability.

APPENDIX B

**Public Acts of 2010
Approved by the Governor
September 2, 2010**

**Filed with the Secretary of State
September 2, 2010
EFFECTIVE DATE: September 2, 2010**

**STATE OF MICHIGAN
95TH LEGISLATURE
REGULAR SESSION OF 2010**

Introduced by reps. Corriveau and Lipton

ENROLLED HOUSE BILL No. 5273

AN ACT to amend 1961 PA 236, entitled "An act to revise and consolidate the statutes relating to the organization and jurisdiction of the courts of this state; the powers and duties of the courts, and the judges and other officers of the courts; the forms and attributes of civil claims and actions; the time within which civil actions and proceedings may be brought in the courts; pleading, evidence, practice, and procedure in civil and criminal actions and proceedings in the courts; to provide for the powers and duties of certain state governmental officers and entities; to provide remedies and penalties for the violation of certain provisions of this act; to repeal all acts and parts of acts inconsistent with or contravening any of the provisions of this act; and to repeal acts and parts of acts," (MCL 600.101 to 600.9947) by adding section 1084.

The People of the State of Michigan enact:

Sec. 1084. (1) A DWI/sobriety court interlock pilot project is created utilizing the DWI/sobriety courts in this state and in accordance with the provisions of this chapter. The DWI/sobriety court interlock pilot project shall begin on January 1, 2011 and shall continue for a period of 3 years after that date.

(2) All DWI/sobriety courts that participate in the DWI/sobriety court interlock pilot project shall comply with the 10 guiding principles of DWI courts as promulgated by the national center for DWI courts.

(3) In order to be considered for placement in the DWI/sobriety court program, an individual must have been convicted of either of the following:

(a) Two or more convictions for violating section 625(1) or (3) of the Michigan vehicle code, 1949 PA 300, MCL 257.625, or a local ordinance of this state substantially corresponding to section 625(1) or (3) of the Michigan vehicle code, 1949 PA 300, MCL 257.625.

(b) One conviction for violating section 625(1) or (3) of the Michigan vehicle code, 1949 PA 300, MCL 257.625, or a local ordinance of this state substantially corresponding to section 625(1) or (3) of the Michigan vehicle code, 1949 PA 300, MCL 257.625, preceded by 1 or more convictions for violating a local ordinance or law of another state substantially corresponding to section 625(1), (3), or (6) of the Michigan vehicle code, 1949 PA 300, MCL 257.625, or a law of the United States substantially corresponding to section 625(1), (3), or (6) of the Michigan vehicle code, 1949 PA 300, MCL 257.625.

(4) Each year, all DWI/sobriety courts that participate in the DWI/sobriety court interlock pilot project, in cooperation with the state court administrative office, shall provide to the legislature, the secretary of state, and the supreme court documentation as to program participants' compliance with court ordered conditions. Best practices available shall be used in the research in question, as resources allow, so as to provide statistically reliable data as to the impact of the pilot project on public safety and the improvement of life conditions for program participants. The topics documented shall include, but not be limited to, all of the following:

(a) The percentage of those program participants ordered to place interlock devices on their vehicles who actually comply with the order.

(b) The percentage of program participants who remove court-ordered interlocks from their vehicles without court approval.

(c) The percentage of program participants who consume alcohol or controlled substances.

(d) The percentage of program participants found to have tampered with court-ordered interlocks.

(e) The percentage of program participants who operated a motor vehicle not equipped with an interlock.

(f) Relevant treatment information as to program participants.

(g) The percentage of program participants convicted of a new offense under section 625(1) or (3) of the Michigan vehicle code, 1949 PA 300, MCL 257.625.

(h) Any other information found to be relevant.

(5) Before the secretary of state issues a restricted license to a program participant under section 304 of the Michigan vehicle code, 1949 PA 300, MCL 257.304, the DWI/sobriety court judge shall certify to the secretary of state that the individual seeking the restricted license has been admitted into the DWI/sobriety court program and that an interlock device has been placed on each motor vehicle owned or operated, or both, by the individual.

(6) If any of the following occur, the DWI/sobriety court judge shall immediately inform the secretary of state of that occurrence:

(a) The court orders that a program participant be removed from the DWI/sobriety court pilot program before he or she successfully completes it.

(b) The court becomes aware that a program participant operates a motor vehicle that is not equipped with an interlock device or that a program participant tampers with, circumvents, or removes a court-ordered interlock device without prior court approval.

(c) A program participant is charged with a new violation of section 625 of the Michigan vehicle code, 1949 PA 300, MCL 257.625.

(7) The receipt of notification by the secretary of state under subsection (6) shall result in summary revocation or suspension of the restricted license under section 304 of the Michigan vehicle code, 1949 PA 300, MCL 257.304.

(8) As used in this section:

(a) "DWI/sobriety courts" means the specialized court programs established within judicial circuits and districts throughout this state that are designed to reduce recidivism among alcohol offenders and that comply with the 10 guiding principles of DWI courts as promulgated by the national center for DWI courts.

(b) "Ignition interlock device" means that term as defined in section 20d of the Michigan vehicle code, 1949 PA 300, MCL 257.20d.

History: Add. 2010, Act 154, Imd. Eff. Sept. 2, 2010

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APPENDIX C

James X has experienced a persistent issue of alcohol dependence and/or abuse over the last 10 years of his life. While it has affected his personal life to a great degree, James has managed to maintain full-time employment, regardless of his prior conviction in 2009. However, in 2011 James was again stopped for a moving violation where he was subsequently arrested and later convicted for DWI. Since this last DWI conviction was in 2009, James was eligible for, and admitted into Sobriety Court.

In Phase 1 of the sobriety program, which encompasses a minimum period of 120 days, James undergoes substance abuse counseling where it is determined that he has a severe alcohol dependency. As part of Phase I of the Sobriety Court, James must attend daily Alcohol Anonymous Meetings while also submitting to daily breathalyzer tests and mandatory urine screenings four times a month. James also meets with his probation officer at least two times a month and then talks with his Sobriety Court Judge who, in collaboration with James' probation officer, reviews his performance in the program.

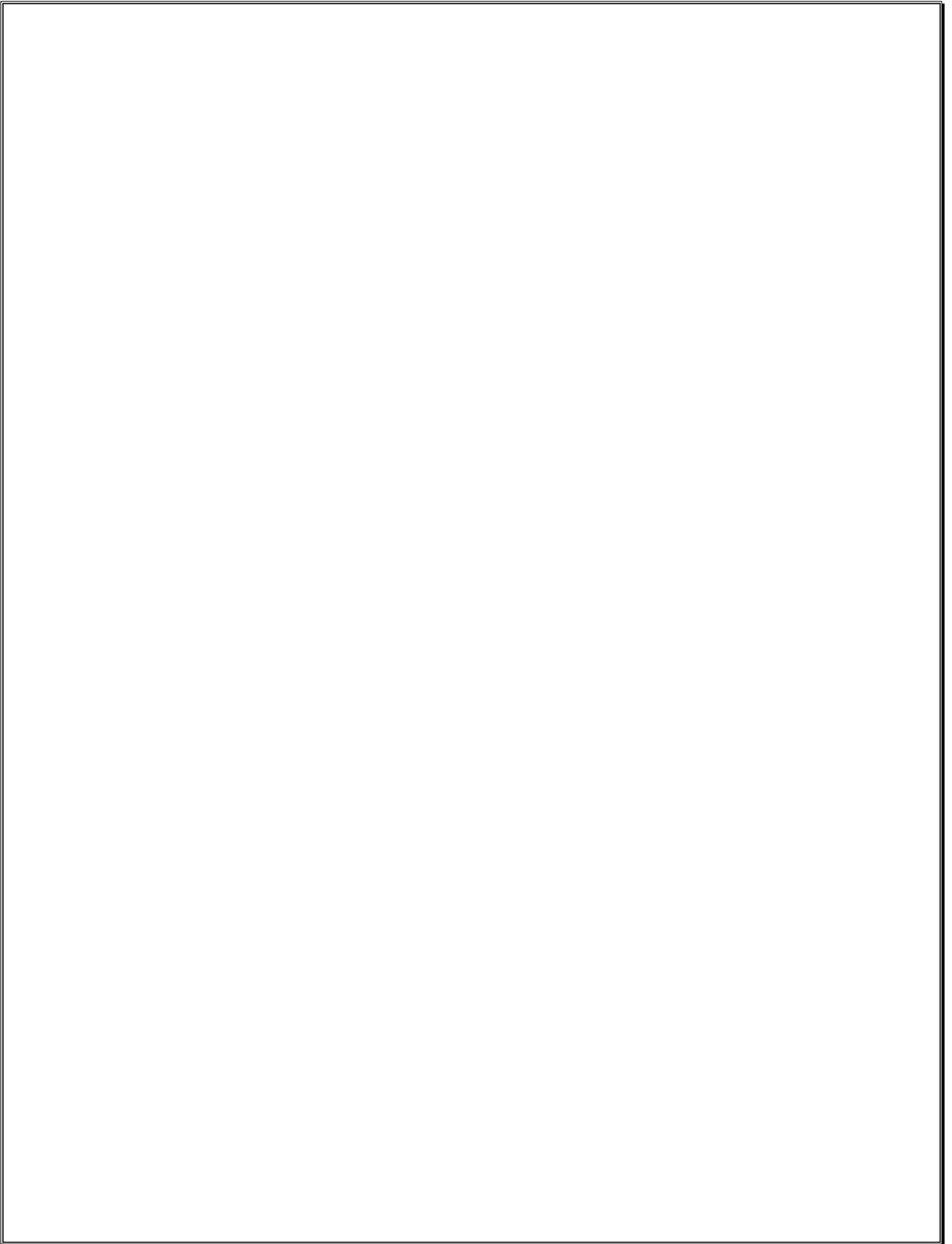
Based on his performance in Phase 1, James progresses to Phase 2, a 90 day program, where he is eligible for the installation of an ignition interlock. James subsequently gets his and his wife's vehicles fitted with interlock devices that are installed by a local, certified mechanic for a cost of approximately \$125 per vehicle. James is also made aware of the fact that he is responsible for the daily maintenance fee which is approximately \$3.50 per day, and the monthly calibration fees that are conducted by the installer to ensure that the interlock is functioning properly.

Once his vehicles are equipped with interlocks, James schedules an appointment with his probation officer. His probation officer inspects the vehicle and explains to James the function of the interlock system that both records his blood alcohol levels, and a visual image of James blowing into the unit. It is further explained that James, once approved by the Secretary of State's Office, will be driving on a restricted license that permits him to only travel to and from his place of employment, and scheduled court appointed therapy sessions and hearings. It is also explained to him that data from the interlock system can be immediately, or randomly, accessed by court personnel to ensure that James is remaining alcohol-free. In order to ensure that he remains alcohol free while driving, it is also explained to James that he will periodically need to perform a rolling re-test, where the Interlock will instruct James to safely pull over, shut the vehicle's ignition system off, and then provide another test sample for the unit. If he is found in violation of any of the conditions set forth by the court, James faces the risk of being removed from the program and having his driving privileges revoked. However, in this case he is successful and progresses into the third phase of the program, where he meets with his probation officer and judge on a monthly basis while still attending mandatory substance abuse counseling and random drug screening. To date, James has not violated the conditions of the Interlock Program, and enjoys the privilege of driving. He is being monitored by the court, and makes progress with his alcohol dependency issues. At the same time, James has remained gainfully employed, and is able to pay all of the costs of the interlock program and sobriety court, while supporting himself and his family.

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