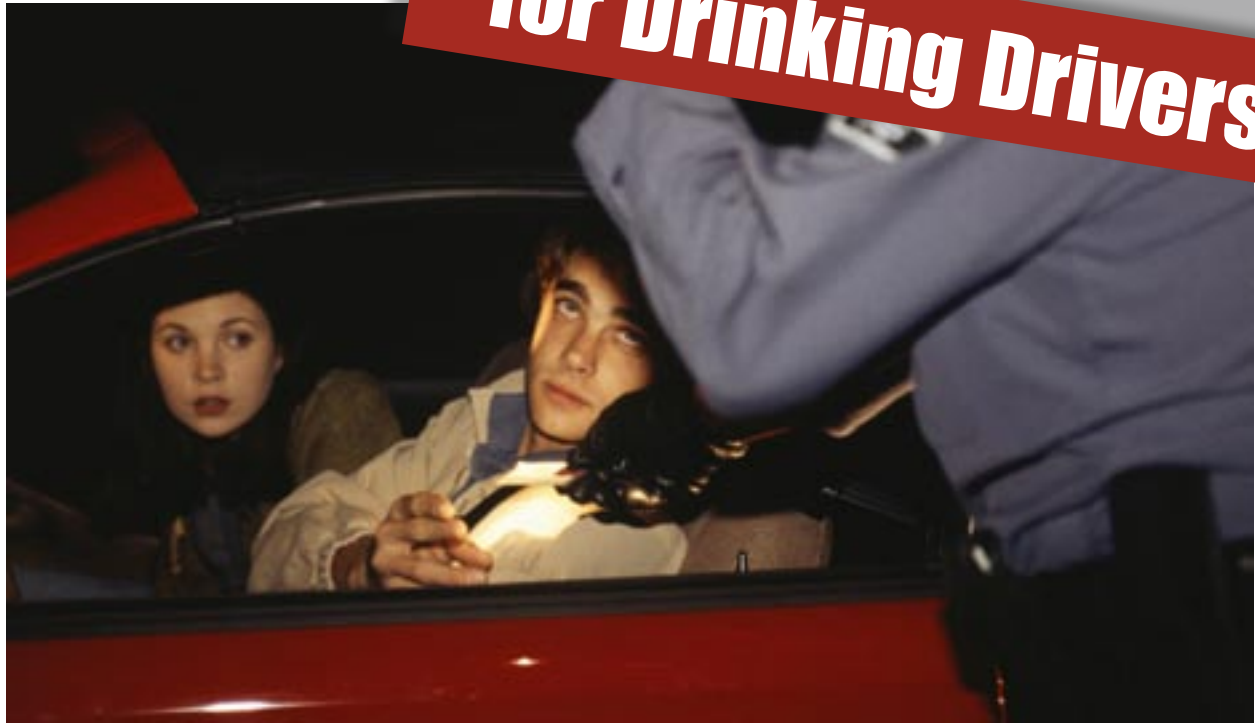


Short-term Licence Suspensions for Drinking Drivers



An assessment of effectiveness in Saskatchewan

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Executive Summary

Short-term (i.e., 12-hour to 24-hour) administrative licence suspensions have been used in Canada for over 20 years as a means to remove from the road those drivers with relatively low blood-alcohol concentrations (BACs) and to provide them with ample time to have their BAC return to zero before their driving privileges are reinstated. The procedure is quick and efficient and is carried out at the side of the road. It provides the police with an efficient tool for dealing decisively with drivers who have consumed relatively small amounts of alcohol but who are not sufficiently impaired to warrant criminal charges. At the same time, the procedure provides swift and certain punishment—two elements required for effective deterrence. Because the procedure is administrative, it avoids the complications, procedural details, and delays imposed by the criminal process and applies an immediate sanction that is considered appropriate for the level of impairment and risk associated with low BACs.

Despite the long history and large number of offenders who have been issued short-term suspensions, there has never been a comprehensive and rigorous evaluation of the effect of these laws. The purpose of the present study was to conduct an evaluation of the short-term suspension law in the province of Saskatchewan. This law came into effect on August 1, 1996. It provides the police with the authority to suspend immediately, for a period of 24 hours, the licence of any driver who has a BAC in excess of 0.04%.

This report presents the results from four studies: (1) the general deterrent impact, (2) the specific deterrent impact, (3) the characteristics of drivers issued short-term suspensions, and (4) a survey of police officers.

GENERAL DETERRENT IMPACT

General deterrence theory would predict that the introduction of the short-term suspension law would cause drivers to change their drinking and driving behaviour to avoid the negative consequences. This change can be measured using driver fatalities and injuries.

To examine the general deterrent impact of the short-term suspension law in Saskatchewan, driver fatalities and injuries were examined for evidence of a decrease that could be attributed to the introduction of the law. Data from Alberta were used for comparison. The analyses failed to provide compelling evidence of a general deterrent impact of the short-term suspension law. The fatality data did show that driver fatalities with BACs 0.08% or less and, in particular, those with BACs between 0.04% and 0.08% decreased in the years following the introduction of the new law in Saskatchewan, and these decreases exceeded those in Alberta. However, the numbers were very small, and the observed decreases were not statistically significant when compared to the comparable data from Alberta. Nonsignificance in the comparisons between Saskatchewan and Alberta could also have been partially due to variability in the data. Time series analysis found a significant downward trend in driver fatalities that began prior to, and continued after, the introduction of the short-term suspension law. At best, the impact of the law was small but could not be isolated from the existing downward trend.

The impact of the short-term suspensions on the incidence of alcohol-involved crashes could not be reliably detected. It must be recognized that fatal and injury crashes are relatively rare events and, hence, may be insensitive as dependent measures to assess the impact of this type of law. In addition, the majority of alcohol-related serious crashes involve drivers with BACs well in excess of the criminal BAC limit of 0.08%. In 2002, 83% of fatally-injured drivers with positive BACs in Canada had BACs over 0.08%; 57% were over 0.16% (Mayhew et al. 2004). There is certainly no compelling reason to believe that individuals who drive with BACs of this magnitude and who do not comply with the higher BAC limit in the *Criminal Code* would be motivated to change their behaviour in response to the threat of a short-term suspension for driving with a BAC of 0.04%.

In addition, it is generally accepted that for a law to have a general deterrent effect on behaviour, the public must be aware of the law. Public opinion surveys conducted

in Canada over the past several years have repeatedly shown that fewer than half of the drivers in Saskatchewan had knowledge of the short-term suspension law.

The absence of a strong general deterrent effect on alcohol-involved driver fatalities and injuries should not necessarily detract from the overall value of the law. The police issue approximately the same number of short-term suspensions as *Criminal Code* DWI charges, thereby removing from the road much greater numbers of drinking drivers as they might otherwise if criminal charges were the only option available.

SPECIFIC DETERRENT IMPACT

Specific deterrence refers to the impact of a sanction on those to whom it is applied. In particular, if short-term suspensions were to have a specific deterrence impact, then a driver who is issued a short-term suspension should be less likely to engage in subsequent drinking and driving behaviour. This study investigated whether or not existing citation data supported the existence of a specific deterrence impact associated with short-term suspensions.

Driver records were used to examine subsequent drinking and driving offences by three groups of drivers who were selected according to their offence status during the first two years of the short-term suspension law, effective August 1, 1996: (1) all drivers whose first offence (hereafter called “index offence”) during those two years was a short-term suspension, (2) all drivers whose index offence was a *Criminal Code* DWI conviction, and (3) a sample of drivers who had no alcohol-related offences on their record during those two years. Subsequent alcohol-related offences were tracked through August 31, 2003. Overall, 11% of drivers whose index offence was a short-term suspension were convicted of a subsequent *Criminal Code* DWI offence by August 31, 2003, and 19% were issued a second short-term suspension. Among the group whose index offence was a *Criminal Code* DWI offence, 18% committed a subsequent DWI offence.

Analyses were conducted separately for those who did and those who did not have a *Criminal Code* DWI conviction on record prior to the introduction of the short-term suspension law. Approximately 75% of those with a short-term suspension index offence and no prior DWI convictions remained offence-free during the follow-up period. Those who did re-offend were more likely to do so with another short-term suspension, whereas those who re-offended and whose index offence was a *Criminal Code*

DWI conviction, were more likely to re-offend with another *Criminal Code* DWI. With respect to offence totals, drivers with a short-term suspension index offence had a greater proportion with multiple short-term suspension offences than either of the other two groups, whereas those issued a *Criminal Code* DWI index offence had a greater proportion with multiple *Criminal Code* DWI offences.

Re-offence rates were considerably higher among drivers who had a *Criminal Code* DWI conviction prior to the implementation of the short-term suspension law. In particular, among the relatively small group of drivers with a short-term suspension index offence who also had a prior DWI conviction, 88% were charged with a subsequent DWI offence by the end of the study, and the remainder were issued another short-term suspension. It is apparent that drivers with a prior DWI conviction represent a particularly high-risk group, and that short-term suspensions have no specific deterrent impact on these individuals.

CHARACTERISTICS OF OFFENDERS

A survey was conducted to assess and compare the psychological and behavioural characteristics of three groups of drivers: (1) those who had been issued a short-term suspension, (2) those who had been convicted of a *Criminal Code* DWI offence, and (3) a sample of drivers from the general driving population.

The survey responses revealed very clear differences among these three groups of drivers. In general, the two groups of drinking drivers displayed more extreme and deviant characteristics and behaviours than drivers selected from the general population. The two drinking driver groups were younger, comprised of a greater proportion of males, and revealed higher levels of alcohol consumption and riskier patterns of driving behaviour.

In many ways, the two drinking driver groups were more similar to each other than they were to the general population sample, but there were also important differences between the two drinking driver groups. For example, the short-term suspension group was characterized by riskier driving practices, whereas the *Criminal Code* DWI group was distinguished by the extent of their excessive drinking.

It is apparent that drivers issued a short-term suspension and drivers convicted of a *Criminal Code* DWI offence represent distinct groups within the driver population.

Although there is some degree of overlap between the two groups, they are clearly different and should be dealt with differently. The questionnaire data suggest that the differences between these two groups go well beyond differences in BAC on the occasion of their drinking and driving infractions and indicate more pervasive differences in psychosocial and behavioural characteristics that may underlie the nature and extent of their drinking and driving behaviour. These differences may have important implications for measures to effectively deal with them.

POLICE ATTITUDES AND PRACTICES

Police attitudes towards the law, their perceptions of the law, as well as their practices in applying the law are critical components in determining its overall effectiveness. The purpose of this study was to examine the attitudes, perception and practices of police officers in Saskatchewan on the issue of drinking and driving and, in particular, the use of short-term suspensions as a means to deal with drivers with low BACs.

The survey of police officers revealed that they view impaired driving as a serious offence and are committed to removing impaired drivers from the roads. Officers acknowledged that they are unable to devote as much time to impaired driving enforcement as necessary or desired, largely as a function of the numerous competing priorities for police services. They also expressed a degree of frustration over the length of time required to process an impaired driving charge, and a little over half of them indicated an increased likelihood of using *Criminal Code* charges if that time were reduced. Officers also indicated frustration, though to a lesser extent, with the number of offenders who are acquitted of DWI charges or who negotiated plea agreements involving lesser offences.

Most officers acknowledged using discretion in dealing with drinking drivers, at least occasionally. Issuing a short-term suspension rather than proceeding with *Criminal Code* DWI charges was the most commonly reported use of discretion. Results from the study of specific deterrence reported here would tend to suggest that this may have different specific deterrent effects, depending upon whether the driver has been convicted of a previous DWI offence. Officers responding to the survey viewed short-term suspension as an effective means of removing drinking drivers from the road, particularly in cases where there may be insufficient evidence to proceed with criminal charges.

CONCLUSIONS

Short-term suspensions were introduced in many provinces across Canada as a quick and efficient procedure that police could invoke to remove from the road those drivers who had been drinking but whose BACs were below the legal limit. Police issue short-term suspensions about as often as they lay *Criminal Code* DWI charges, thereby removing twice as many drinking drivers from the road as might otherwise be the case if *Criminal Code* charges were the only option available. This alone may be sufficient reason to retain short-term suspensions apart from its effects, or lack thereof, on deterrence.

The swift and certain nature of the short-term suspension for drivers with low BACs was expected to enhance general deterrence. Although not generally considered a severe sanction, the brief period of suspension was considered appropriate for drivers who may be experiencing some degree of impairment but have not necessarily consumed sufficient alcohol to warrant being arrested for a criminal DWI offence. The short-term suspension was intended to provide drivers with a warning about their driving after drinking behaviour without the stigma and serious consequences of *Criminal Code* DWI charges. As an “early warning” system, it was expected that drivers issued short-term suspensions would reduce their drinking and driving behaviour or at least prevent it from escalating to a level whereby they would be liable for *Criminal Code* DWI charges.

Although the present study revealed small reductions in driver fatalities with low BACs and alcohol-involved driver injuries following the implementation of the short-term suspension law in Saskatchewan, the decreases could not be isolated from the existing downward trends in these indices. At best, the short-term suspension law may have contributed to the ongoing downward trend in alcohol-involved crashes in Saskatchewan.

For drivers without a prior DWI conviction, among those issued a short-term suspension, fewer than 8% were convicted of a subsequent criminal DWI offence within six years. This compares with over 14% among drivers initially convicted of a *Criminal Code* DWI offence. This finding suggests that the drinking and driving behaviour of those issued a short-term suspension differs from that of *Criminal Code* offenders and does not necessarily escalate to more serious—and risky—levels of drinking and driving.

The evidence also indicates that drivers issued a short-term suspension represent a group of drinking drivers that differs from those who are charged with a more serious impaired driving offence under the *Criminal Code*. Drivers issued a short-term suspension tend to be risky drivers who drink frequently but at relatively low levels, whereas drivers convicted of a *Criminal Code* DWI offence were characterized by their frequent and heavy pattern of alcohol consumption.

The differences in characteristics and recidivism rates between drivers issued a short-term suspension and those convicted of a *Criminal Code* DWI offence suggest that the remedial interventions applied to these groups should also differ. Drivers issued a short-term suspension may benefit from a driver improvement program with an emphasis on separating drinking and driving. The excessive level of alcohol consumption among drivers convicted of a *Criminal Code* DWI offence indicates the need for assessment and treatment of alcohol problems.

1 Introduction

1.1 BACKGROUND

The substantial and unprecedented reductions in the magnitude of the alcohol-crash problem in North America during the 1980s have been well documented (e.g., Simpson et al. 1994; Sweedler 1994). The significant downward trend during this period was much heralded. Unfortunately, the downward trend came to an end during the 1990s. In fact, between 1999 and 2002, the number of alcohol-involved road fatalities in the United States actually increased, before decreasing again in 2003 (NHTSA 2005), while in Canada progress has continued, albeit at a slower rate (Mayhew et al. 2005).

The substantial decline in the magnitude of the alcohol-crash problem in North America during the 1980s has been attributed to a variety of factors and events that occurred during that period. Most notable among these was the public concern and outrage that moved political forces to implement a series of laws, policies and actions to deal effectively with the problem. Police checkpoints, more severe penalties for offenders, and preliminary breath testing were among the plethora of measures implemented to increase general deterrence. Assessment and treatment programs, vehicle impoundment and immobilization, administrative licence revocation, and ignition-interlock programs were measures targeted primarily at DWI offenders as a means to prevent repeat offences. Evaluation research has determined that many of these countermeasures have had a beneficial impact on the magnitude of the alcohol-crash problem (Shults et al. 2001).

Despite the demonstrated success of many countermeasure programs, the waning of the downward trend in the magnitude of the alcohol-crash problem during the

1990s has prompted renewed interest in the development of new initiatives to re-establish the progress that was so evident in the previous decade. In recent years, considerable debate has revolved around the issue of whether it would be more advantageous to concentrate efforts on those who persist in driving with high BACs (i.e., hard core repeat offenders) or to implement more general measures that would affect all drivers who drive after drinking, even those who might only do so occasionally and at relatively low BACs. It is widely accepted that new initiatives are needed on both fronts.

Traditionally, drinking and driving countermeasures have relied heavily on the criminal law as a means to detect, adjudicate and sanction offenders. Longer licence suspensions, increased fines and incarceration are commonly used approaches for dealing harshly with offenders. However, recent research demonstrates that traditional criminal or legal approaches for dealing with offenders are cumbersome, time-consuming and inefficient (e.g., Hedlund and McCartt 2002; Simpson and Robertson 2001; Robertson and Simpson 2002a). For example, processing a DWI offender requires in excess of two hours of a police officer's time. Court procedures can delay the disposition of a case for many months, and defense counsel is often successful either in having charges stayed or in securing an acquittal on the basis of evidential or procedural technicalities. If the offender is convicted, the time between the offence and the application of sanctions is often so long as to diminish the effectiveness of even the most severe penalties. In the absence of significant improvements in the efficiency of the criminal justice system, alternate approaches to punishment and prevention of drinking and driving need to be considered.

Administrative sanctions, which can be applied by the police or driver licensing authorities at, or relatively soon after, the time of the offence, provide a relatively swift and efficient procedure for dealing with certain types of drinking and driving behaviour. In this context, administrative licence revocation or suspension (ALR) was first implemented as a means to ensure that all DWI offenders served a period of licence suspension, even if they were eventually able to avoid court-imposed sanctions at a later date. The most common form of ALR involves the police acting on behalf of the registrar of motor vehicles, issuing a 90-day suspension to drivers who fail or refuse to provide a breath test. ALR is applied quickly and uniformly at the time of the offence and most often takes effect within 30 days. Not only is ALR much more efficient and certain than the usual judicial process, evaluation studies have repeatedly demonstrated that ALR has both general and specific deterrent impacts (Beirness, Simpson, Mayhew, and Jonah 1997; Mann et al. 2000, 2003; Ross and Gilliland 1991).

As policy makers seek approaches to help reinstate a downward trend in the magnitude of the alcohol-crash problem, there has been increased interest in the use of administrative sanctions. At the same time, another area of interest is the threshold BAC at which sanctions are imposed. Since jurisdictions across the United States have lowered their BAC limit from 0.10% to 0.08%, interest is already growing among some groups for lowering the limit to 0.05%, a limit common in Europe and Australia. There is, however, concern about the appropriateness of criminal sanctions being applied to drivers with BACs at this level. Many are of the belief that the extent of impairment and the degree of risk posed by drivers with BACs below 0.08% do not warrant criminal sanctions. Indeed, many jurisdictions outside of North America with a 0.05% BAC limit do not apply criminal sanctions at this level. As policy makers turn increasingly to the issue of even lower BAC limits for drivers, the appropriateness and effectiveness of criminal sanctions will become an even more prominent and contentious issue. There is a need to consider alternatives for dealing with low-BAC drivers that involve lower-level sanctions and provide for a more efficient and less cumbersome process than currently available through criminal procedures.

More than 20 years ago, provinces in Canada began implementing a unique administrative procedure for dealing with drivers with low BACs. Following an amendment to the *Criminal Code* of Canada in 1976, which authorized the police to use breath alcohol-screening devices at the side of the road to determine the extent of alcohol consumption by drivers, the province of British Columbia introduced provisions in its traffic law to give police the power to issue short-term administrative suspensions to drivers with BACs below the 0.08% limit specified by criminal law. Other provinces followed this lead, and currently all provinces except Quebec have given police the authority to suspend, for a period of 24 hours¹, the licence of any driver who is affected by alcohol, has a BAC of at least 0.05%², or who registers a “Warn” on an alcohol-screening device³.

These short-term suspensions provide swift and certain punishment for persons driving with a BAC that exceeds the provincial BAC limit but lower than the 0.08% limit

¹ In Ontario, the suspension is for a period of 12 hours.

² The BAC level at which suspensions apply in Saskatchewan is 0.04%. In some provinces, no breath test is required, and officers can issue such a suspension if they have reason to believe the driver is affected by alcohol. If the driver provides evidence that the BAC is below the specified threshold, the suspension is cancelled.

³ Approved screening devices are calibrated to read “Warn” at BACs from 0.05% (0.04% in Saskatchewan) to 0.099%.

specified in the *Criminal Code*. The procedure is administrative and is, therefore, relatively simple and is implemented by police officers at the side of the road. On finding a driver who is affected by alcohol or who registers a breath test result in excess of the provincial limit, the police officer informs the driver that the licence is suspended for the specified number of hours and requests the driver to surrender the licence. The driver's licence is suspended regardless of whether or not the driver actually surrenders the licence. Drivers found operating a vehicle during the period of suspension are subject to the usual sanctions for driving while suspended, which can include a further suspension, substantial fines, and vehicle impoundment. If there is another licenced driver in the vehicle who has not been drinking or has a BAC below the provincial limit, that person may be allowed to take over as the driver. Otherwise, the vehicle must be parked off the roadway in a safe location and the driver must arrange for alternative transportation. If necessary and deemed warranted by the officer, the vehicle is towed, and the driver is responsible for the towing and storage fees. The driver does not have to be taken to the police station for further testing, no formal charges are laid, there is little or no paperwork involved, and the driver does not have to attend court. In some provinces, these suspensions are recorded on the driver's record. Drivers can retrieve their licences at the police station after the completion of the suspension. Some provinces also impose a reinstatement fee.

This type of short-term administrative licence suspension for drivers with low BACs is unique to Canada and appears to be an efficient and effective means for removing drivers from the road who may be experiencing some degree of impairment but have not necessarily consumed sufficient alcohol to warrant being arrested for a criminal DWI offence. It is an administrative procedure that avoids the complications, procedural details, and delays imposed by the criminal process and applies an immediate sanction that is more appropriate for the level of impairment and risk associated with low BACs. In addition, the procedure appears to enhance the elements necessary for effective deterrence—i.e., certainty and swiftness of sanctions (Ross 1984). Because no formal charges are laid, the law allows police to take appropriate action quickly and efficiently, which in turn enables them to spend more time in field enforcement operations.

This increases the certainty of drinking drivers being apprehended and sanctioned. The immediate removal of the driver's licence guarantees swift punishment. And, although not generally perceived as severe, the removal of the driving privileges is generally viewed as undesirable and punitive. Hence, it would be expected that the

short-term suspensions would serve as an effective deterrent to drinking and driving behaviour. Additionally, aside from the question of any deterrence effects that short-term suspension may or may not have, it should not be overlooked that the use of short-term suspension removes impaired drivers from the road and prevents them from driving until they have had ample time for their BAC levels to return to zero.

1.2 PREVIOUS RESEARCH

Since the introduction of short-term administrative licence suspensions, only one study has examined the impact of such a law. Vingilis et al. (1988) studied the general deterrent effect of the short-term suspension law that came into effect in the province of Ontario in December, 1981. The law gave police the authority to suspend immediately, for a period of 12 hours, the licence of any driver who registered a “Warn” (i.e., a BAC $\geq 0.05\%$ [0.04% in Saskatchewan] and $\leq 0.099\%$) on an approved screening device. The same legislation also introduced the use of random spot checks for drinking and driving.

The incidence of alcohol use among drivers killed in crashes in Ontario was examined for three years prior to the introduction of the new law and one year following. Similar data from Manitoba and Saskatchewan were combined to form a comparison group. Using time series intervention models, there was evidence of a small, temporary effect of the new law on the proportion of alcohol-related driver fatalities. The authors were appropriately cautious in their interpretation of the findings. Not only was the time series too short to provide reliable estimates, it was not possible to distinguish between the effect due to the short-term suspensions and that due to random spot checks. The authors also noted that there was little public knowledge of the law and many police departments did not yet have approved alcohol-screening devices necessary for the enforcement of the law. Hence, the only available study provided suggestive but inconclusive evidence of a beneficial general deterrent impact of short-term administrative suspensions for drivers with low BACs.

1.3 RATIONALE AND PURPOSE

In Canada, some provinces have been using short-term administrative suspensions as one of the tools for dealing with drinking drivers for more than two decades. Table 1-1 shows both the introduction date and BAC limit for short-term suspensions by Canadian jurisdiction. Despite the long history and large number of offenders who

have been issued short-term suspensions, there has never been a comprehensive and rigorous evaluation of the effect of these laws. The purpose of the present study was to conduct such an evaluation.

Table 1-1: Short-term Suspension Introduction by Canadian Jurisdiction

Jurisdiction	Short-term Suspension Introduction	BAC Level
Northwest Territories	December 2004	≥ 0.05%
Nunavut	Unknown	*
Yukon	1987	*
British Columbia	1979	*
Alberta	1975	*
Saskatchewan	August 1996	≥ 0.04%
Manitoba	April 1988	≥ 0.05%
Ontario	1981	≥ 0.05%
Quebec	N/A	N/A
New Brunswick	1985	≥ 0.05%
Nova Scotia	1999	≥ 0.05%
Prince Edward Island	1997	≥ 0.05%
Newfoundland and Labrador	January 1995	≥ 0.05%

*Reasonable grounds to believe driver is impaired by alcohol

The short-term suspension law in the province of Saskatchewan was selected for evaluation. Saskatchewan introduced short-term suspensions for drivers with BACs of 0.04% or above on August 1, 1996 and is one of the few jurisdictions that records short-term suspensions on the driver record. In addition, the agency in the province responsible for driver and vehicle licensing—Saskatchewan Government Insurance (SGI)—expressed interest in the project and offered its cooperation and assistance.

Section 91 of the Saskatchewan *Highway Traffic Act* states that a peace officer may, at any time and at any place, request a person who has care and control of a motor vehicle, whether it is in motion or not, to surrender the driver's licence to the officer

if the officer has reasonable and probable grounds to believe that the driver may have consumed alcohol in an amount so as to have a concentration of alcohol in the blood of not less than 40 milligrams of alcohol per 100 milliliters of blood (0.04%). Where a peace officer makes a request for the driver to surrender the licence, it is suspended for a period of 24 hours from the time of the request. If the driver's license is suspended, the vehicle must be parked, driven away by a sober driver, or towed.

Drivers who have their licences suspended under this section may have the suspension terminated if they immediately and voluntarily submit to a breath test that indicates their blood alcohol concentration (BAC) to be less than 0.04%. Alternatively, the drivers can have their suspensions terminated if, prior to the completion of the period of suspension, they produce a certificate from a duly qualified medical practitioner stating that the BAC is less than 0.04%.

Upon surrender of the driver's licence, police hold it for a period of 24 hours. Drivers found operating a vehicle during the period of suspension are liable to the usual sanctions associated with the offence of driving while disqualified, including vehicle impoundment. At the end of the period of suspension, a driver can retrieve the licence personally from the police station or it will be returned by mail.

A second short-term suspension carries a requirement that the driver must complete the *Driving Without Impairment course*⁴ within 90 days. A third or subsequent short-term suspension within 5 years results in an administrative 90-day suspension and the driver is required to undergo addiction screening and assessment. Before the driver's licence can be reinstated, a driver must complete the education or rehabilitation program or programs recommended by the addiction counselor.

It should be noted that drivers with a probationary licence—i.e., those who have had a full driving licence for less than two years—who have consumed any amount of alcohol before driving are subject to an immediate 30-day suspension and are required to take the DWI course within 90 days. These drivers are not included in this study.

The police in Saskatchewan have made extensive use of short-term administrative suspensions in their enforcement of drinking and driving. They have recorded over

⁴ The *Driving Without Impairment* course is a program designed to educate drivers about the serious problems related to drinking and driving and to help participants develop strategies to separate drinking from driving. The course fee is \$150 and is payable by its participants.

6,000 short-term suspensions each year—about 100 such suspensions for every 10,000 licenced drivers. This compares with an annual 5,000 *Criminal Code* DWI charges—78 per 10,000 licenced drivers. In many cases, drivers charged under the *Criminal Code* are also issued a short-term suspension as a means to prohibit them from operating a vehicle for at least a day following their DWI arrest.

This report presents the results from four studies of the short-term suspension law in Saskatchewan: (1) the general deterrent impact, (2) the specific deterrent impact, (3) the characteristics of drivers issued short-term suspensions, and (4) a survey of police officers.

1.4 ORGANIZATION AND SCOPE OF THE REPORT

The remainder of this report is divided into the following sections:

- Section 2, *General Deterrence (Study 1)*—reports on the impact of short-term suspensions on alcohol-involved fatal and injury crashes. It describes the methodology and results of the study along with a discussion of the findings.
- Section 3, *Specific Deterrence (Study 2)*—reports on the effect of short-term suspensions on those drivers who have been issued such a suspension. It describes the methodology and results of this part of the evaluation along with a discussion of the findings.
- Section 4, *Characteristics of Drivers Issued a Short-term Licence Suspension (Study 3)*—compares the characteristics of drivers issued a short-term suspension with drivers convicted of a *Criminal Code* impaired driving offence and a random sample of drivers from the general population.
- Section 5, *Survey of Police Attitudes and Practices (Study 4)*—describes the findings from a survey of police officers concerning the use of short-term suspensions.
- Section 6, *Conclusion*—provides an integrated discussion of the findings from the series of four studies and provides recommendations for the use of short-term suspensions.

2 General Deterrence (Study 1)

General deterrence theory would predict that if the introduction of a penalty for driving with a low BAC is effective, it would reduce the frequency of the behaviour and, to the extent that such behaviour is associated with crashes, it would have a corresponding effect on the number of drinking drivers involved in collisions. If the short-term suspension law had a general deterrent effect on the drinking and driving behaviour of motorists, the impact should be evident in terms of a reduction in overall drinking and driving behaviour and road crashes involving a drinking driver. The prevalence of drinking and driving behaviour is best assessed by means of a random breath-testing survey of drivers at roadside. Although the roadside survey is a well-established technique in road safety research, such surveys are relatively expensive and are only conducted periodically (Mayhew et al. 1995). The most recent roadside survey in Saskatchewan was conducted in 1993. In the absence of a comparable survey conducted following the introduction of the short-term suspension law in Saskatchewan, it is not possible to determine the impact of the law on the prevalence of drinking and driving behaviour. Hence, this study focused on alcohol-involvement in fatal and injury collisions to assess the general deterrent impact of short-term suspensions.

2.1 METHOD

Data on injury crashes in Saskatchewan were obtained from the province's Traffic Accident Information System (TAIS). The use of alcohol by drivers involved in casualty collisions is reported by investigating police officers and recorded on TAIS. Information on drivers fatally injured in road crashes was obtained from the Traffic Injury Research

Foundation's (TIRF) Fatality Database⁵. The TIRF database contains information from coroner and medical examiner files on the results of tests for alcohol conducted on drivers who died in road crashes. Alcohol testing rates among fatally injured drivers exceed 80%. Drivers of off-road vehicles, such as snowmobiles, all-terrain vehicles, and bicycles, were excluded from the analyses.

Alberta was selected as the most appropriate comparison province. The geographic and demographic characteristics of Alberta are similar to Saskatchewan. Although Alberta has had a form of short-term administrative suspension for drivers for many years, it is not tied to a specific BAC threshold and such suspensions are not recorded on the driver's record. It is not known how frequently the procedure is used by police in Alberta. Data comparable to those from Saskatchewan were also obtained from the province of Alberta.

Several dependent measures were used to examine the impact of the new law, each of which has its strengths and limitations and provides a slightly different perspective on the alcohol-crash problem. These statistics include:

- driver fatalities
- driver fatalities with positive BACs
- driver fatalities with $BAC \leq 0.08\%$
- driver fatalities with $BAC > 0.08\%$
- driver fatalities with $BAC \geq 0.04\%$ but $\leq 0.08\%$
- drivers involved in injury crashes
- drivers in alcohol-involved injury crashes
- single-vehicle nighttime male-driver injury crashes

The approach involved a successive series of analyses beginning with a simple examination of pre-post changes in the number of fatalities and injuries in Saskatchewan compared with those in Alberta over the same period of time. As a means to clarify and refine the analyses, a variety of comparisons were made. Finally, time series intervention analyses were performed to help isolate changes that could be attributed to the introduction of the new measure.

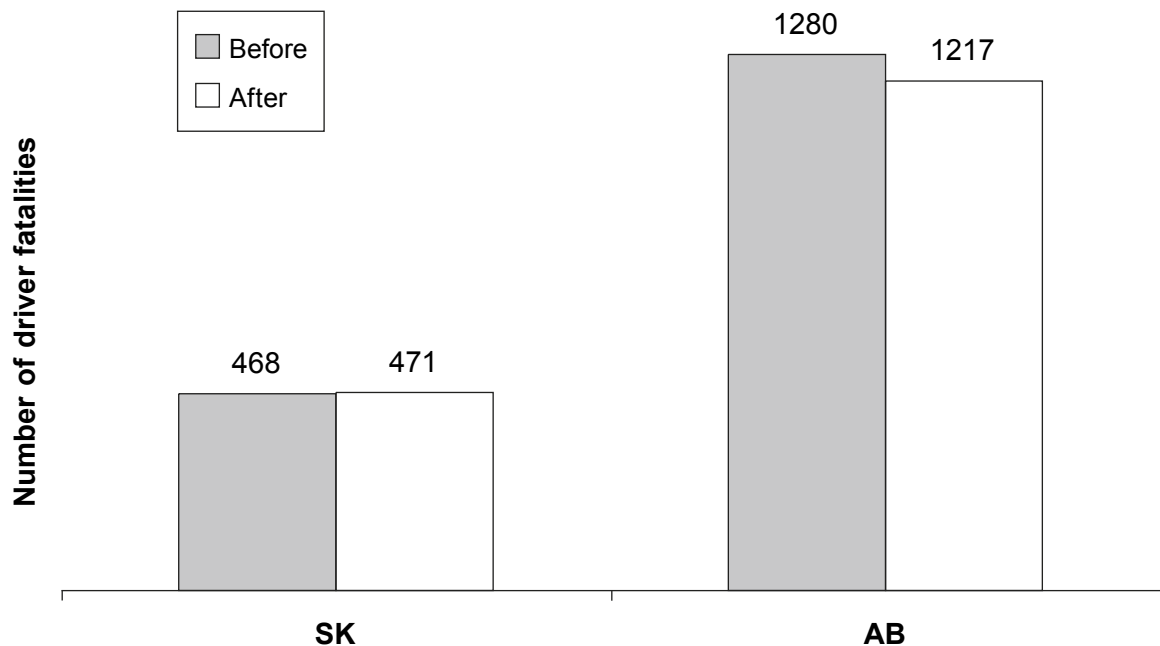
⁵ The TIRF Fatality Database is funded by the Canadian Council of Motor Transport Administrators and Transport Canada.

2.2 RESULTS

2.2.1 Driver Fatalities

Figure 2-1 shows the total number of driver fatalities in Saskatchewan and Alberta in the five-year period prior to the introduction of the short-term suspension in Saskatchewan (i.e., August 1991 to July 1996) and the five-year period following the introduction of the new law (i.e., August 1996 to July 2001). Overall there was no statistically significant change in the total number of driver fatalities in either province in the 5 years after August 1, 1996 ($\chi^2 = 0.55$, $df = 1$, $p > .5$).

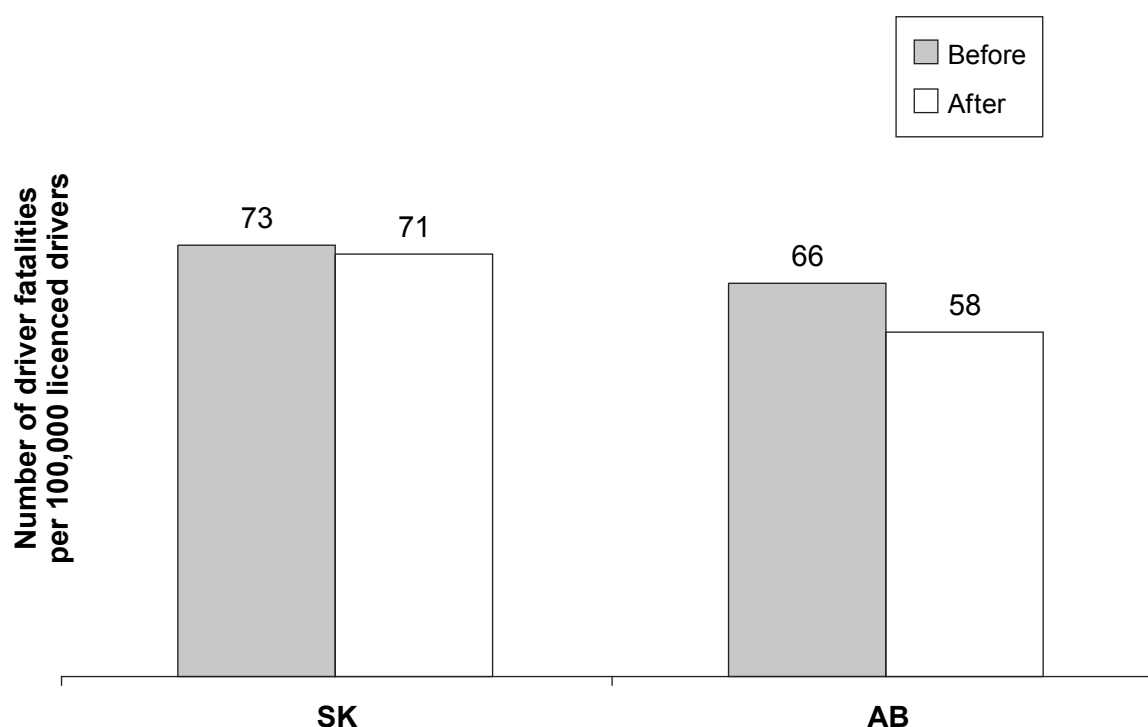
Figure 2-1: Number of Driver Fatalities by Province before and after* the Introduction of Short-term Licence Suspensions in SK



*Pre-period: Aug. 1991 – July 1996 Post-period: Aug. 1996 – July 2001

The absolute number of driver fatalities in Alberta is 2.5 times as high as it is in Saskatchewan. To a large extent, the difference can be attributed to the differences in population between the two provinces. To account for population disparity and changes in the population over time, the absolute number of driver fatalities in each province was standardized by the number of licenced drivers in each jurisdiction. Figure 2-2 displays the overall driver fatality rates per 100,000 licenced drivers in Saskatchewan and Alberta in the 5-year periods before and after the implementation of the short-term suspension law in Saskatchewan. Standardizing the number of fatalities in this way creates a more equitable comparison between the two jurisdictions, but it also does not reveal significant differences (before – after) between provinces. Hence, for simplicity, the remainder of the analyses on fatalities will use the number rather than the rate.

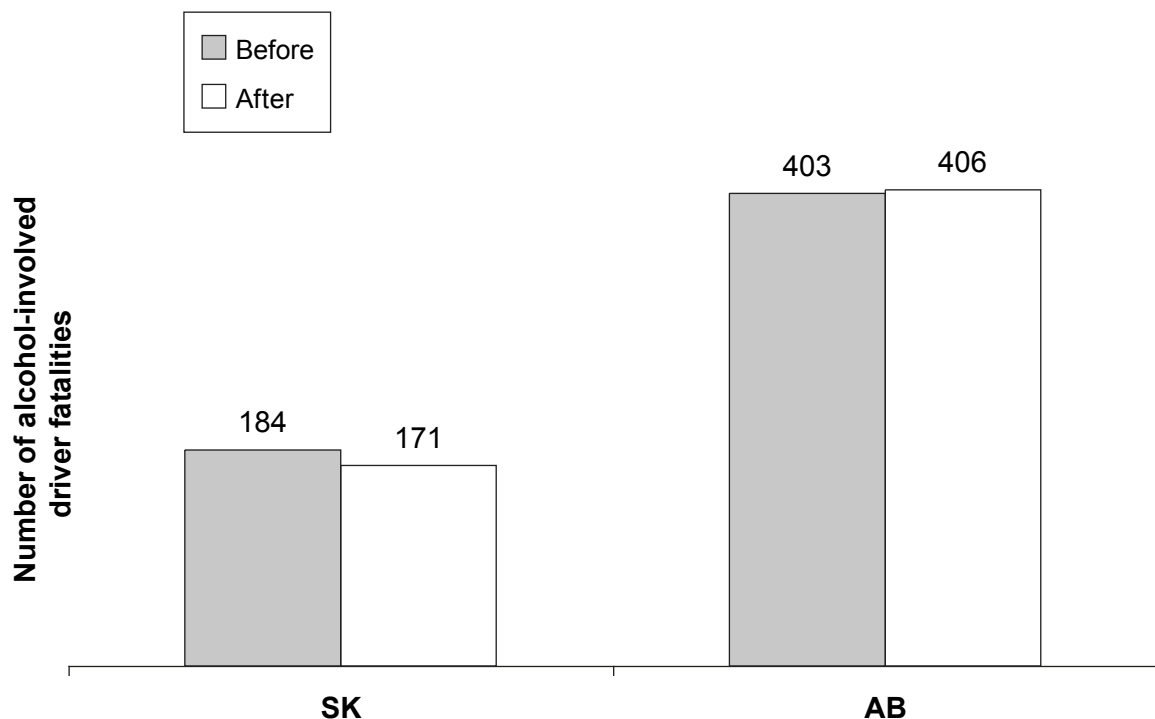
Figure 2-2: Driver Fatality Rate by Province before and after* the Introduction of Short-term Suspensions in SK



*Pre-period: Aug. 1991 – July 1996 Post-period: Aug. 1996 – July 2001

If there were a general deterrent effect associated with short-term suspensions, it would likely be most evident in terms of the number of crashes involving a drinking driver. Figure 2-3 presents the number of driver fatalities testing positive for alcohol in Saskatchewan and Alberta in the five-year period before and after the implementation of the short-term suspensions for drivers with BACs $\geq 0.04\%$ in Saskatchewan. The number of alcohol-involved driver fatalities in Saskatchewan decreased from 184 during the five years prior to the short-term suspension law to 171 during the five years after. In Alberta, in the same five-year periods, the comparable numbers of alcohol-involved driver fatalities were 403 and 406. Although the smaller number of drinking driver fatalities in Saskatchewan following the new law is consistent with the general deterrence hypothesis, the change was not statistically significant ($\chi^2 = 0.40$, $df = 1$, $p > .5$).

Figure 2-3: Number of Alcohol-involved Driver Fatalities by Province before and after* the Introduction of Short-term Suspensions in SK

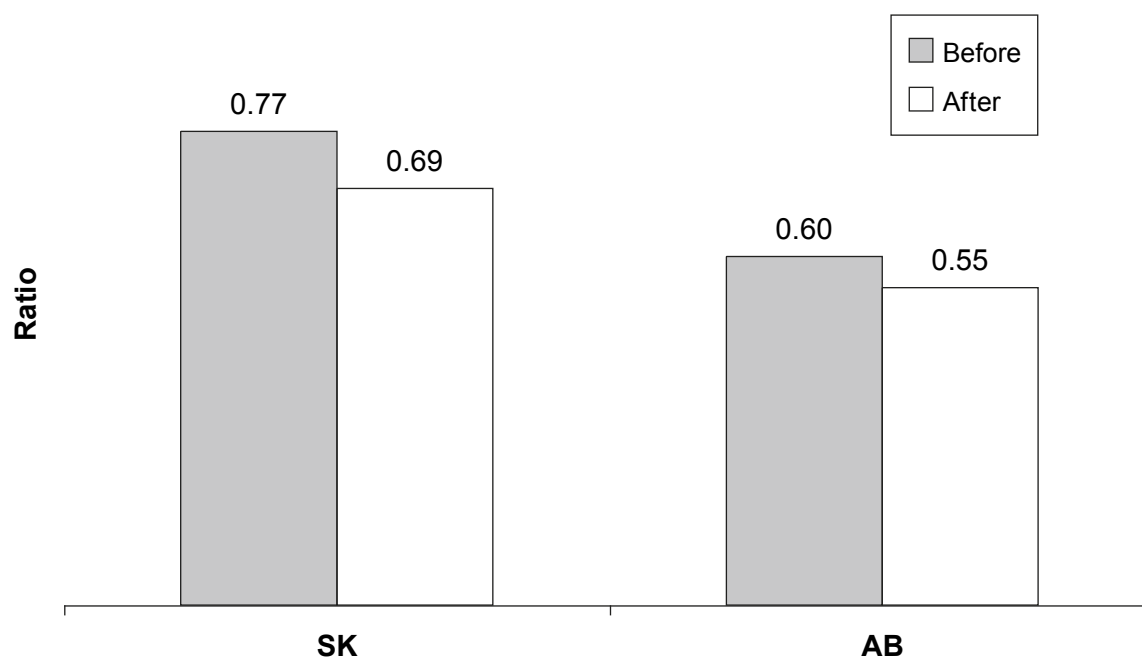


*Pre-period: Aug. 1991 – July 1996 Post-period: Aug. 1996 – July 2001

The absolute number of alcohol-involved driver fatalities in any given year may be influenced by a number of other factors unrelated to the introduction and enforcement of new drinking and driving countermeasures, such as the economy, speed-limit changes, and safety enhancements to roads and vehicles. To control for these potential confounding factors, the number of alcohol-involved driver fatalities was divided by the number of driver fatalities with a zero BAC. This ratio is analogous to the proportion of all driver fatalities involving alcohol. Whereas the proportion uses all driver fatalities in the denominator, regardless of BAC, this alternative ratio measure includes in the denominator only those drivers who had a zero BAC. Including only driver fatalities with zero BAC provides a better control for the overall level of fatalities in a jurisdiction over time that is not influenced by changes in drinking driver fatalities.

Figure 2-4 presents the ratio of alcohol-involved driver fatalities to driver fatalities with zero BAC for Saskatchewan and Alberta in the five-year periods before and after the introduction of the short-term suspension law in Saskatchewan. It is apparent that this ratio is higher in Saskatchewan than in Alberta and that both provinces showed a reduction in this ratio in the 5-year period starting August 1, 1996. The difference (before – after) between the provinces, however, is not statistically significant (OR = 0.97, 95% CI = 0.70–1.34).

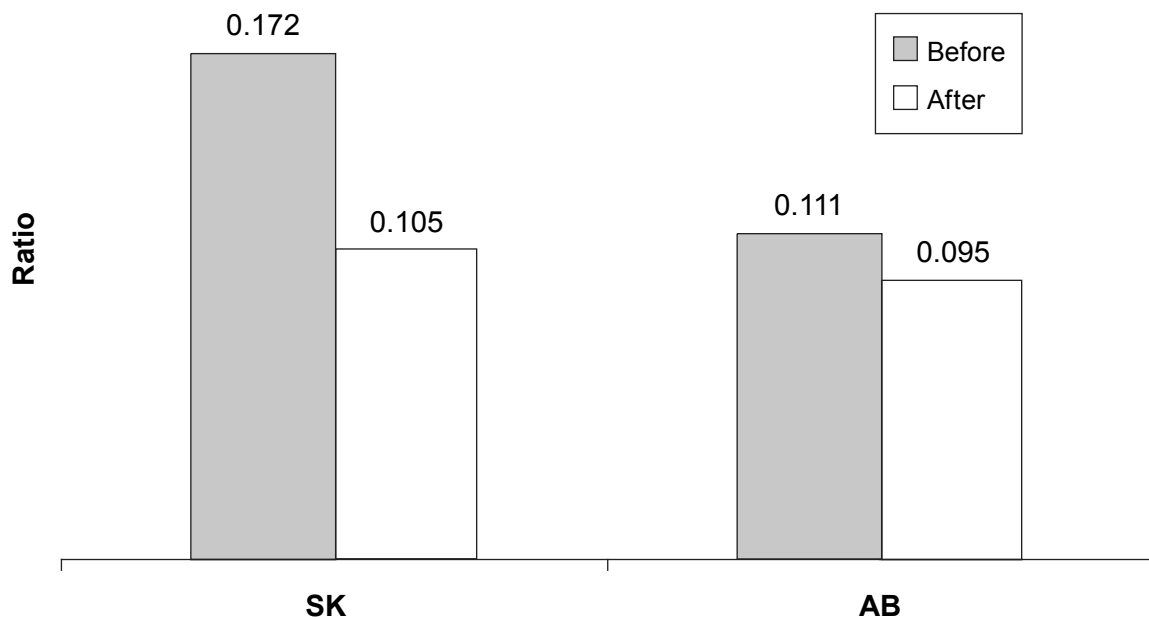
Figure 2-4: Ratio of Alcohol-involved Driver Fatalities to Zero-BAC Driver Fatalities before and after* the Introduction of Short-term Licence Suspensions in SK



*Pre-period: Aug. 1991 – July 1996 Post-period: Aug. 1996 – July 2001

It can also be argued that the short-term suspension law would not be expected to have an impact on all drinking driver fatalities, particularly those at high BACs, but it could likely influence the number of driver fatalities at lower BACs—i.e., below 0.08%. Figure 2-5 shows the ratio of driver fatalities with positive BACs of 0.08% or less to those with zero BAC for Saskatchewan and Alberta for the five-year periods before and after the implementation of short-term suspensions in Saskatchewan.

Figure 2-5: Ratio of Driver Fatalities with BACs $\leq$ 0.08% to Zero-BAC Driver Fatalities, by Province, before and after* the Introduction of Short-term Licence Suspensions in SK

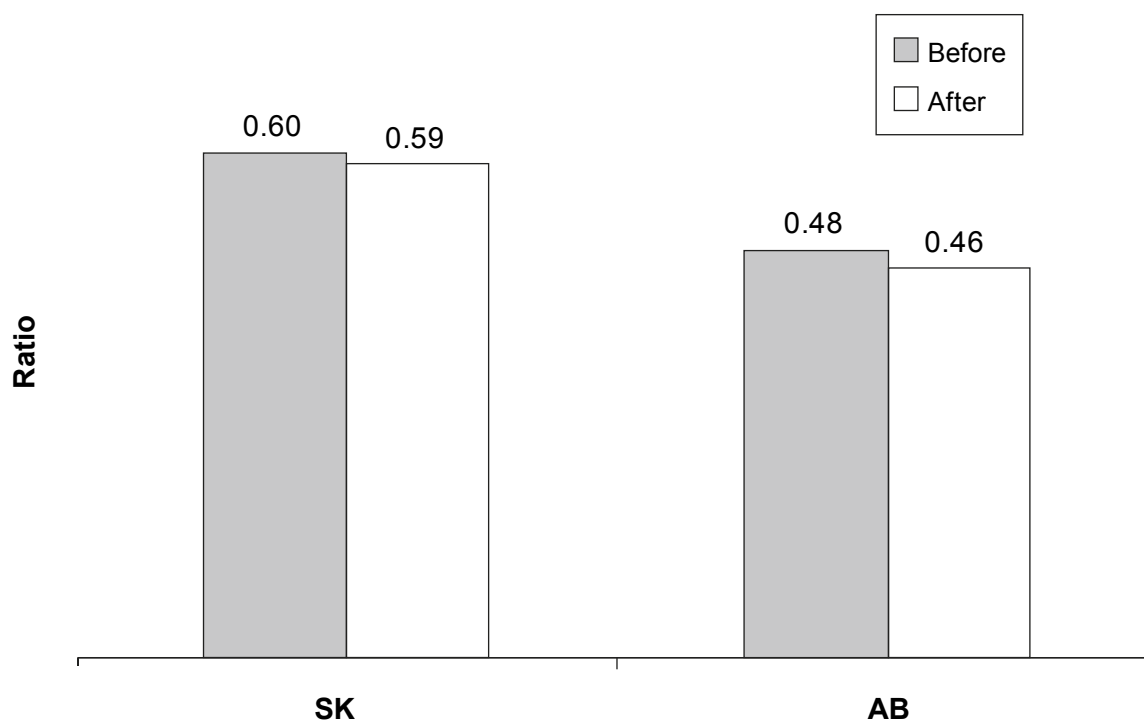


*Pre-period: Aug. 1991 – July 1996 Post-period: Aug. 1996 – July 2001

Saskatchewan experienced a significant 39% decrease in this ratio in the 5-year period after the short-term suspension law was introduced (OR = 0.61, 90% CI = 0.39–0.95). Alberta experienced a non-significant 14% decrease over the same period of time (OR = 0.86, 90% CI = 0.64–1.14). The comparison (before – after) between the two provinces, however, was not statistically significant: (OR = 0.71, 90% CI = 0.42–1.20).

For comparison, Figure 2-6 displays the ratio of driver fatalities with BACs over 0.08% to driver fatalities with zero BAC in Saskatchewan and Alberta. The ratio decreased slightly in both provinces following the introduction of short-term suspensions in Saskatchewan (2% and 5%, respectively), but the likelihood of there being fewer driver fatalities with BACs in excess of 0.08% (before - after) in Saskatchewan relative to Alberta was not statistically significant (OR = 1.02, 90% CI = 0.77–1.37).

Figure 2-6: Ratio of Driver Fatalities with BACs > 0.08% to Zero-BAC Driver Fatalities, by Province, before and after* the Introduction of Short-term Licence Suspensions in SK

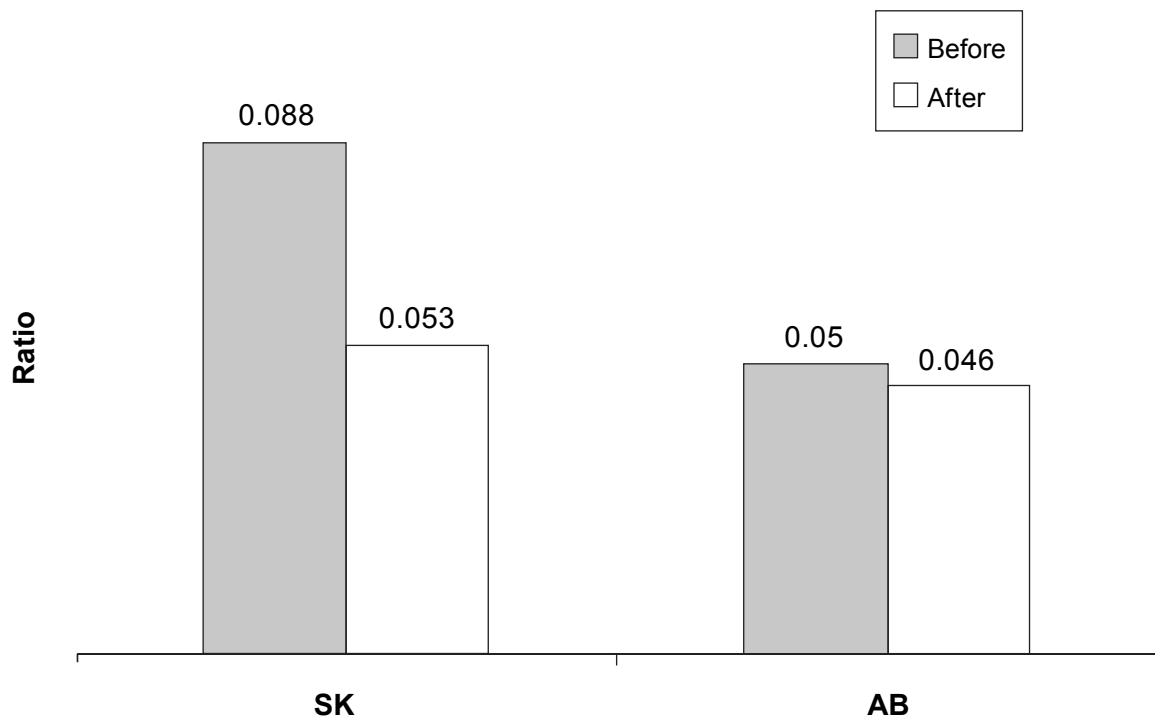


*Pre-period: Aug. 1991 – July 1996 Post-period: Aug. 1996 – July 2001

It can also be argued that the short-term suspension law did not target all drivers with BACs < 0.08% but only those drivers with BACs between 0.04% and 0.08%, though it is possible that a driver may not be aware of what the BAC is in a given situation. Figure 2-7 presents the ratio of driver fatalities with BACs in this critical range to driver fatalities with zero BAC in Saskatchewan and Alberta for the five-year periods before and after the introduction of the short-term suspension law. The actual number of driver fatalities in this BAC range in Saskatchewan decreased from 21 to 13. In Alberta, there were 34 such fatalities in both the before and after periods. However, the numbers are small and the ratio of BACs in the critical range to zero BACs was not statistically significant in either Saskatchewan (OR = 0.60, 90% CI = 0.33–1.08) or

Alberta (OR = 0.92, 90% CI = 0.61–1.38). The comparison between Saskatchewan and Alberta was also not statistically significant (OR = 0.44, 90% CI = 0.32–1.34).

Figure 2-7: Ratio of Driver Fatalities with $0.04\% < \text{BACs} \leq 0.08\%$ to Zero-BAC Driver Fatalities, by Province, before and after* the Introduction of Short-term Licence Suspensions in SK



*Pre-period: Aug. 1991 – July 1996 Post-period: Aug. 1996 – July 2001

The pre-post analyses described above provide a simple, straightforward approach to examining changes in fatalities following the introduction of a new law or policy. However, the design fails to account for the effects of any pre-existing trends in the data. For example, a steady increase in drinking and driving fatalities in the five years prior to the new law, followed by a steady decline in the subsequent five-year period, would not likely be detected by the pre-post comparison. Hence, time-series intervention analyses were applied to the data.

Time-series analysis is one of the most powerful methods for determining the impact of an intervention and has been widely used in the traffic safety literature. The approach requires a relatively long series of equally spaced observations before and after the implementation of a new program or policy. The analysis first involves examining the data series statistically for the presence of long-term trends and cycles and

removing these influences. An intervention parameter corresponding to the introduction of the intervention (i.e., short-term licence suspension) is then added to the model to determine the extent to which the intervention was associated with a change in the pattern or level in the dependent measures.

In the present case, time-series intervention analytical techniques were applied to the monthly number of driver fatalities (in various BAC groups) in Saskatchewan from January 1987 through December 2001—a total of 180 monthly observations. All dependent variables examined in the analysis showed a significant monotonic trend, therefore a trend component was added to each model. The absolute number of fatalities was standardized by the number of licenced drivers, and the monthly unemployment rate (a common indicator of the economy) was added to the model as a covariate. A step parameter corresponding to the introduction of the short-term suspension was introduced at month 116 (August 1996) to mark the onset of the intervention in order to assess its effect.

Figure 2-8 shows the monthly number of all driver fatalities in Saskatchewan from January 1987 through December 2001. The dashed vertical line corresponds to August 1996, the point at which the short-term suspension was introduced. The series shows a significant downward linear trend ($\tau = 0.192$, $p < .01$) as well as strong seasonal variation—i.e., driver fatalities are typically higher in summer months than winter months. This figure illustrates the fact that the short-term suspension law was introduced at a time when the overall number of driver fatalities had been decreasing for several years.

Figure 2-8: Total Number of Monthly Driver Fatalities in SK 1987–2001

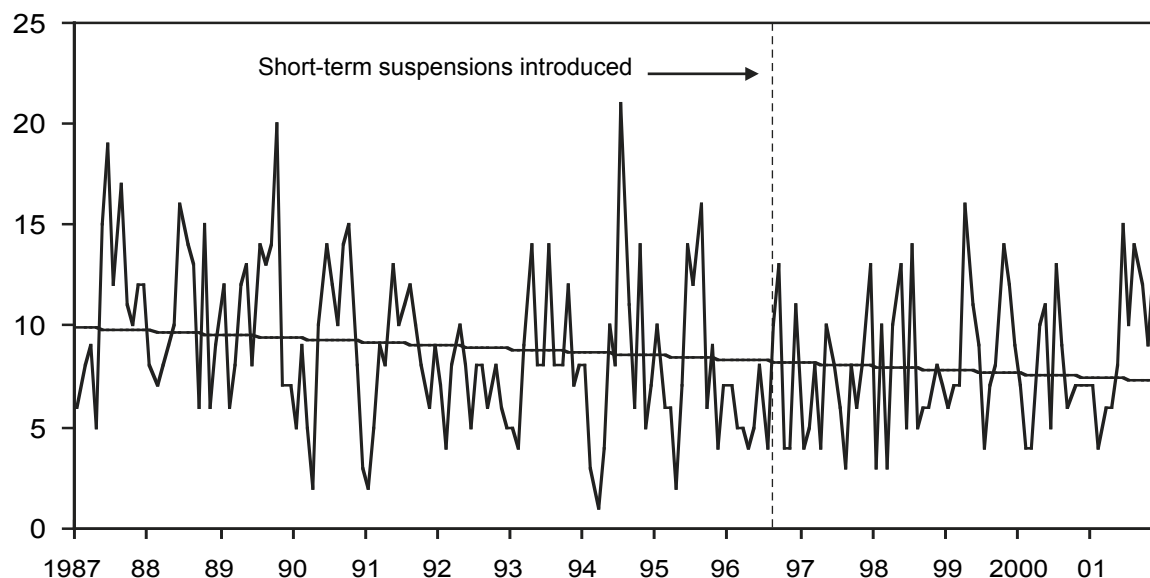
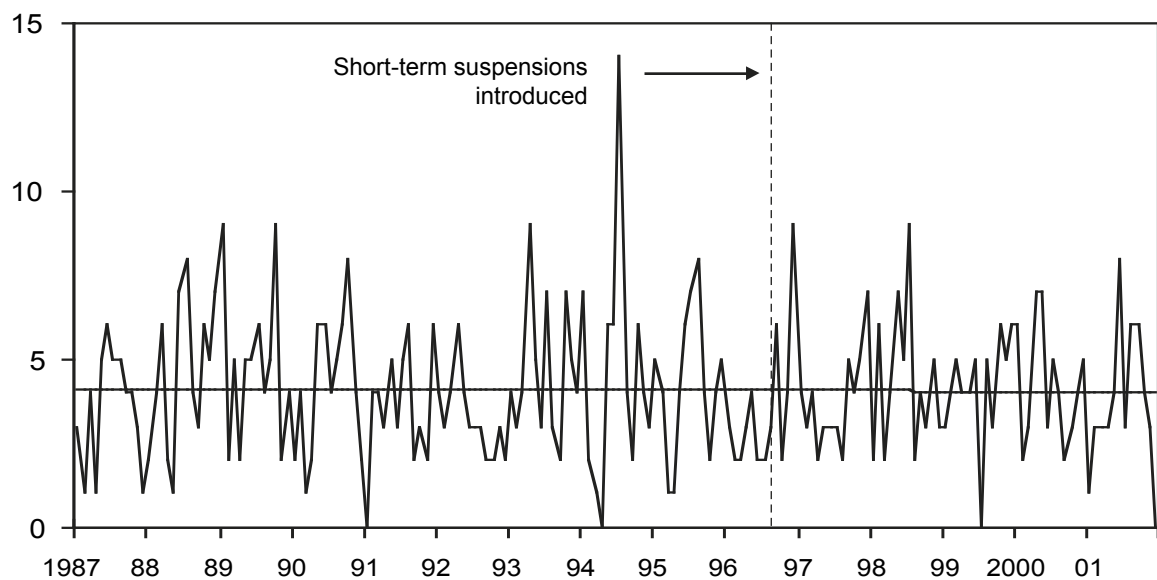


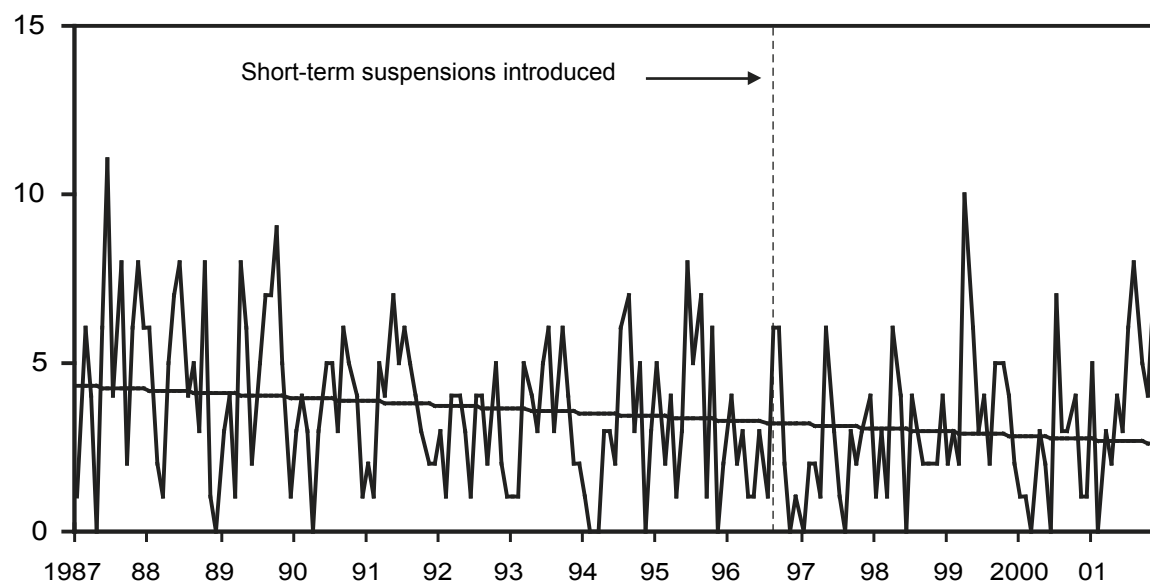
Figure 2-9 displays the monthly number of driver fatalities with BAC = 0 in Saskatchewan from January 1987 to December 2001. As in the previous figure, the dashed vertical line corresponds to the introduction of short-term suspensions (i.e., August 1996). There is a seasonal pattern that is less marked than that among all fatalities, and there is no significant linear trend ($p > .9$). This figure illustrates that although the overall number of driver fatalities had been decreasing for several years prior to the introduction of the short-term suspensions, the number of non-drinking driver fatalities remained relatively stable. Hence, the reduction in total driver fatalities would appear to be a consequence of fewer alcohol-involved driver deaths.

Figure 2-9: Monthly Driver Fatalities with BAC = 0 (SK 1987–2001)



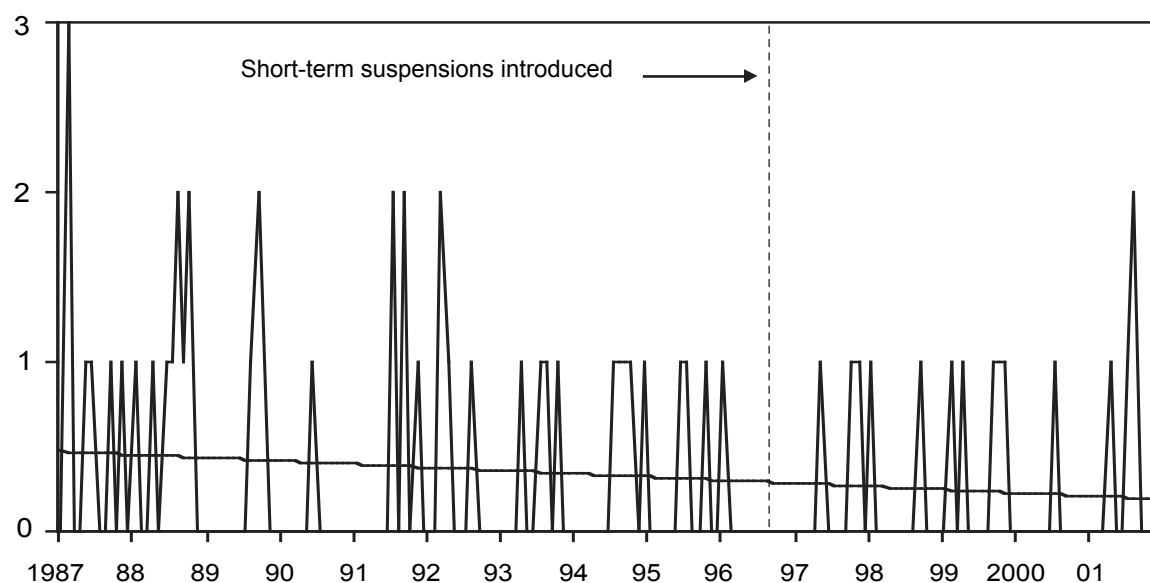
The monthly numbers of driver fatalities in Saskatchewan from January 1987 to December 2001 that tested positive for alcohol are presented in Figure 2-10. Time-series analysis of these data, controlling for the number of licenced drivers and the unemployment rate in Saskatchewan, found an overall significant downward trend ($t = 2.37$, $p < .02$) and a strong association with the unemployment rate ($t = 3.28$, $p < .01$) but no significant effect of the intervention ($t = 0.97$, $p > .3$). A strong correlation between the intervention component and the trend estimate ($r = 0.732$) suggests that the effect of the intervention may be confounded with trend.

Figure 2-10: Monthly Number of Alcohol-positive Driver Fatalities (SK 1987–2001)



Limiting the analysis to those driver fatalities with BACs between 0.04% and 0.08% revealed similar findings (see Figure 2-11). There was a slight, but nonsignificant, overall downward trend ($p < .10$), a strong effect of the unemployment rate ($p < .05$), but no significant effect of the intervention ($p > .60$). A strong correlation between the intervention component and the trend estimate ($r = 0.735$) again suggests that the effect of the intervention may be confounded by the downward trend.

Figure 2-11: Monthly Number of Driver Fatalities with BACs between 0.04% and 0.08% (SK 1987–2001)

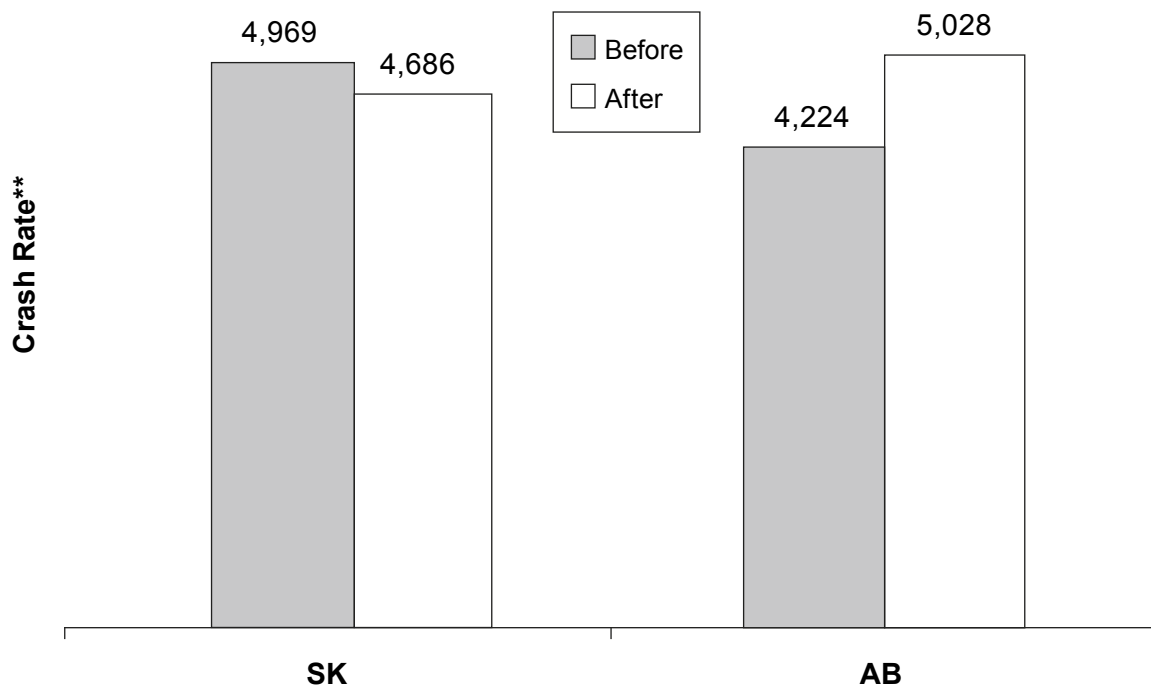


2.2.2 Driver Injuries

Road crashes resulting in injury to one or more persons are typically attended by a police officer, and a report is filed with the appropriate provincial agency. The resulting crash files from Saskatchewan and Alberta were used to examine the impact of the short-term suspension introduced in Saskatchewan in August 1996.

The total number of drivers injured in road crashes varies considerably between Saskatchewan and Alberta. To adjust for these differences, the raw numbers of injuries were standardized by the number of licenced drivers each year to produce an injury crash rate per 100,000 drivers in each province. Figure 2-12 presents the driver injury crash rate in Saskatchewan and Alberta in the six-year periods before and after the introduction of the short-term suspension law in Saskatchewan. Over this period of time, Saskatchewan experienced a 5.8% reduction in the injury crash rate, whereas the injury crash rate in Alberta increased by 19%. The comparison was statistically significant: ($\chi^2 = 63.7$, 1 df, $p < .001$).

Figure 2-12: Driver Injury Rate, by Province, before and after* the Introduction of Short-term Licence Suspensions in SK



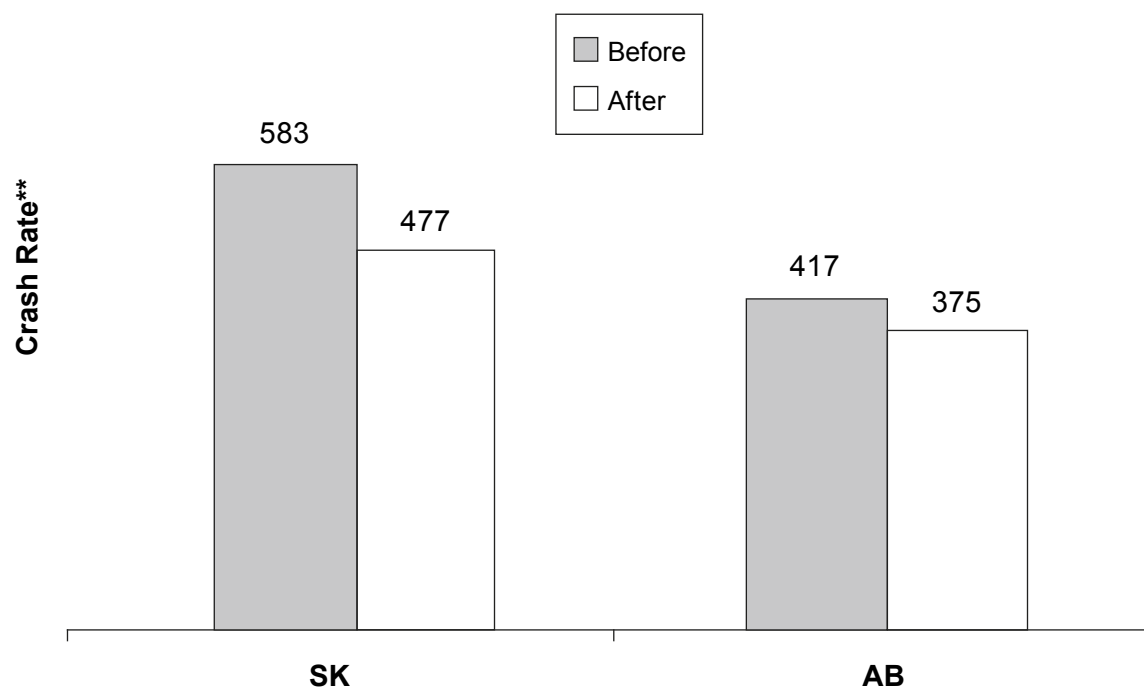
*Pre-period: Aug. 1991 – July 1996 Post-period: Aug. 1996 – July 2001

**Per 100,000 drivers

Drivers involved in injury collisions are not routinely tested for alcohol, but the investigating officer may list alcohol use by the driver as a contributing factor in the crash. In the absence of toxicological tests performed on drivers involved in injury collisions, police-reported data are the best indicator available. Although police judgments tend to underestimate the extent of alcohol involvement in casualty crashes (e.g., Warren et al. 1981), these data have been shown to be recorded consistently and, hence, can be used as a valid measure of change over time (Mercer 1985).

Figure 2-13 shows the alcohol-involved driver injury crash rate in Saskatchewan and Alberta in the five-year periods before and after the short-term suspension law was introduced in Saskatchewan. Both provinces experienced a decrease in the alcohol injury crash rate over this period of time. Although the decrease in Saskatchewan was somewhat larger than in Alberta (18% and 10%, respectively), the difference between the two provinces was not statistically significant (OR = 1.15, 95% CI = 0.95–1.40).

Figure 2-13: Alcohol-involved Driver Injury Rate before and after* the Introduction of 24-hour Licence Suspensions in SK



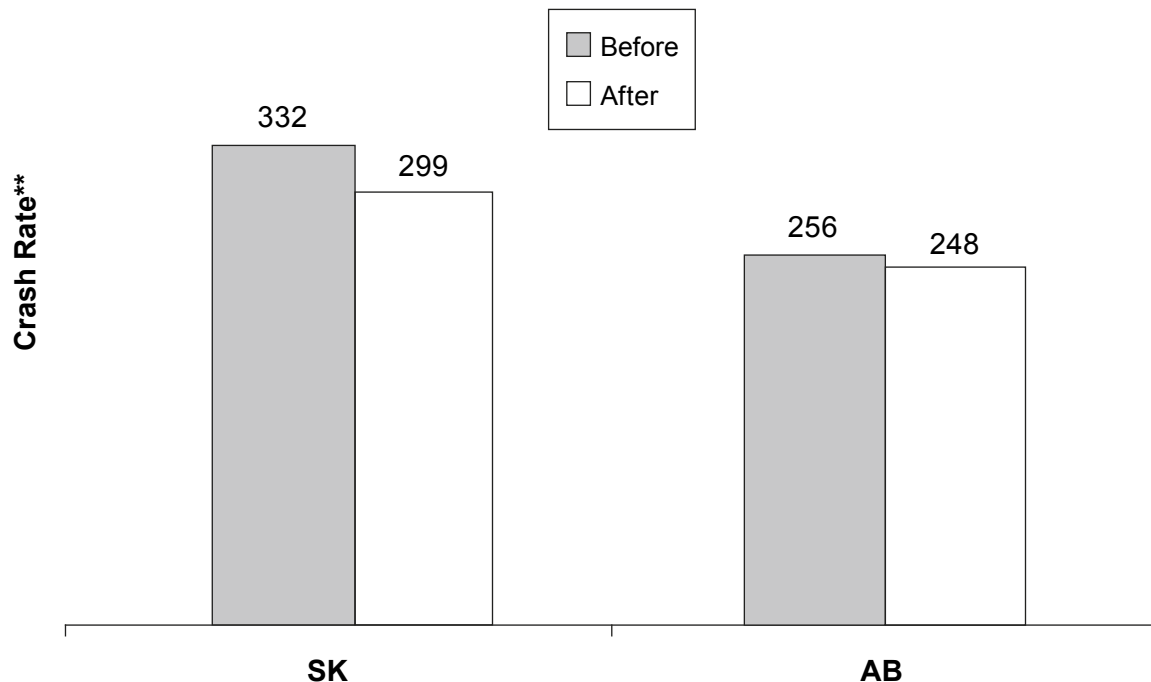
*Pre-period: Aug. 1991 – July 1996 Post-period: Aug. 1996 – July 2001

**Per 100,000 drivers

An alternative approach used for assessing alcohol involvement in crashes is to examine only single-vehicle nighttime (9 pm to 6 am) crashes involving a male

driver. This surrogate measure of alcohol involvement—abbreviated SVNМ—is presented in Figure 2-14 for Alberta and Saskatchewan in the five-year periods before and after the introduction of the short-term suspension law in Saskatchewan. A comparison of the rates in the two provinces revealed no significant differences (OR = 1.14, 95% CI = 0.89–1.45).

Figure 2-14: Single-vehicle Nighttime Male-driver Injury Crash Rate before and after* the Introduction of Short-term Licence Suspensions in SK

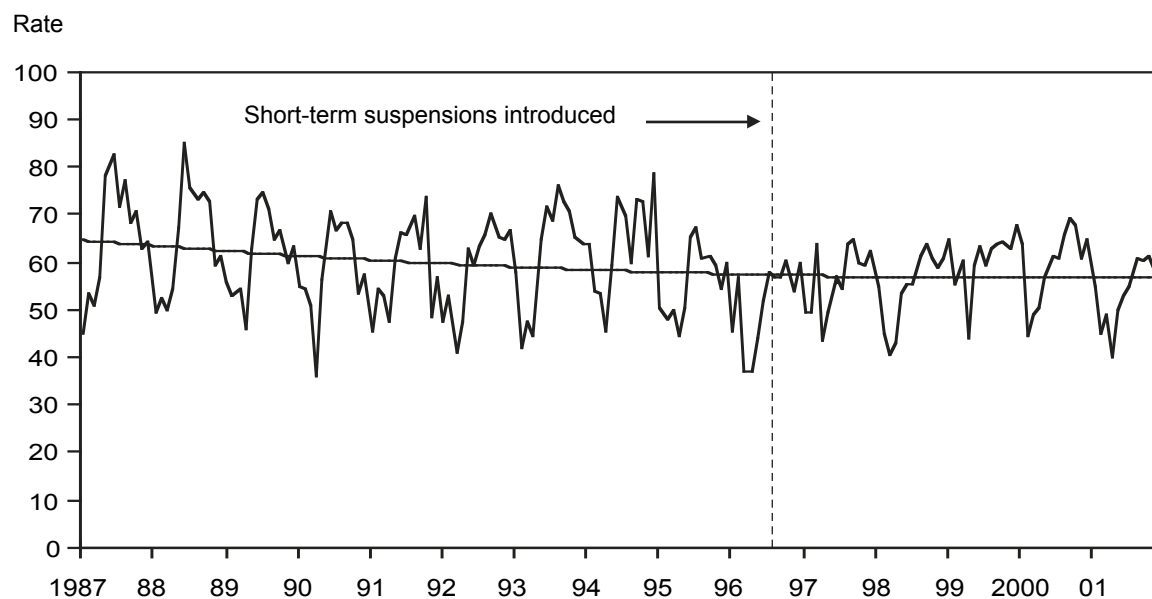


*Pre-period: Aug. 1991 – July 1996 Post-period: Aug. 1996 – July 2001

**Per 100,000 drivers

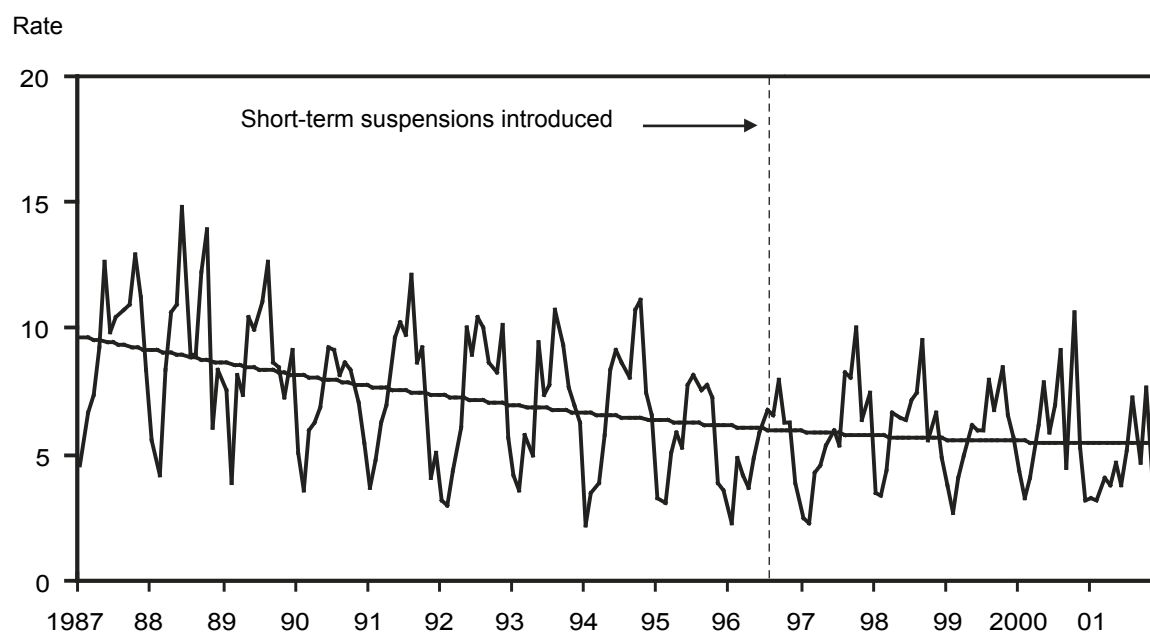
Time series intervention analysis was also applied to the total injury crash rate, the alcohol-involved injury crash rate, and the SVNМ injury crash rate to determine whether there was an impact of the short-term suspension legislation in Saskatchewan. All models included the unemployment rate as a covariate. Figure 2-15 presents the monthly injury crash rate for Saskatchewan from January 1987 to December 2001. The dashed vertical line represents the introduction of the short-term suspension law in Saskatchewan in August 1996. The series shows a strong seasonal component—higher in summer months, lower in winter—and an overall decreasing trend. The intervention component was not statistically significant ($z = -0.704$, $p > .4$), indicating that there was no change in the overall driver injury rate that could be attributed to the introduction of the short-term suspension law.

Figure 2-15: Monthly Driver Injury Rate (per 100,000 Drivers—SK 1987–2001)



A plot of the monthly alcohol-involved injury crash rate in Saskatchewan is presented in Figure 2-16. Once again, there is a strong seasonal component and an overall decreasing trend. The intervention component was not statistically significant ($z = 0.104$, $p > .9$).

Figure 2-16: Monthly Alcohol-involved Driver Injury Rate (per 100,000 Drivers—SK 1987–2001)



The monthly SVNМ injury crash rate is presented in Figure 2-17. Again, the seasonal component is evident but its amplitude appears to diminish somewhat in recent years. The slope of the overall downward trend also appears to decrease after 1995. The intervention component in the model was not statistically significant ($z = -0.864$, $p > .3$).

Figure 2-17: Monthly SVNМ-driver Injury Rate (per 100,000 Drivers—SK 1987–2001)

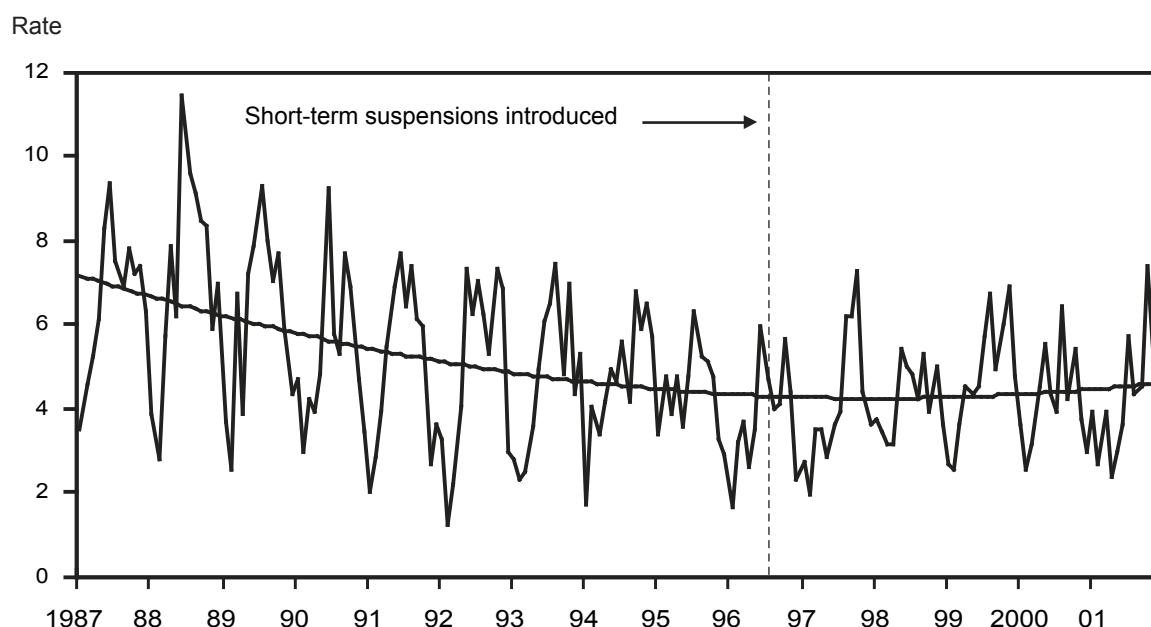


Table 2-1 summarizes all pre-post comparisons between Saskatchewan and Alberta.

Table 2-1: Summary of Comparisons between SK and AB before and after* the Introduction of Short-term Suspensions

Measure	Saskatchewan		Alberta	
	Before	After	Before	After
Driver fatalities	468	471	1,280	1,217
Driver fatality rate (per 100,000 drivers)	73	71	66	58
Alcohol-involved driver fatalities	184	171	403	406
Ratio of alcohol-involved driver fatalities to zero BAC driver fatalities	0.77	0.69	0.60	0.55
Ratio of driver fatalities with BAC $\leq 0.08\%$ to zero BAC driver fatalities	0.17	0.11	0.11	0.10
Ratio of driver fatalities with BAC $> 0.08\%$ to zero BAC driver fatalities	0.60	0.59	0.48	0.46

Measure	Saskatchewan		Alberta	
	Before	After	Before	After
Ratio of driver fatalities with 0.04% < BAC ≤ 0.08% to zero-BAC driver fatalities	0.09	0.05	0.05	0.05
Driver injury rate (per 100,000 drivers)**	4,969	4,686	4,224	5,028
Alcohol-involved driver injury rate (per 100,000 drivers)	583	477	417	375
Single-vehicle nighttime male-driver injury (SVNM)	332	299	256	248

*Pre period of Aug. 1991–July 1996 and Post period of Aug. 1996–July 2001

**Before – after comparison is significant between the two provinces ($\chi^2 = 63.7$, 1 df, $p < .001$).

2.3 DISCUSSION

The examination of fatal and injury collisions in Saskatchewan failed to provide compelling evidence of a general deterrent impact of the introduction of short-term suspensions for drivers with BACs of 0.04% or greater. The fatality data show that driver fatalities with BACs 0.08% or less and, in particular, those with BACs between 0.04% and 0.08% decreased in the years following the introduction of the new law in Saskatchewan, and these decreases exceeded those in Alberta. However, the numbers are very small, and the observed decreases were not statistically significant when compared to the comparable data from Alberta. Time-series analyses also found that there was a significant downward trend in the driver fatality series that began prior to the introduction of the short-term suspension law and continued afterward. Hence, any impact of the short-term suspension law was most likely small and could not be isolated from the existing downward trend.

The driver injury data also failed to provide evidence of a general deterrent impact of the short-term suspension law. Although there were observed decreases in alcohol-involved driver injuries and SVNM driver injury crashes following the introduction of the new law, the changes were not statistically significant. As was the case with the fatality data, time-series analyses found a significant downward trend that began prior to the introduction of the short-term suspension law that could account for the observed changes.

It was expected that the swift and certain nature of the short-term suspensions would enhance the deterrent value of the law. The absence of a strong general deterrent

effect on alcohol-involved driver fatalities and injuries should not necessarily detract from the overall value of the law. It must be recognized that fatal and injury crashes are relatively rare events and, hence, may be insensitive as dependent measures to assess the impact of this type of law. For example, in the five years prior to the introduction of the short term suspension law, there was a total of 21 driver fatalities—about 4 per year—with BACs between 0.04% and 0.08%—the range of BACs specifically targeted by the new law. Driver injuries were more numerous, but alcohol levels were not available, and it is suspected that crashes where alcohol involvement was most apparent—i.e., those with higher BACs—were likely to be reported.

It is also important to recognize that the majority of alcohol-related driver fatalities and injuries involve BACs well in excess of the statutory BAC limit of 0.08%. In 2002, 83% of fatally-injured drinking drivers in Canada had BACs over 0.08%, and 57% were over 0.16% (Mayhew et al. 2004). People who drive with BACs of this magnitude do not comply with the higher BAC limit in the *Criminal Code* and do not appear to be easily deterred. There is certainly no compelling reason to believe that these individuals would be motivated to change their behaviour in response to a lower BAC limit and the threat of a short-term suspension when higher limits with considerably more severe penalties are unable to prompt them to change their behaviour.

Despite the absence of a strong general deterrent effect attributed to the short-term suspension law, it was noted that many of the pre-post comparisons showed reductions in Saskatchewan that exceeded those in Alberta. Although the magnitude of the changes was not sufficient to reach conventional levels of statistical significance, these changes were consistent and may reflect an overall change in the magnitude of the alcohol-crash problem in Saskatchewan. The short-term suspension law for drivers with low BACs may have contributed to this effect.

Another factor to be considered in assessing the general deterrent impact of any new law is the level of awareness of the law. As part of a comprehensive survey of road safety issues, Canadian drivers were asked whether or not they were aware of a lower BAC limit at which drivers could have their licences suspended for 24 hours (Beirness et al. 2004). Less than half (46%) of drivers in Saskatchewan knew there was such a law; only 60% of those who were aware of the law could correctly identify the BAC at which short-term suspensions were imposed. The law cannot influence drivers if the drivers are not aware of the law. Clearly, greater efforts to publicize the short-term suspension laws would be helpful.

Another consideration is that crash involvement is a step removed from the more general behaviour of driving after consuming alcohol. Only a small portion of those who drive after drinking become involved in a crash. Thus, crash-involved drinking drivers represent only a very select sample of the target behaviour. A more sensitive and direct dependent measure to determine the impact of short-term suspensions on actual drinking and driving behaviour would be the prevalence of low BACs among drivers on the road as determined by roadside breath testing surveys. Such data on changes in drinking and driving behaviour would greatly enhance the assessment of a general deterrent impact of the short-term suspension law. Unfortunately, as mentioned previously, those data are not available.

A reduction in the prevalence of the behaviour would provide strong evidence of an impact of the law. However, because it is not known how much the overall incidence of drinking and driving must be reduced to affect a corresponding proportional decrease in alcohol-involved crashes, it is possible that any impact the law might have had was not sufficiently strong to affect a significant change in alcohol-involved collisions.

The findings from the analysis of the fatality data, although not statistically significant, are suggestive of a small effect on a very restricted group of driver fatalities—i.e., those with positive BACs of 0.08% or less, and particularly those with BACs between 0.04% and 0.08%—the very targets of the law. The numbers, however, are very small, and caution should be taken in the interpretation because of the chance that the findings could have arisen for reasons unrelated to the introduction of short-term suspensions. Time-series analyses indicated that any effect of the intervention was confounded with an overall downward trend. Hence, the decrease in fatalities examined over this period of time could not be unambiguously attributed to the effect of the short-term suspension law.

3 Specific Deterrence (Study 2)

Specific deterrence refers to the impact a sanction has on those who experience it. If the sanction has the desired effect, it is expected that the offender would be less likely to repeat the behaviour that led to the sanction in the first place. In the present study, the specific deterrent effect of a short-term suspension was determined by examining drinking and driving re-offence rates. In particular, the study examined the extent to which drivers who received a short-term suspension subsequently discontinued driving after drinking, or continued to do so—either with the same level of alcohol (as evidenced by a subsequent short-term suspension) or with a higher, more serious level (as evidenced by a subsequent *Criminal Code* DWI offence). Drivers without a drinking driving offence and those with a *Criminal Code* DWI offence were used for comparison.

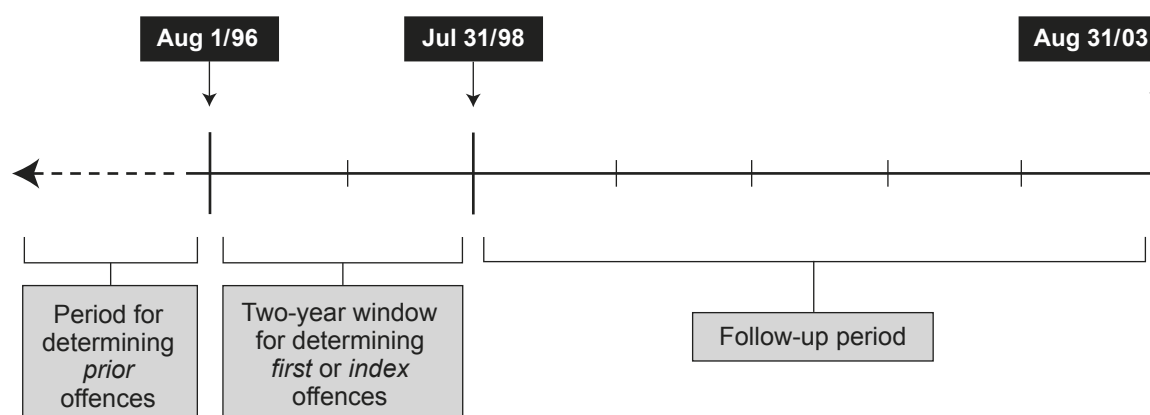
3.1 METHOD

The overall approach to assessing the extent to which the short-term suspension in Saskatchewan had a specific deterrent effect was to determine the incidence of re-offences among those drivers who were issued such suspensions. Re-offence rates were then compared to those of drivers who had been convicted of more serious DWI offences under the *Criminal Code* and to those of drivers without any record of drinking and driving violations (either short-term suspensions or *Criminal Code* DWI offences) during a given two-year period. Anonymous driver record data were obtained from Saskatchewan for this purpose. Driver record files were current to the end of August 2003.

To examine re-offence rates, it was necessary to determine a period of time during which the first occurrence was considered to be the initial or “index” offence.

A two-year window was selected—from the beginning of August 1996 (corresponding to the introduction of the short-term suspension law) and extending through the end of July 1998. A repeat drinking and driving offence was the first *Criminal Code* DWI conviction or short-term suspension subsequent to the index offence. Prior offences were defined as any *Criminal Code* DWI conviction on the driver record prior to August 1, 1996. Note that no Saskatchewan drivers would have had short-term suspensions recorded prior to August 1, 1996 because the short-term suspension law was not in effect prior to this date. Figure 3-1 displays the time sequence for identifying the index offence, repeat offences, and prior offences.

Figure 3-1: Time Periods for Index Offence, Follow-up, and Prior Offences



Three groups were identified for the analysis based on their drinking and driving offences during the two-year window from August 1, 1996 to July 31, 1998. The first group (labeled STS) consisted of those drivers who were issued a short-term suspension during the 2-year window—i.e., the index offence⁶ was a short-term suspension. Because a short-term suspension is often issued in conjunction with a *Criminal Code* DWI charge, it was necessary to ensure that individuals in the STS group received only a short-term suspension, with no accompanying *Criminal Code* charge. Although there is a separate code on the driver record to indicate whether a short-term suspension was issued alone or in conjunction with a *Criminal Code* charge, the appropriate code was not always recorded. Accordingly, once a short-term suspension was identified, the driver record was searched for a coincident *Criminal Code* DWI offence. *Criminal Code* DWI charges recorded within one day (before or after) of a short-term suspension being

⁶ Technically, driving with a BAC between 0.04% and 0.08% is not considered an “offence” under the Saskatchewan *Highway Traffic Act*. However, the terms “offence” and “re-offence” are used here for simplicity and clarity.

issued were considered to have been the result of the same drinking and driving event. Hence, drivers issued a short-term suspension within one day of a *Criminal Code* DWI charge were not included in the STS group but were assigned to the *Criminal Code* group (described below).

The STS group undoubtedly included some drivers who should have been more appropriately assigned to the *Criminal Code* group. For example, in cases where drivers were issued a short-term suspension in conjunction with a *Criminal Code* DWI charge but were never convicted of the *Criminal Code* DWI offence, their driver records only include the short-term suspension. These drivers would have been assigned to the STS group. In addition, as described in Study 5, police officers occasionally exercise their discretion in certain situations and issue a short-term suspension when the driver's BAC may have been sufficient to be charged under the *Criminal Code*. In the absence of a means to identify and exclude these drivers, they introduce a potential bias in the STS group.

The second group (labeled CC) consisted of all drivers whose index offence in the window (i.e., between August 1, 1996 and July 31, 1998) was a *Criminal Code* DWI offence. These offences included: impaired driving (Section 253a), driving with a blood alcohol concentration (BAC) in excess of 80 mg alcohol in 100 ml blood (Section 253b), failing to comply with a demand for a breath or blood test (Section 254), impaired driving causing bodily harm (Section 255.2), and impaired driving causing death (Section 255.3).

The third group (labeled CLEAN) consisted of a random sample of 10,000 drivers who had been issued a Saskatchewan driver's licence during the period from January 1, 1960 to August 1, 1996 and whose licence was still active at the end of August 2003. These drivers did not have a short-term suspension nor a *Criminal Code* DWI offence in the index window. Preliminary analyses revealed that females comprised only about 15% of the drinking-driver offender groups—both STS and CC—and accounted for fewer than 5% of re-offences. Therefore, it was decided to restrict the analyses to male drivers only. Hence, the CLEAN group was also selected to include only males.

Once the three groups were identified, driver records were searched for the first *Criminal Code* DWI offence or short-term suspension subsequent to the index

offence, whether it occurred within the window or not. The exception was the CLEAN group, for whom “re-offences” were defined as the first *Criminal Code* DWI offence or short-term suspension which occurred any time following the end of the window (i.e., July 31, 1998). Re-offences were coded by type (i.e., *Criminal Code* DWI or short-term suspension) and were examined separately.

The survival time, which is the number of days from the date of the index offence to the date of the first re-offence was used as the primary dependent measure. If no re-offence occurred—i.e., the case was “censored”—the time difference was simply the number of days from the index offence to the end of August 2003. Because the CLEAN group did not have an identifying offence in the window, survival time was determined to be equal to the time from the first day after the window (August 1, 1998) to the date of the first short-term suspension or *Criminal Code* DWI offence. In cases where no (re-)offence occurred, survival time was the number of days from August 1, 1998 to the end of August 2003. Therefore, in the case of the CLEAN group, the survival time for those with no short-term suspensions or *Criminal Code* DWI convictions was taken to be the full length of the follow-up period (i.e., August 1, 1998–August 31, 2003).

3.1.1 Data Analysis

Survival analysis is the method of choice for determining differences in repeat offence rates. The procedure does not require all subjects to have an equal and fixed number of follow-up days available but, rather, utilizes all the subject days available for analysis in the database, thereby providing the greatest statistical power to detect change. The Kaplan-Meier procedure provides an analysis of the difference between the survival distributions across time. To provide comparable measures that are frequently reported in the traffic safety literature, tables of the cumulative recidivism rate at fixed points in time in the survival distribution are provided. All significance tests were based on the Tarone-Ware statistic for the full survival curve.

3.2 RESULTS

Table 3-1 presents a summary of group membership and overall re-offence rates, i.e., the first offence following the index offence, in each of the three groups examined. Among the STS group, 18.7% were issued a subsequent short-term suspension, and 11.3% were subsequently charged with a *Criminal Code* DWI offence. Among the CC group, 17.9% were convicted of a subsequent *Criminal Code* DWI offence, and 6.8%

were issued a subsequent short-term suspension. Offence rates among the CLEAN group following the end of the window (i.e., after August 1, 1998) were quite low, with only 2.3% being charged with a *Criminal Code* DWI offence and 2.2% being issued a short-term suspension.

Table 3-1: Summary of Group Membership and Re-offence Status (Male drivers only)

Group	N	DWI Re-offence	Short-term Suspension (STS) Re-offence
STS	3,630	409 (11.3%)	679 (18.7%)
CC	7,490	1,339 (17.9%)	512 (6.8%)
CLEAN	10,000	234 (2.3%)	220 (2.2%)

Drivers with a history of drinking and driving are known to have a higher likelihood of recidivism (Simpson et al. 1996) and this must be accounted for in the analyses. Table 3-2 shows the number (and percent) of drivers in each group who had a DWI offence on their record prior to the start of the window (i.e., August 1, 1996). Prior offences differed significantly among the groups ($\chi^2 = 2667.2$, $df = 2$, $p < .0001$). Drivers in the CC group were most likely to have a prior DWI offence (32.7%). Prior DWI offences were less common among drivers in the STS (4.5%) group than among drivers in the CLEAN (6.4%) group ($\chi^2 = 16.98$, $df = 1$, $p < .001$).

Table 3-2: Prior DWI Offence Status according to Group Membership (Male drivers only)

Group	N	No Priors	Prior DWI
STS	3,630	3,466 (95.5%)	164 (4.5%)
CC	7,490	5,041 (67.3%)	2,449 (32.7%)
CLEAN	10,000	9,358 (93.6%)	642 (6.4%)
Total	21,120	17,865 (84.6%)	3,255 (15.4%)

Accordingly, prior offence status must be taken into consideration in the analysis. One way to do this is to examine those with and without prior offences separately; the other is to use prior offences as a covariate in the analysis. For clarity in presentation, this report presents the results of separate analyses conducted for those with and

without prior DWI offences⁷. Hence, drivers with DWI convictions occurring prior to the introduction of the short-term suspension law on August 1, 1996 were identified and analyzed separately from those without prior convictions.

3.2.1 Drivers Without a Prior Criminal Code DWI Conviction

Drivers who did not have a history of drinking and driving (i.e., they did not have a *Criminal Code* conviction) prior to the introduction of the short-term suspension law were examined in terms of subsequent offences, which included *Criminal Code* convictions and short-term suspensions.

Subsequent Offences

Table 3-3 presents the cumulative percent of drivers in each of the three groups who were without a prior DWI but were convicted of a subsequent offence (*Criminal Code* and/or short-term suspension). For the CLEAN group, intervals are calculated from the end of the window (i.e., July 31, 1998). Over the entire follow-up period available for the CLEAN group (i.e., 5 years or 1,825 days), fewer than 4% were subsequently convicted of an offence. The STS group had the highest percentage of re-offenders (26.3%), followed by the CC group (21.9%). This difference in re-offence rates between the STS and CC group was statistically significant (Tarone-Ware = 34.4, $p < .0001$).

Table 3-3: Comparison of Cumulative Re-offence Rates (DWI and STS) among Male Drivers without a Prior DWI Offence

Days from index offence	Drivers with re-offences		
	CLEAN Group (n = 9,358)	STS Group (n = 3,466)	CC Group (n = 5,041)
365	91 (0.97%)	501 (14.5%)	342 (6.8%)
730	173 (1.85%)	664 (19.1%)	542 (10.8%)
1,095	243 (2.6%)	735 (21.2%)	751 (16.9%)
1,460	302 (3.2%)	815 (23.5%)	885 (17.6%)
1,825	352 (3.8%)	873 (25.1%)	1,022 (20.3%)
2,190		912 (26.3%)	1,101 (21.9%)

Tarone-Ware
(vs CLEAN)
(vs STS)

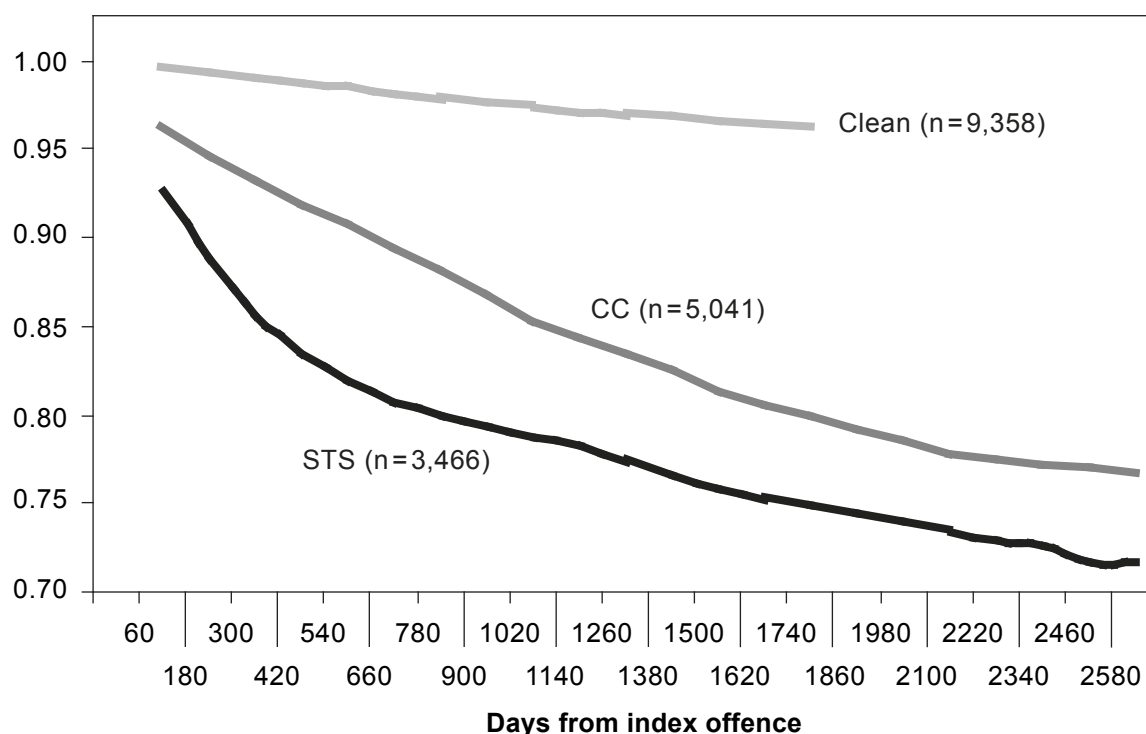
1,476.0 ($p < .0001$)

1,080.5 ($p < .0001$)
34.4 ($p < .0001$)

⁷ Cox regression revealed prior offences to be a significant predictor of recidivism.

Figure 3-2 presents the survival rate (i.e., the proportion without an offence subsequent to the index window) among those drivers without a prior DWI conviction for each of the three groups. As is evident, the STS group has the lowest rate of survival, with the CLEAN group having the highest.

Figure 3-2: Proportion of Male Drivers without a Subsequent Offence following the Index Offence (no Prior DWI)



Because analysis on survival rates only takes into account the *first* subsequent offence following the index offence, it was of interest to examine the total number of offences per driver in each of the three groups to observe whether the group with the lowest level of survival was also the group with the most offences per driver. Table 3-4 presents the total number of offences per driver for each of the three groups. The index offence used to determine group membership was included in the total, and all offences displayed were either the index offence or offences thereafter.

The CLEAN group had the greatest proportion, 96% (n = 9004), remaining offence-free in the follow-up period. The STS group had 73% (n = 2542) with only one offence, which would have been the index offence, compared to 28% (n = 1420) of the CC group. This 28%, however, is an underestimate for the CC group. There are individuals in the CC group who, at the time of group allocation, had two offences on

Table 3-4: Total Number of Offences among Male Drivers without a Prior DWI Offence

Number of Offences	CLEAN	STS Group	CC
0	9,004 (96.2%)	N/A	N/A
1	200 (98.4%)	2,542 (73.3%)	1,420 (28.2%)
2	103 (99.5%)	552 (89.8%)	2,701 (81.7%)
3	36 (99.8%)	241 (96.8%)	439 (90.5%)
4	9 (99.9%)	64 (98.1%)	300 (96.4%)
5	4 (99.9%)	42 (99.3%)	116 (98.7%)
6	2 (100%)	14 (99.7%)	40 (99.5%)
7	0	5 (99.8%)	17 (99.8%)
8	0	2 (99.9%)	4 (99.9%)
9	0	3 (99.9%)	4 (100%)
10	0	1 (100%)	0
Total	9,358	3,466	5,041

their record—a short-term suspension issued in combination with a DWI—marked by a time difference of 24 hours or less. In terms of group determination, the DWI offence was taken as the index offence, and the individual was assigned to the CC group. These individuals would have had two drinking and driving offences on their record at the time of the index offence. Therefore, a portion of those CC individuals in Table 3-4, who have a total of two offences on record, are also individuals who never re-offended. Despite this, the CC group had a significantly higher proportion of drivers with multiple re-offences than the STS group ($\chi^2 = 1772.8$, $df = 9$, $p < .001$), and the STS group had a significantly higher proportion than the CLEAN group ($\chi^2 = 11217.6$, $df = 10$, $p < .001$). This suggests that, although the STS group had the lowest rate of survival, as seen in Table 3-3, the CC group had more offences on their record over the entire follow-up period (Table 3-4).

To further investigate patterns of subsequent offences, analyses were conducted separately for the two types of subsequent offences: *Criminal Code* and short-term suspension.

Subsequent Criminal Code Convictions

Table 3-5 presents the cumulative percent of drivers in each of the three groups who were without a prior DWI but who were convicted of a subsequent DWI. It is apparent that DWI offences among the CLEAN group are relatively rare. Over the entire follow-up period available for this group (i.e., 5 years or 1825 days), fewer than 2% were convicted of a DWI offence. Such offences are considerably more common among

the STS group and CC group. As expected, the CC group had the highest overall DWI re-offence rate, reaching 14.4% by the sixth year (2190 days) after the index offence. This is almost double the 7.6% DWI offence rate among the STS group over the same period of time. The difference in the survival rates between the STS group and CC group is statistically significant (Tarone-Ware = 76.8, $p < .0001$).

Table 3-5: Comparison of Cumulative *Criminal Code* DWI Re-offence Rates among Male Drivers without a Prior DWI Offence

Days from index offence	Drivers with re-offences		
	CLEAN Group (n = 9,358)	STS Group (n = 3,466)	CC Group (n = 5,041)
365	45 (0.48%)	225 (6.5%)	243 (4.8%)
730	88 (0.94%)	265 (7.6%)	381 (7.6%)
1,095	127 (1.4%)	265 (7.6%)	515 (10.2%)
1,460	148 (1.6%)	265 (7.6%)	600 (11.9%)
1,825	164 (1.8%)	265 (7.6%)	685 (13.6%)
2,190		265 (7.6%)	725 (14.4%)

Tarone-Ware
(vs CLEAN)
(vs STS)

282.36 ($p < .0001$)

849.5 ($p < .0001$)
76.8 ($p < .0001$)

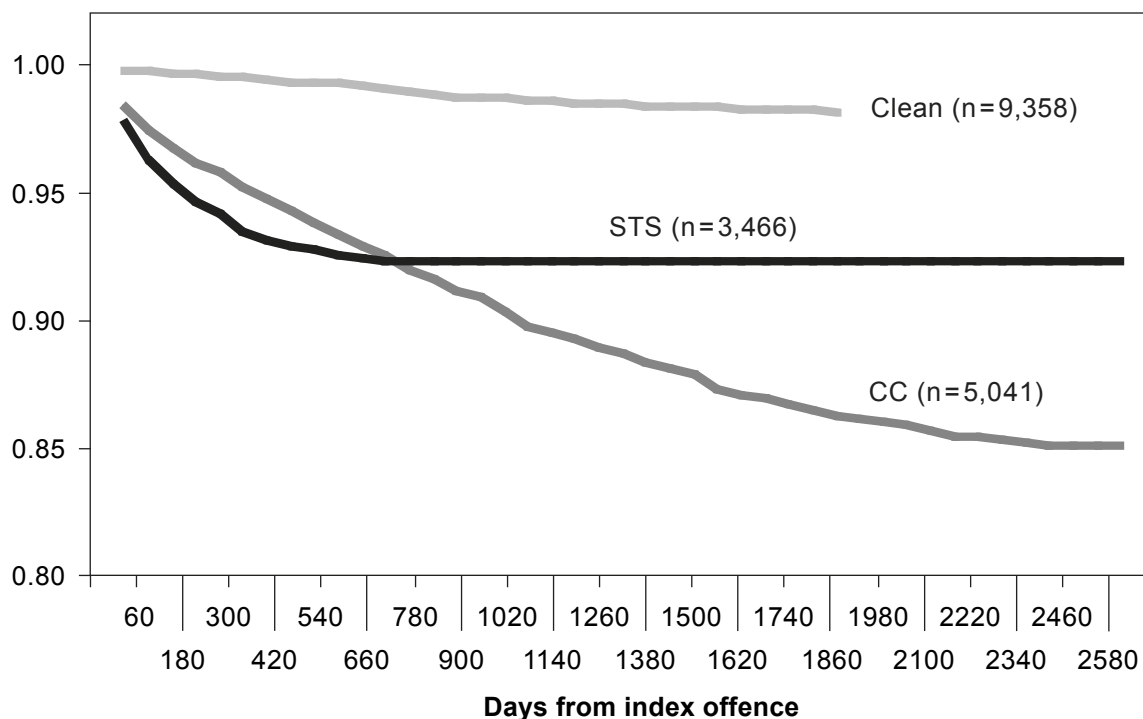
Examination of Table 3-5 also shows that in the first 365-day period after the index offence, the cumulative re-offence rate for a *Criminal Code* DWI conviction among the STS group (6.5%) is actually somewhat higher than among the CC group (4.8%). It should be noted, however, that drivers charged with a *Criminal Code* DWI offence are subject to an immediate 90-day administrative suspension and a minimum 12-month suspension upon conviction⁸. Hence, drivers in the CC group are prohibited from driving for a minimum period of 12 to 15 months, considerably longer than the short-term suspension served by those in the STS group. Because of the brief period of suspension, drivers in the STS group had greater opportunity to drive and to re-offend. The longer period of suspension among drivers in the CC group would be expected to have reduced the amount of their driving subsequent to the index offence, thereby reducing their risk of reconviction. However, it is apparent from the number of re-offences among the CC group in the first year that the suspension did not completely prevent them from driving—and driving after drinking—during this period.

⁸ If conviction occurs within the 90-day administrative suspension, the two suspensions run concurrently.

Furthermore, among the 265 cases in the STS group who committed a subsequent DWI offence, 85% did so within the first 365 days following their short-term suspension and the remaining 15% did so by the end of the second year (Day 730). No DWI offences were recorded for the STS group after that two-year period. In comparison, re-offences in the CC group continued to accumulate over the entire 6-year period examined. Of the 725 re-offences, 34% occurred in the first year, another 19% occurred in year two, and the remaining 47% occurred in the following four years.

This is illustrated clearly in Figure 3-3, which presents the survival rate (i.e., the proportion without a DWI offence subsequent to the index offence) among those without a prior DWI conviction for each of the three groups over time. The differences in the survival rates among the groups are evident. Over the first two years (i.e., 730 days) following the index offence, the DWI offence rate between the STS and CC group is very similar. Thereafter, however, there are no further DWI offences among the STS group, whereas drivers in the CC group continue to accumulate DWI offences. Over the entire time period shown, the CC group is almost twice as likely as the STS group to be convicted of a subsequent DWI offence. Those in the STS group who do commit a subsequent DWI offence are most likely to do so within one year of being issued a short-term suspension.

Figure 3-3: Proportion of Male Drivers without a DWI Offence following the Index Offence (Drivers with no Prior DWI Offence)



The striking pattern of *Criminal Code* DWI re-offences among the STS group, which was evident in Table 3-5 and is illustrated in Figure 3-3, deserves further comment. In 265 (7.6%) of the 3,466 cases in the STS group, the first alcohol-related offence subsequent to the index short-term suspension was a *Criminal Code* DWI offence. In all 265 cases, the DWI offence occurred within two years of the index short-term suspension. The fact that there were no further cases with an initial DWI re-offence among the STS group in the subsequent four years of follow-up seemed somewhat unusual. It was expected that re-offences would continue throughout the entire follow-up period, as was the case with the other two groups. This was cause for further examination of the data.

Several checks were made to verify the data, including a visual inspection of all 3,466 cases. The driver records of these cases were intact and did indeed contain entries over the full six-year follow-up period. (This is supported by the data in Table 3-7, which shows subsequent short-term suspensions for this group.) Other *Criminal Code* DWI convictions are listed in the driver records of the STS group over the entire follow-up period as well. In some cases ($n = 30$), drivers had been identified as having a short-term suspension re-offence, but also had one or more later DWI offences. As well, an additional 43 persons had been identified as having a DWI re-offence and were found to have later DWI offences throughout the follow-up period.

It is important to note that the survival analysis selected the *first* alcohol-related violation subsequent to the index offence. Therefore, any alcohol-related offence following the first identified offence subsequent to the index offence did not contribute to the analysis and would not have been displayed as part of the survival function. However, the presence of later offences throughout the follow-up period supported the veracity of the data and enhanced our confidence in the findings.

In addition, SGI indicated that there were no changes in data entry over the time period of data provided for either *Criminal Code* DWI convictions or short-term suspensions. There were also no differences in data entry for the two types of offences, suggesting that there would not have been an error that would have systematically affected the STS group only. Also, there were no changes to the short-term suspension legislation, in terms of its use or penalties associated with the suspension, that may have influenced subsequent behaviour during the follow-up period.

It is possible that attrition played a role, in that drivers were eliminated from the STS group because of death or a move out of province. However, it would be expected that attrition would have equivalent impact on all three groups and, therefore, would not completely explain the seemingly unusual finding of no further DWI re-offences following two years from the index offence. As well, police discretion could have been a factor, in that some drivers issued an STS in the index window should have been issued a DWI for the index offence, placing them in the CC group. But again, this is extremely unlikely to fully account for the unusual finding.

Despite these assurances, the seemingly unusual finding of no subsequent *Criminal Code* DWI convictions following two years into the follow-up period for the STS group still produced some uncertainty. Therefore, it was decided that an effort to replicate the finding should be made, though a true replication would not be possible for various reasons. In order to produce a new STS group, it would be necessary to produce a new comparable two-year index window. To avoid overlap with the previous window, it was decided that the new index window would begin at the end of the previous one. Effectively, this was two years after the short-term suspension program began and resulted in a shortening of the follow-up period by two years.

It is important to identify various factors that could act as confounders in this replication. For example, the simple passage of two years from the time of the short-term suspension legislation's introduction could produce a history effect. The introduction of this legislation took place in August of 1996, and the new index window would not begin until August 1, 1998 and would end on July 31, 2000. Various things such as changes in enforcement practices or a decrease in drivers' perception about the risk of being issued a short-term suspension could produce changes in rates of offences. Keeping these issues in mind, the replication was conducted, beginning with the identification of a new STS group.

The new STS group consisted of 4,446 males. Of this, only 6% ($n = 274$) had been in the previously defined STS group from the initial analysis, meaning there was very little overlap with respect to group membership. Seventeen percent ($n = 764$) had a prior *Criminal Code* DWI, 12% ($n = 545$) had a prior STS, and 5% ($n = 227$) had both a prior DWI and a prior STS. It is important to note that the latter two subgroups did not exist in the initial analysis because the STS program was not in effect prior to the index window in that study—i.e., no one could have had a prior STS.

The previous survival analysis utilized drivers with “no priors”. In order to best match that group, it was determined to use the same type of drivers from the newly defined STS group. Therefore, a group of “no priors” (DWI or short-term suspension) was selected, resulting in a total of 3,364 males. None of these individuals had been a part of the previously defined STS group; therefore, this was an entirely new sample, though slightly smaller than the initial group (n = 3,466).

Re-offence status was determined exactly as had been done in the initial study, by identifying the first offence following the index offence (the short-term suspension that occurred in the new window). As shown in Table 3-6, the total percentage of individuals who re-offended with a DWI was 11.1%. This was previously found to be 7.6% in the initial analysis. If percentages at the two-year point (730 days) are compared across the two analyses, it can be seen that they are not that different (7.6% in the initial analysis and 7.9% in the replication). What is different is that the STS group in the replication had a further decline in survival over the remainder of the follow-up period (731–1825 days).

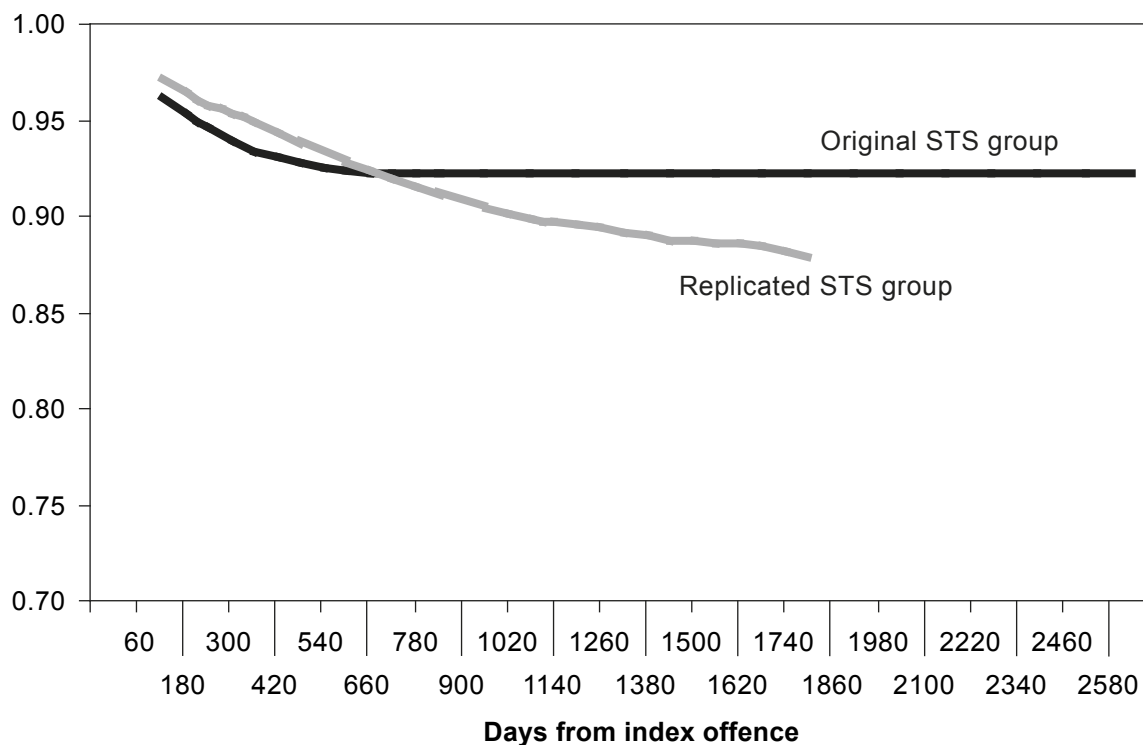
Table 3-6: Cumulative *Criminal Code* DWI and STS Re-offence Rates among Male Drivers without a Prior DWI or STS Offence (Replication of STS group)

Days from index offence	STS Group (n = 3,364)	
	Drivers with DWI re-offences	Drivers with STS re-offences
365	169 (5.0%)	193 (5.7%)
730	266 (7.9%)	315 (9.4%)
1095	339 (10.1%)	397 (11.8%)
1460	367 (10.9%)	466 (13.9%)
1825	373 (11.1%)	484 (14.4%)

This further decline in survival can be seen in Figure 3-4, which presents the cumulative survival rate (i.e., the proportion without a DWI subsequent to the index offence) among drivers in the new STS group. After two years of follow-up, there is a small but continual decline of an additional 3.2%. Though the previous “flat line” no longer exists in this replication, the final percentage surviving is not that different from what was found in the original analysis (88.9% versus 92.4%). Though the previous findings were not completely confirmed in the replication, it did produce a survival func-

tion not so dissimilar from the original. The fact that the results of the two analyses did not produce identical survival curves—i.e., “the flat line”—does not mean that the initial results are questionable or less valid, for two reasons. First, this replication analysis was conducted in exactly the same manner, with all calculations, manipulations, etc., being completely identical. Second, as mentioned previously, it was impossible to truly replicate the analysis because a different index window was used.

Figure 3-4: Proportion of Male Drivers (no Prior DWI) without a DWI Re-offence (Replication)



The replication was also conducted for the new STS group and subsequent short-term suspensions. The findings from that analysis, in comparison to the original, are discussed in the next section.

Subsequent Short-term Suspensions

Driver records were also searched for short-term suspensions subsequent to the index offence. Table 3-7 presents the cumulative number and percent of drivers who were issued a short-term suspension subsequent to the index offence at various time intervals over the follow-up period. It is to be recalled that only drivers without a DWI offence on their record prior to the start of the window are included in this analysis.

Table 3-7: Comparison of Cumulative *Short-term Suspension (STS)* Re-offence Rates among Male Drivers without a Prior DWI Offence

Days from index offence	Drivers with re-offences		
	CLEAN Group (n = 9,358)	STS Group (n = 3,466)	CC Group (n = 5,041)
365	46 (0.49%)	276 (8.0%)	99 (2.0%)
730	85 (0.91%)	399 (11.5%)	161 (3.2%)
1,095	116 (1.2%)	470 (13.6%)	236 (4.7%)
1,460	154 (1.6%)	550 (15.9%)	285 (5.7%)
1,825	188 (2.0%)	608 (17.5%)	337 (6.7%)
2,190		647 (18.7%)	376 (7.5%)

Tarone-Ware
(vs CLEAN)
(vs STS)

1,110.8 (p < .0001)

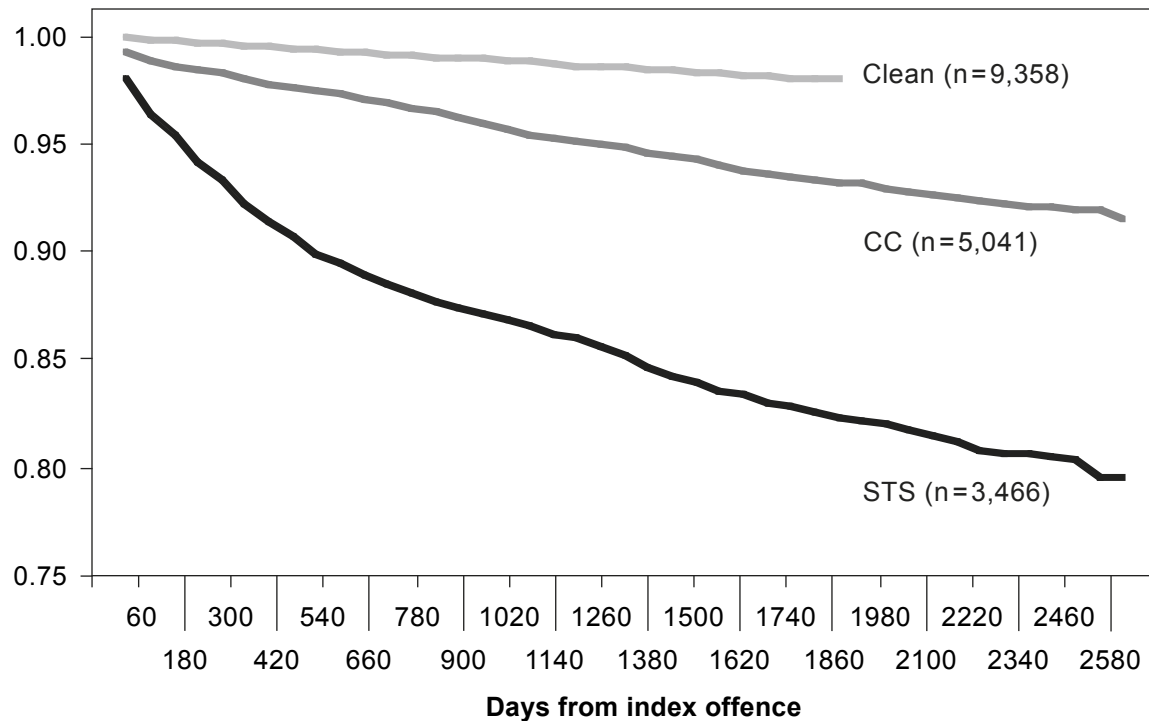
209.2 (p < .0001)

260.4 (p < .0001)

In the five years following the end of the window, only 2% of drivers in the CLEAN group were issued a short-term suspension. The STS group was most likely to be issued a subsequent short-term suspension—8% repeated the offence in the first 365 days following the index offence—and 18.7% did so over the entire period examined. In the CC group, subsequent short-term suspensions were considerably less common than in the STS group (7.5% compared to 18.7%, respectively).

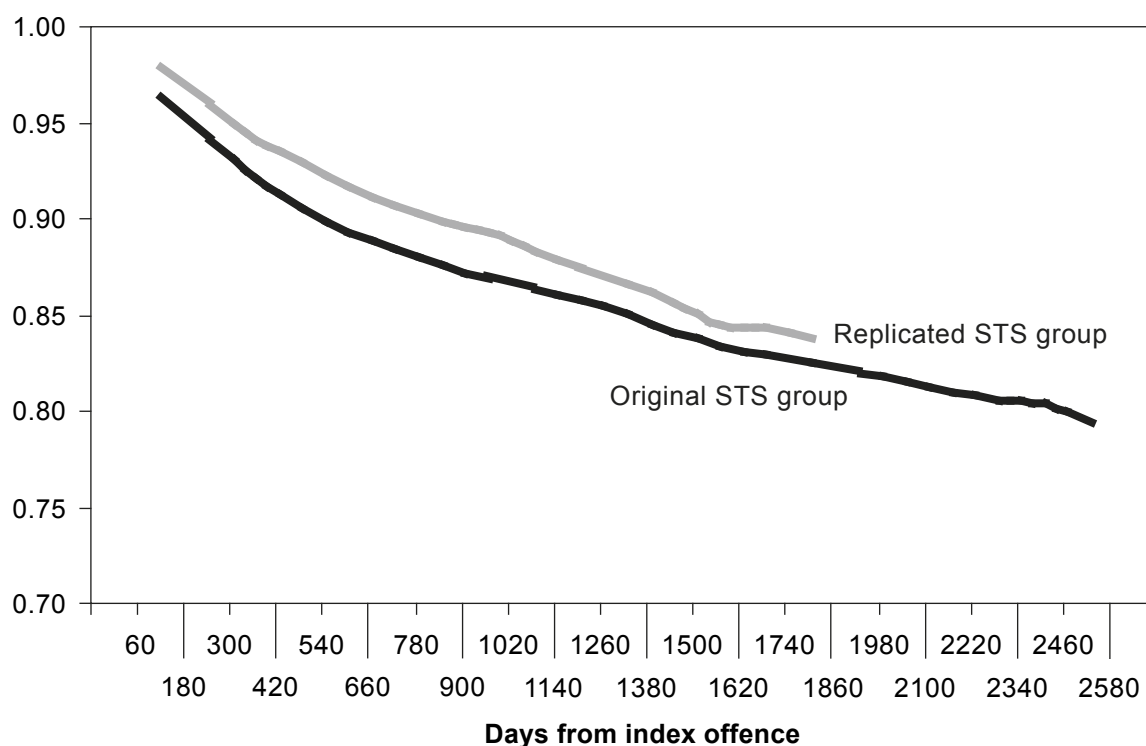
Figure 3-5 presents the cumulative survival rate (i.e., the proportion without a short-term suspension subsequent to the index offence) among drivers in each of the three groups. (Only drivers without a prior DWI conviction are included.) The differences in the survival rates between groups are statistically significant and clearly evident in the figure.

Figure 3-5: Proportion of Male Drivers without a Short-term Suspension following the Index Offence (Drivers with no Prior DWI Offence)



This analysis was also replicated using the newly identified STS group. Table 3-6 presents the cumulative short-term suspension re-offence rate for male drivers without a prior DWI. When comparing these rates to the original analysis, the comparison can only go to a maximum of 1825 days because the replication follow-up period was shorter than the original. At this point in the timeline, a total of 14.4% of the new STS group had re-offended with an STS, compared to 17.5% in the original analysis. The survival function, as shown in Figure 3-6, is very similar to the original, revealing a final survival rate of 85.6%, compared to 82.5% in the original analysis.

Figure 3-6: Proportion of Male Drivers (no Prior DWI) without a Short-term Suspension Re-offence (Replication)



In addition, if the overall survival rate for the new STS group is compared to that found in the original analysis, it can be seen that the two rates are quite similar (74.5% compared to 74.9% in the original analysis), again using a follow-up period of 1825 days. Given this, it is believed that the replication was successful in increasing our confidence in the data and the findings.

Offence totals per driver were also categorized by type of offence and are displayed in Table 3-8. It can be seen that the CC group has a higher number of drivers with multiple DWI (re-) offences than either the STS group or the CLEAN group. When proportions were tested, these differences were found to be significant: ($\chi^2 = 7355.1$, $df = 7$, $p < .001$; $\chi^2 = 13,635.8$, $df = 7$, $p < .001$). In terms of short-term suspensions, the STS group has a greater proportion of drivers with more STS offences than either the CC group ($\chi^2 = 1441.1$, $df = 7$, $p < .001$) or the CLEAN group: ($\chi^2 = 11,425.3$, $df = 7$, $p < .001$). Note that some of the members of the CC group received a short-term suspension for the same drinking and driving violation for which they were charged with a DWI. When this is the case, both the DWI and the STS, stemming from the same violation, appear in Table 3-8.

Thus, some members of the CC group shown as having two short-term suspensions had two drinking and driving violations (i.e., the initial DWI charge accompanied by a short-term suspension, as well as a subsequent short-term suspension). However, other CC group members with two short-term suspensions shown in Table 3-8 actually would have had three separate drinking and driving offences (i.e., an initial DWI charge not accompanied by a short-term suspension, plus two subsequent short-term suspensions). Therefore, it is not altogether unexpected that the STS group would have a greater proportion of drivers with multiple STS offences, and this comparison between subsequent STS violations among STS drivers as compared to CC drivers should not be overly interpreted.

Table 3-8: Total Number of Offences, by Type, among Male Drivers without a Prior DWI Offence

Group	Number of DWI offences	Number of STS offences								
		0	1	2	3	4	5	6	7	Total
CC	0									
	1	1,420	2,510	236	47	8	3			4,224
	2	191	174	217	79	19	2	1		683
	3	29	29	23	14	8	1			104
	4	7	3	1	6	2	1			20
	5	3	1	1		1				6
	6	2			1					3
	9	1								1
	Total	1,653	2,717	478	147	38	7	1		5,041
STS	0		2,542	489	113	20	5	2		3,171
	1		63	121	28	16		3		231
	2		7	14	18	8		1	1	49
	3		2	3	3	2	1	1	1	13
	4			1			1			2
	Total		2,614	628	162	46	7	7	2	3,466
CLEAN	0	9,004	146	23	5					9,178
	1	54	80	22	3					159
	2		9	6	3	2				2
	3			1						1
	Total	9,058	235	52	11	2				9,358

3.2.2 Drivers with a Prior Criminal Code DWI Conviction

This section examines re-offence rates among drivers who had a history of drinking and driving—i.e., they had a *Criminal Code* DWI offence on their record prior to the start of the window (i.e., prior to August 1, 1996).

Subsequent Offences

Table 3-9 presents the cumulative percent of drivers in each of the three groups who had a prior DWI and were convicted of a subsequent offence (*Criminal Code* and/or short-term suspension). It is evident that the STS group had the highest re-offence rate (100%), suggesting that all drivers with priors who received an STS in the index window re-offended and did so within two years. This rate of re-offence was higher than that for the CC group (29.4% over the entire follow-up period) (Tarone-Ware = 1628.3, $p < .001$) and the CLEAN group (15.6%) (Tarone-Ware = 1039.8, $p < .001$).

Table 3-9: Comparison of Cumulative Re-offence Rates (DWI and STS) among Male Drivers *with* a Prior DWI Offence

Days from index offence	Drivers with re-offences		
	CLEAN Group (n = 642)	STS Group (n = 164)	CC Group (n = 2,449)
365	30 (4.7%)	149 (90.9%)	275 (11.2%)
730	54 (8.4%)	164 (100%)	414 (16.9%)
1,095	66 (10.3%)	164 (100%)	523 (21.4%)
1,460	82 (12.8%)	164 (100%)	603 (24.6%)
1,825	100 (15.6%)	164 (100%)	681 (27.8%)
2,190		164 (100%)	720 (29.4%)

Tarone-Ware
(vs CLEAN)
(vs STS)

1039.8 ($p < .0001$)

40.9 ($p < .0001$)
1628.3 ($p < .0001$)

Table 3-10 presents the total number of offences per driver for each of the three groups. The index offence used to determine group membership was included in the total as well as any prior DWI offences. Therefore, the minimum number of offences that a driver in the STS or CC group could have is two, whereas the minimum for the CLEAN group is one, which would only be the prior DWI. It should be noted that the CC group is approximately 15 times as large as the STS group (CC: $n = 2449$ and STS: $n = 164$). So, although the CC group had 15 drivers with 10 or more offences,

the STS group had a higher proportion of drivers than the CC group with multiple offences ($\chi^2 = 216.8$, $df = 14$, $p < .001$). The CC group had 81% of drivers with four or fewer offences compared to 40% of the STS group. This suggests that those who had a prior DWI and were issued a short-term suspension during the index window were at a greater risk for more offences.

Table 3-10: Total Number of Offences among Male Drivers *with* a Prior DWI Offence

Number of Offences	CLEAN	Group STS	CC
1	471 (73.4%)		
2	82 (86.1%)		558 (22.8%)
3	49 (93.8%)	17 (10.4%)	920 (60.4%)
4	23 (97.4%)	49 (40.2%)	496 (80.6%)
5	12 (99.2%)	37 (62.8%)	219 (89.5%)
6	2 (99.5%)	28 (79.9%)	129 (94.8%)
7	1 (99.7%)	15 (89.0%)	68 (97.6%)
8	2 (100%)	10 (95.1%)	31 (98.9%)
9		4 (97.6%)	13 (99.4%)
10+		4 (100%)	15 (100%)
Total	642	164	2449

To further investigate patterns of subsequent offences for those with a prior DWI offence, analyses were conducted separately for the two types of subsequent offences, *Criminal Code* and short-term suspension.

Subsequent Criminal Code DWI Convictions

Table 3-11 shows the cumulative percent of drivers with a prior DWI offence on their record who were convicted of a further *Criminal Code* DWI offence subsequent to the index offence. (For the CLEAN group, intervals are calculated from the end the window—i.e., July 31, 1998). A comparison of the data in Table 3-11 with those in Table 3-5 reveals that DWI re-offence rates are higher in all three groups—i.e., those who have a history of drinking and driving on their record are more likely to re-offend.

Table 3-11: Comparison of Cumulative *Criminal Code* DWI Re-offence Rates among Male Drivers *with* a Prior DWI Offence

Days from index offence	Drivers with re-offences		
	CLEAN Group (n = 642)	STS Group (n = 164)	CC Group (n = 2,449)
365	24 (3.7%)	129 (78.7%)	224 (9.1%)
730	43 (6.7%)	144 (87.8%)	354 (14.5%)
1,095	50 (7.8%)	144 (87.8%)	447 (18.3%)
1,460	60 (9.3%)	144 (87.8%)	517 (21.1%)
1,825	69 (10.7%)	144 (87.8%)	575 (23.5%)
2,190		144 (87.8%)	600 (24.5%)

Tarone-Ware
(vs CLEAN)
(vs STS)

749.90 (p<.0001)

47.86 (p<.0001)
1038.18 (p<.0001)

Survival rates differ significantly among the groups. The highest re-offence rate was among the STS group. Over the period examined, just under 90% of the 164 drivers in this group re-offended with a *Criminal Code* DWI offence. Of those who did commit a subsequent DWI offence, 57% did so within 90 days (not shown in Table 3-11) of being issued a short-term suspension (i.e., the index offence); 79% did so within 365 days. Although the number of drivers in this group is relatively small, drivers with a prior DWI offence who are issued a short-term suspension appear to be at extremely high risk of committing a subsequent *Criminal Code* DWI offence. Moreover, those who do re-offend, do so relatively quickly after being issued a short-term suspension.

Among drivers in the CC group who have a prior DWI offence on their record, 9.1% committed a further DWI offence within 365 days of the index offence. A further 5% re-offended in the second 365-day period. Thereafter, re-offences continue to accumulate, but the rate slows somewhat as time passes, reaching 24.5% after six years. Overall, 10.7% of the CLEAN group with a prior DWI offence committed another DWI offence within five years of the end of the window.

Subsequent Short-term Suspensions

Table 3-12 presents information, similar to that in Table 3-7, on subsequent short-term suspensions for each of the three groups but is restricted to those drivers who have a *Criminal Code* DWI offence on their record prior to the start of the window—i.e., prior to August 1996. There was no difference in the survival rate between drivers in the CLEAN and CC groups (Tarone-Ware = 0.16, $p > .6$). Fewer than 5% of drivers in both the CLEAN group and CC group were issued a subsequent short-term suspension. The survival rate among the STS group was significantly lower than that in both the CLEAN group (Tarone-Ware = 13.8, $p < .001$) and the CC group (Tarone-Ware = 17.1, $p < .001$). About 12% of drivers in the STS were issued a short-term suspension subsequent to the index offence. All re-offences among members of the STS group occurred within the first 365 days after the index offence.

Table 3-12: Comparison of Cumulative Short-term Suspension (STS) Re-offence Rates among Male Drivers with a Prior DWI Offence

Days from index offence	Drivers with re-offences		
	CLEAN Group (n = 642)	STS Group (n = 164)	CC Group (n = 2,449)
365	6 (0.93%)	20 (12.2%)	51 (2.1%)
730	11 (1.7%)	20 (12.2%)	60 (2.4%)
1,095	16 (2.5%)	20 (12.2%)	76 (3.1%)
1,460	22 (3.4%)	20 (12.2%)	86 (3.5%)
1,825	31 (4.8%)	20 (12.2%)	106 (4.3%)
2,190		20 (12.2%)	120 (4.9%)

Tarone-Ware
(vs CLEAN)
(vs STS)

13.8 ($p < .0002$)

0.16 ($p > .6$)
17.1 ($p < .0001$)

Total offences per driver, by type, for those with priors are displayed in Table 3-13. Analyses revealed that the STS group had the greater proportion of CC offences ($\chi^2 = 44.2$, $df = 13$, $p < .001$) and short-term suspensions ($\chi^2 = 559.8$, $df = 7$, $p < .001$) compared to the CC group. Again, this suggests that those drivers with a prior DWI who were issued a short-term suspension in the index window were at greater risk for more offences.

Table 3-13: Total Number of Offences, by Type, among Male Drivers *with* a Prior DWI Offence

Group	Number of DWI offences	Number of STS offences								
		0	1	2	3	4	5	6	7	Total
CC	1									
	2	558	627	50	11	5	2	1		1,254
	3	293	260	68	22	2	2			647
	4	186	55	29	17	2			1	290
	5	85	19	5	5	3	1	1		119
	6	54	15	5	3	3		1		81
	7	27	3							30
	8	13	1			1				15
	9	6	1							7
	10+	5			1					6
	Total	1,227	981	157	59	16	5	3	1	2,449
STS	1			1						1
	2		16	35	4					55
	3		14	26	12	3	1			56
	4		7	14	9	4	1			35
	5		2	2	3		1			8
	6		1	2	2					5
	7				1					1
	8		1							1
	9		1							1
	10+			1						1
	Total		42	81	31	7	3			164
CLEAN	1	471	18	5	3					497
	2	64	19	10	1					94
	3	25	6	3	1					35
	4	4	5	1		1				11
	5	3								3
	6									
	7	1								1
	8	1								1
	Total	569	48	19	5	1				642

3.3 DISCUSSION

This study compared the likelihood of a subsequent drinking and driving offence in three groups of drivers: those who had received a short-term suspension (the STS group), those who had no drinking and driving offences within the first two years of the introduction of the short-term suspension law (the CLEAN group), and a group of drivers who were convicted of a more serious *Criminal Code* DWI offence within two years of the introduction of the short-term suspension law (the CC group). The comparisons provide insights into the specific deterrent impact of short-term suspensions. The findings are not straightforward because rates of repeat drinking and driving offences differ substantially as a function of the type of drinking and driving re-offence and prior offence status.

Among drivers in the STS group without a prior DWI, approximately 74% had no subsequent record of drinking and driving behaviour, approximately 8% were charged with a subsequent *Criminal Code* DWI offence, and 19% were issued a further short-term suspension. It is encouraging that 74% of drivers issued a short-term suspension had no further drinking and driving violations for at least five years after the suspension and suggests that, for the majority, there was a specific deterrent effect.

The 19% of drivers who received a second short-term suspension over the follow-up period obviously did not stop driving after drinking, but their driver record suggests that their behaviour did not appear to escalate to a point where it warranted a more serious *Criminal Code* DWI charge. This does suggest, however, that the penalty of a short-term suspension was not severe enough to prevent these drivers from engaging in the same behaviour again.

The relatively small number of drivers in the STS group who were charged with a subsequent *Criminal Code* DWI offence are of particular concern. Not only are they undeterred by the short-term suspension, but their drinking and driving behaviour appears to escalate to the point where they are charged with a *Criminal Code* DWI offence.

The pattern of re-offences over time also differed among the groups. Drivers in the STS group who committed a subsequent *Criminal Code* DWI offence were most likely to do so within 18 months of being issued a short-term suspension. In fact, during this period they experienced a higher rate of *Criminal Code* DWI offences than

the CC group. To some extent, this difference in the re-offence rates between the two groups could be attributed to the fact that, during this period, drivers in the CC group would most likely have had their licences suspended for at least 12 months, whereas drivers in the STS group were suspended for only 24 hours. Nevertheless, this finding suggests that there exists a relatively small subgroup of drivers who are issued a short-term suspension but are not deterred by the loss of their driving privileges for 24 hours. Not only do they continue to drive after drinking, but they do so to a point where they are subject to *Criminal Code* sanctions.

In consideration of this particularly high-risk subgroup of drivers in the STS group who are subsequently charged with a *Criminal Code* DWI offence, it has long been suspected that police officers occasionally use their discretion to issue short-term suspensions in “borderline” cases when, in fact, *Criminal Code* DWI charges might be warranted. This was confirmed in a survey of front-line police officers in Canada in which 30% of officers reported that drivers with BACs over the legal limit (i.e., 80 mg%) were issued a short-term suspension rather than being charged under the *Criminal Code* (Jonah et-al. 1999). The reasons given for the use of such discretion included expediency, inadequate personnel to process charges, and as a means to get the driver off the road. This issue is explored further in Section 5, which discusses the results of a survey of Saskatchewan police officers. Eighty-five percent of officers reported having used some discretion, with 18% having indicated they had done so “regularly”. The extent to which this use of discretion by police officers resulted in some drivers with high BACs being issued short-term suspensions contaminates the sample of drivers assigned to the STS group in this study. These drivers may believe that they “got off easy”, and the short-term suspension may have had little, if any, deterrent impact on their subsequent behaviour. In fact, being issued a short-term suspension may have reinforced their belief that they were not impaired, and the suspension provided little, if any, disincentive to repeat the behaviour. It is possible that these individuals may be responsible for a large portion of the *Criminal Code* DWI re-offences in the STS group that occur within a short period of time following the short-term suspension.

Overall, drivers in the STS group had the lowest rate of survival of the three groups; however, the CC group had the greatest proportion of drivers with multiple offences, DWI and/or short-term suspension, on their record, keeping in mind the possibility of a short-term suspension issued in conjunction with a DWI. As well, it was more likely for a driver in the STS group to re-offend with another short-term suspension than

a DWI. For the CC group, it was more likely for these drivers to re-offend with another DWI than a short-term suspension. This suggests, that, for a small subset of drivers, the penalties associated with the index offence were not viewed as severe enough to deter the same behaviour.

The historical driver records allowed a separate analysis of drivers who had a *Criminal Code* DWI conviction prior to the introduction of the short-term suspension law. As expected, drivers with a prior DWI record had higher re-offence rates than those without a history of such behaviour. Of particular interest was the fact that among the relatively small number of drivers in the STS group who had a prior DWI offence, 100% re-offended, with 88% committing a subsequent *Criminal Code* DWI offence—most of these occurring within 365 days of the short-term suspension. The remaining 12% of drivers in this group were issued a subsequent short-term suspension. Although the numbers are small, it is apparent that, for drivers who have been previously convicted of a *Criminal Code* DWI offence, a short-term suspension has little, if any, specific deterrent impact. In addition, these drivers had the greatest proportion of both DWI and short-term suspensions on their record. This further adds to the notion that this particular group is at high risk of offending, and that DWI priors should be taken into consideration by police when deciding whether to issue a short-term suspension instead of a DWI.

In the absence of a group of drivers with low BACs who were not issued a short-term suspension (i.e., they are not accessed because either they are not stopped by police or are not charged after being stopped), it is difficult to determine the full extent of the specific deterrent impact of the short-term suspension law. Nevertheless, the fact that the survival rate for the STS group (no prior DWI) was approximately 74%, and the rate of subsequent *Criminal Code* DWI offences among those in the STS group (7.6%) was lower than that among drivers in the CC group (14.4%), suggests there is some evidence of an impact of the short-term suspension law and a specific deterrent effect for most drivers issued such a suspension.

4 Characteristics of Drivers Issued Short-term Licence Suspensions (Study 3)

Numerous studies have examined the characteristics of drivers who have been arrested and/or convicted of DWI offences (Beirness, Simpson, and Mayhew 1997; Donovan et al. 1985; Nochajski et al. 1996; Wells-Parker et al. 1986; Wilson 1991, 1992). The typical profile that emerges from these studies is that of a male, age 25 to 45 years, who drinks heavily and often; a substantial proportion qualifies for a clinical diagnosis of alcohol abuse or dependence. There is an overrepresentation of those who are single, separated, or divorced. Many report having engaged in drinking and driving behaviour on numerous occasions in the past.

Vingilis et al. (1993) examined the driving records of 3,337 Ontario drivers who were issued short-term suspensions in 1982, the first full year following the introduction of the law⁹. The total time frame examined was from 1980 to 1985, therefore, approximately 2 years pre- and 3 years post-suspension introduction. Almost 80% of these drivers had at least one traffic violation on their record and 35% had their licences suspended for other reasons. In the general driving population, only 16% had traffic violations on their record and only 2% had suspensions. The authors suggested that the large percentage of drivers with traffic violations and suspensions indicated that drivers issued short-term suspensions for drinking and driving may be problem drivers, and that the short-term suspension was “but one consequence of many risky driving behaviours and violations” (p. 63).

To date, no study has examined the psychosocial characteristics of drivers

⁹ The Ontario short-term suspension law was implemented in December 1981. The suspension is for 12 hours and is imposed on drivers with a BAC of 0.05% or over.

issued short-term suspensions for driving with low BACs and compared them with those of drivers charged with *Criminal Code* DWI offences. Such a comparison would provide valuable information and insight into the differences and similarities of these two populations. For example, it is possible that future policy decisions concerning appropriate measures to deal effectively with drinking drivers would involve different measures for lower-BAC drivers and higher-BAC drivers, if it were found that these two groups displayed different psychosocial and behavioural characteristics.

The purpose of this study was to compare the psychosocial and behavioural characteristics of drivers issued short-term licence suspensions for drinking and driving to those of drivers charged with more serious *Criminal Code* DWI offences, as well as to those drivers in the general population.

4.1 METHOD

4.1.1 The Questionnaire

A “Road Safety Questionnaire” was developed to assess the psychosocial and behavioural characteristics of drivers. This instrument was modeled on one previously developed as part of a project to assess high-risk drivers (Beirness et al. 1992). Key areas addressed included demographics, attitudes and opinions about road safety, alcohol consumption, and driving practices. Each area consisted of a variety of items including scales shown in the literature to distinguish between drinking and non-drinking drivers and/or drinkers who have alcohol problems. For example:

- Demographics (e.g., age, sex, education, income, marital status)
- Perceived seriousness of impaired driving
- Perceived seriousness of general road safety issues
- Social motivation scale (West et al. 1993)
- Quantity and frequency of alcohol use
- Alcohol Use Disorders Identification Test (AUDIT) (Babor and Grant 1989)
- Driver Behaviour Questionnaire (Reason et al. 1990)
- Driving Style Questionnaire (Donovan and Marlatt 1982)

A copy of the complete questionnaire is included as Appendix A.

4.1.2 Survey Sample

The overall objective of this study was to compare the characteristics of three groups of drivers: (1) those who had been issued short-term suspensions for drinking and driving, (2) those convicted of a *Criminal Code* impaired driving offence, and (3) a group of drivers who had no alcohol-related offences on their record.

A sample of 2000 drivers without alcohol-related incidents and 2000 drivers who had been issued a short-term suspension (with or without a corresponding *Criminal Code* conviction within 24 hours of the short-term suspension) were randomly selected from Saskatchewan driver record files¹⁰. Packages containing an anonymous questionnaire and a stamped return envelope were assembled by the staff at TIRF. Recipient address labels were applied by SGI to ensure that the identity of selected recipients would not be known to the researchers. Questionnaires were mailed out in two waves: half in September 2004 and the other half in December 2004. In total, 992 completed questionnaires were returned; 243 were returned unopened because the address was incorrect or the recipient had moved. Thus, the effective response rate was 26.4% (992 of 3757). Of the 992 completed questionnaires returned, 548 were from drivers in the general population who had no alcohol-related incidents on their record (group GP), 200 were from drivers who had been issued a short-term suspension but had no *Criminal Code* convictions (group STS), and 230 were from drivers who had a *Criminal Code* impaired-driving conviction (group CC).

4.1.3 Data Analysis

The questionnaire contained numerous items and scales derived from other instruments. These items were subjected to factor analysis to confirm the factor structure of the scales. Donovan and Marlatt's (1982) Driving Style Questionnaire produced the same three factors reported by Donovan: Driver Aggression, Competitive Speed, and Driving for Tension Reduction. One item from the Driver Aggression scale was dropped because of a low factor loading. Items loading on each factor were summed using unit weighting to create composite scores for each scale. The Driver Behaviour Questionnaire

¹⁰ Questionnaires were also completed by drivers attending Saskatchewan's *Driving Without Impairment* course. This course must be completed by all persons convicted of a *Criminal Code* impaired driving offence, anyone who has been issued a second short-term suspension, and new drivers following a first "zero tolerance" violation. Initial comparisons of responses from these drivers and those who received the questionnaire by mail revealed significant differences which could be attributed to the recency of course participation and, therefore, were excluded from further analyses.

(Reason et al. 1990) yielded two factors: Risky Driving and Driving Errors. A third factor—labeled Seat Belt Use—was formed from two items added to the original questionnaire.

Responses to the 10 items from the Alcohol Use Disorders Identification Test (AUDIT) were summed to create a composite score of alcohol problems (Babor and Grant 1989). This scale is a commonly used measure of the extent of alcohol problems. A score of 8 or higher on the AUDIT is considered to indicate a serious problem (Babor et al. 2001).

Items from the Social Motivation Scale (West et al. 1993) were summed to create a measure of “mild social deviance”. Higher scores on this scale reflect the extent to which an individual is willing to engage in socially inappropriate/illegal behaviours if they are certain of getting away with it.

The overall objective of the data analysis was to determine the extent to which the psychosocial and behavioural characteristics of the three groups of drivers (GP, STS, and CC) differed from each other. Univariate analyses using parametric (t-tests, ANOVA) and non-parametric (χ^2 , Mann-Whitney U) procedures, as appropriate, were conducted. Multivariate analyses were performed to find the best set of variables that distinguished between groups.

4.2 RESULTS

4.2.1 Demographics

Table 4-1 shows the demographic characteristics of the three driver groups along with tests of significance. There were very clear differences between the groups in terms of sex. As was expected, the large majority of respondents in the STS and CC groups were male (80.0% and 86.6%, respectively.) The GP group was comprised of 43.4% men and 56.6% women.

In comparison with the data from driver record files used in Study 2, the proportion of men in the sample of STS drivers in the survey ($80.0 \pm 5.5\%$) was similar to the proportion in the driver record sample ($85.9 \pm 1.1\%$). The sample of CC drivers in the survey was comprised of about the same percentage of men ($86.6 \pm 4.4\%$) as in the driver record sample ($84.5 \pm 0.4\%$). Driver licensing statistics from Saskatchewan indicate that 51.5% of all drivers are men—slightly more than the $43.4 (\pm 4.1\%)$ of men in the survey sample.

Table 4-1: Demographic Characteristics according to Driver Group

Characteristic	GP (n = 548)	STS (n = 200)	CC (n = 230)	Significance
Driver's Sex (%)				
Male	43.4	80.0	86.6	
Female	56.6	20.0	13.4	$\chi^2 = 158.3$; 2 df $p < .001$
Marital Status (%)				
Single	21.2	47.7	46.3	
Married	59.8	30.5	26.9	
Living with partner	7.7	16.2	18.1	
Divorced	3.0	3.0	3.1	
Separated	2.2	1.5	4.0	
Widowed	6.1	1.0	1.8	$\chi^2 = 133.9$; 10 df $p < .001$
Household Income (%)				
Under \$15,000	10.1	14.8	20.1	
\$15,000–\$29,999	22.1	22.5	20.1	
\$30,000–\$49,999	22.5	27.5	29.0	
\$50,000–\$74,999	26.2	18.1	18.2	
\$75,000 or over	19.2	17.0	12.3	$\chi^2 = 24.5$; 8 df $p < .01$
Education (%)				
No high school	20.7	21.8	27.6	
High school	31.9	40.9	38.7	
Some post secondary	33.0	27.5	26.2	
College/university grad	14.4	9.8	7.6	$\chi^2 = 17.8$; 6 df $p < .01$
Residence (%)				
Urban	59.3	52.5	51.5	
Rural	40.7	47.5	48.5	$\chi^2 = 4.66$; 2 df $p > .05$
Age				
Mean	45.4 ¹	31.6 ²	37.2 ³	
(se)	(0.853)	(1.031)	(1.061)	$F = 48.3$; 2,864 df $p < .001$

(Group means with the same superscript are not significantly different.)

The three groups also differed significantly from each other in terms of age. The STS group was the youngest (31.6 ± 2.0 years), followed by the CC group (37.2 ± 2.1 years), and the GP group was the oldest (45.4 ± 1.7 years). All three groups were older than the corresponding groups identified from driver record files (STS = 29.6 ± 0.2 , CC = 33.8 ± 0.3 , and GP = 37.3 ± 0.2).

In general, the distributions of age and sex within the three groups in the survey sample are similar to those among the three comparable groups compiled from driver record files. Nevertheless, the differences warrant a degree of caution in interpreting the findings as a consequence of any bias that may be present.

Table 4-1 shows that the three groups also differed in terms of marital status, household income, and education. Drivers in the GP group were much more likely to be married (59.8%) than drivers in the STS and CC groups (30.5% and 26.9%, respectively). Drivers in the STS and CC were more likely to be single (47.7% and 46.3%, respectively) than drivers in the GP group (21.2%).

Differences between the groups in terms of household income were less pronounced but seem to indicate lower income among the CC group and, to a lesser extent, among the STS group. Income is typically related to education, and the results reflect this pattern. The proportion of the CC group with a post-secondary education (7.6%) was only about half that of the GP group (14.4%). Income is also typically related to age, at least among those with similar levels of education. Not only is the GP group older than the other two groups but also more likely to be married. This could suggest a greater likelihood of more than one earner in the household.

Saskatchewan is a very rural province, and this is reflected in the high proportion of respondents living in rural postal code areas ($44 \pm 3.3\%$). Canada Post¹¹ indicates that 41% of non-business addresses in Saskatchewan are located in rural postal code areas, and Statistics Canada¹² reports that 39% of Saskatchewan residents reside in rural areas. The three groups did not differ in terms of the representation of rural and urban residents.

4.2.2 Driving-related Characteristics

Tables 4-2 and 4-3 present driving-related characteristics for the three groups. Table 4-2 shows that the type of vehicle driven most often for personal use differs

¹¹ Available from www.canadapost.ca.

¹² Available from www.statcan.ca.

significantly among the three groups. Whereas almost 60% of the GP group report driving a passenger car, fewer than half of the STS or CC groups drive this type of vehicle. On the other hand, about 40% of the STS or CC groups drive pickup trucks compared to only 16% of the GP group. Subsequent analysis (not shown) confirm that this general pattern remains when only males are included in the analysis.

Table 4-2: Driving Characteristics According to Driver Group

Characteristic	GP (n=548)	STS (n=200)	CC (n=230)	Significance
Vehicle type (%)				
Passenger car	59.6	48.4	45.9	
Minivan	13.1	1.0	4.1	
SUV	11.2	10.4	10.8	
Pick-up truck	16.1	40.1	39.2	$\chi^2 = 86.7$; 6 df; $p < .001$
Traffic Citation (%)				
None	86.3	63.1	77.8	
1 or more	13.7	36.9	22.2	$\chi^2 = 48.1$; 2 df; $p < .001$
Cell phone while driving (%)				
No	69.7	54.4	79.0	
Yes	30.3	45.6	21.0	$\chi^2 = 29.7$; 2 df; $p < .001$
Crash involvement (%)				
No	89.5	82.4	89.3	
Yes	10.5	17.6	10.7	$\chi^2 = 7.5$; 2 df; $p < .05$
Driven after Drinking (%) (past 30 days)				
Yes	22.8	49.0	24.3	
No	77.2	51.0	75.7	$\chi^2 = 51.8$; 2 df; $p < .001$
Passenger with Drinking Driver (past 30 days)				
Yes	20.4	40.5	34.8	
No	79.6	59.5	65.2	$\chi^2 = 36.4$; 2 df; $p < .001$

The STS group also had the highest proportion of drivers who reported being issued a traffic ticket in the past 12 months (36.9%). Only 13.7% of the GP group and 22.2% of the CC group reported receiving a traffic ticket in the past year.

Table 4-2 also shows that drivers in the STS group are more likely to report using a cell phone while driving in the previous seven days than either the GP or CC groups—45.6% compared to 30.3% of the GP group and 21.0% of the CC group.

Crash involvement as a driver was also most frequently reported by the STS group. In the past 12 months, 17.6% of the STS group reported being involved in a traffic collision, compared to 10.5% and 10.7% of the GP and CC groups, respectively.

Interestingly, the STS group was more likely to report having driven a vehicle within two hours of any drinking in the past 30 days (49.0%) compared to both the GP (22.8%) and CC (24.3%) groups. The relatively high proportion of drivers in the STS group who reported driving after drinking indicates that despite having had their licence suspended on a previous occasion for driving after drinking, they continue to engage in the behaviour. Most, however, do so relatively infrequently (i.e., once or twice a month) and most likely at low BACs. The CC group was considerably less likely to report driving after any drinking than the STS group. To some extent, this may be a deterrent effect of a previous or even an ongoing suspension for impaired driving. Driving after any drinking was reported by 22.8% ($\pm 3.5\%$) of the GP group, similar to the 24.3% ($\pm 5.5\%$) of drivers in the CC group. Both figures are somewhat higher than the 16.9% ($\pm 2.6\%$) of drivers in the prairie region (includes Manitoba, Saskatchewan, and Alberta) who reported driving after any drinking on a recent national survey (Beirness et al. 2004). The STS group was also more likely to report riding as a passenger with a drinking driver in the past 30 days (40.5%) than either the GP (20.4%) or CC (34.8%) groups.

Table 4-3 presents the group means and analyses for the driving behaviour variables that were measured on a continuous scale. Because the analysis of demographic characteristics revealed significant differences due to age and sex, analysis of covariance was used to control for the effects of these two factors. The group mean values presented in the table are estimated marginal means after the effects of age and sex have been removed. Pair-wise comparisons were conducted using the Least Significant Difference. In Table 4-3, group means with different superscripts indicate that they differ significantly from each other.

Table 4-3 reveals several differences between the three groups of drivers. The estimated number of kilometers driven in a month differed significantly between groups. The amount of reported driving was highest in the STS group. Pair-wise comparisons revealed that the STS group reported driving significantly more kilometers per month than the GP group but did not differ from that reported by the CC group. Although the CC group drove more kilometers than the GP group, the difference was not statistically significant.

Table 4-3: Driving Characteristics according to Driver Group Estimated Marginal Means using Sex, Age as Covariates

Characteristic	GP (n = 548)	STS (n = 200)	CC (n = 230)	Significance
Monthly km driven				
Mean	1607.0 ¹	2494.6 ²	2156.4 ^{1,2}	
(se)	(225.1)	(360.9)	(348.3)	F = 2.15; 2, 756 df; p < .01
Agreement with Impaired Driving Policies (α = .89)				
Mean	44.8 ¹	41.1 ²	38.2 ³	
(se)	(0.539)	(0.876)	(0.822)	F = 21.0; 2,817 df; p < .001
Agreement with Road Safety Policies (α = .71)¹				
Mean	19.4 ¹	18.4 ²	18.6 ^{1,2}	
(se)	(0.242)	(0.395)	(0.371)	F = 2.43; 2,815 df; p > .05
Perceived Seriousness of Impaired Driving (α = .87)				
Mean	19.3	19.0	19.4	
(se)	(0.219)	(0.359)	(0.339)	F = 2.43; 2,815 df; p > .05
Perceived Seriousness of Road Safety (α = .89)				
Mean	48.0	48.3	49.1	
(se)	(0.533)	(0.864)	(0.813)	F = 0.59; 2,762 df; p > .05
Driving Style				
1. Competitive Speed (α = .79)				
Mean	0.85 ¹	1.41 ²	1.02 ¹	
(se)	(0.073)	(0.120)	(0.113)	F = 7.30; 2,820 df; p < .001
2. Driver Aggression (α = .73)				
Mean	1.94 ¹	2.42 ²	2.40 ²	
(se)	(0.098)	(0.158)	(0.150)	F = 4.29; 2,808 df; p < .02
3. Tension Reduction (α = .74)				
Mean	1.13 ¹	1.51 ²	1.30 ^{1,2}	
(se)	(0.062)	(0.101)	(0.095)	F = 4.79; 2,823 df; p < .01
Mild Social Deviance (SMQ) (α = .81)				
Mean	14.6 ¹	15.5 ²	15.2 ²	
(se)	(0.148)	(0.241)	(0.227)	F = 4.84; 2,816 df; p < .01
Driver Behaviour Scale				
1. Risky Driving (α = .79)				
Mean	15.5 ¹	17.1 ²	15.8 ¹	
(se)	(0.221)	(0.361)	(0.337)	F = 6.65; 2,813 df; p < .001
2. Driving Errors (α = .72)				
Mean	13.9 ^{1,2}	14.5 ²	13.8 ¹	
(se)	(0.171)	(0.281)	(0.263)	F = 2.28; 2,807 df; p > .1
3. Seat Belt Use (α = .92)				
Mean	11.2 ¹	10.8 ²	11.0 ^{1,2}	
(se)	(0.099)	(0.163)	(0.153)	F=2.15; 2,832df; p>.1

(Group means with the same superscript are not significantly different.)

¹Cronbach's α is a measure of scale reliability.

The questionnaire included four scales assessing attitudes about road safety issues and policies. Only one—the extent of agreement with impaired driving policies—revealed differences among the groups. This scale asked respondents to indicate the extent to which they agreed with a variety of program and policy measures for dealing with impaired driving, such as the use of more police spot checks, vehicle impoundment for drinking drivers, and mandatory testing of drivers involved in collisions (see the Driver Questionnaire in Appendix A). Perhaps not surprisingly, the GP group reported the greatest level of agreement with impaired driving policies (mean = 44.8), followed by the STS group (mean = 41.1), and the CC group (mean = 38.2). The differences between the groups were all statistically significant.

There were, however, no differences between the groups in terms of the perceived seriousness with which they viewed drivers impaired by alcohol or drugs ($p > .05$).

The GP group scored significantly lower on the Social Motivation Questionnaire (SMQ) than both the STS and CC groups, which did not differ from each other. This scale assesses “mild social deviance” by having respondents indicate on a 3-point scale (not at all likely, quite likely, or very likely) how likely they would engage in each of eleven socially inappropriate or illegal behaviours (e.g., park in a “No Parking” zone or make a fraudulent insurance claim) if they were completely certain of getting away with it. The results indicate that both the STS and CC groups are more likely than the GP group to engage in inappropriate social behaviour.

Three factors were derived from the Driving Style Questionnaire (Donovan and Marlatt 1982)—Competitive Speed, Driver Aggression, and Driving for Tension Reduction. All three scales revealed significant differences between groups. The STS group scored significantly higher than both the GP and CC groups on the Competitive Speed factor. This indicates a tendency to engage in driving practices that involve a fast, competitive style of driving and to derive pleasure from doing so.

The GP scored significantly lower than both the STS and CC groups on the Driver Aggression factor. This indicates that the STS and CC groups feel and/or display greater hostility and aggression in their driving practices compared to the GP group.

The STS group also reported higher scores than the GP group on the Driving for Tension Reduction scale, but their scores did not differ from those of the CC group.

This indicates that the STS group is most likely to drive when upset and/or as a means to relieve tension and anxiety.

The Driver Behaviour Scale (Reason et al. 1990) assesses two factors: Driving Errors and Risky Driving. Driving Errors refers to unintentional mistakes made while driving; Risky Driving assesses intentional driving behaviours that increase the risk of crash involvement. Two questions were added to this scale to assess the extent of seat belt use as a driver and as a passenger. Scores on these two items were combined to form a Seat Belt factor.

Only the Risky Driving factor revealed significant differences between groups. The STS group scored significantly higher on this factor than both the GP and CC groups. Although the analysis of the Driving Errors factors revealed no overall significant differences between groups, pairwise comparisons showed the STS group to have significantly higher scores on this factor than the CC group. Similarly, the analysis of Seat Belt scores revealed no overall differences between groups but pairwise comparisons found the STS group to be significantly lower than the GP group.

4.2.3 Drinking Behaviour

Table 4-4 shows the responses to the drinking-related items for each of the three groups along with the results of tests of statistical significance.

Table 4-4: Drinking Characteristics according to Driver Group

Characteristic	GP (n = 548)	STS (n = 200)	CC (n = 230)	Significance
Drink past 12 months				
Yes	80.0	96.5	90.8	
No	20.0	3.5	9.2	$\chi^2 = 38.7$; 2 df; $p < .001$
Know STS limit?				
Yes	48.4	78.4	74.0	
No	51.4	21.6	26.0	$\chi^2=74.8$; 2 df; $p < .001$
Estimated Marginal Means using Sex and Age as Covariates				
Frequency of Drinking (monthly)				
Mean	4.25 ¹	6.00 ²	4.80 ¹	
(se)	(1.06)	(1.08)	(1.08)	$F = 6.20$; 2, 638 df; $p < .01$

Characteristic	GP (n = 548)	STS (n = 200)	CC (n = 230)	Significance
Quantity (number of drinks)				
Mean	2.61 ¹	3.43 ²	4.10 ³	
(se)	(1.03)	(1.05)	(1.04)	F = 21.0; 2,817 df; p < .001
AUDIT ($\alpha = .83$)				
Mean	4.1 ¹	6.7 ²	8.2 ³	
(se)	(0.216)	(0.334)	(0.316)	F = 54.0; 2,762 df; p < .001

(Group means with the same superscript are not significantly different.)

A large percentage of all three groups reported having had a drink in the past 12 months, but the proportion was not independent of group membership. Whereas 80% of the GP group reported alcohol consumption in the past year, 91% of the CC group and 96% of the STS did so.

Respondents were asked to indicate the number of days in a month on which they consumed alcohol (drinking frequency) and the number of drinks they usually had on a drinking occasion (quantity of consumption). These numbers tend to be highly skewed and were subject to a natural log transformation prior to analysis. The mean values reported in Table 4-3 are not log values but represent the estimated marginal means after adjustments for the effects of age and sex in terms of the original unit of measurement—i.e., number of drinking occasions per month and number of drinks per occasion.

It is evident in Table 4-4 that the groups differed significantly in terms of the frequency and quantity of alcohol consumption. The STS group reported a significantly greater monthly frequency of drinking than either the GP or CC groups. The latter two groups did not differ from each other. The quantity of consumption also differed between groups but in this case, the CC group reported consuming more drinks per occasion (mean = 4.1) than the STS group (mean = 3.4) and GP group (mean = 2.6). These latter two groups also differed significantly from each other.

The AUDIT scale also revealed significant differences between the groups. The scores of the CC group (mean = 8.2) were significantly higher than those of the STS group (mean = 6.7) which were significantly higher than those of the GP group (mean = 4.1). A score of 8 or more on the AUDIT scale is indicative of serious alcohol problems (Saunders et al. 1993).

4.2.4 Summary

The univariate analyses of demographic, driving, and drinking-related characteristics revealed many differences between the three driver groups. The two drinking driver groups (i.e., STS and CC) were more likely than the GP group to be male and single and to have less education and lower household income. Drivers in the STS and CC groups were also younger than those in the GP group. The STS group was also significantly younger than the CC group.

Many of the driving-related measures also revealed significant differences between groups. In general, the drinking driver groups (STS and CC) displayed higher levels of deviant driving behaviours than the GP group. For example, drivers in the STS and CC groups were more likely to have received a traffic ticket. These two groups also drove more kilometers per month, agreed less strongly with impaired driving policies, and were more deviant in terms of their style of driving. Overall levels of “mild social deviance” were higher among drivers in the STS and CC groups compared to those in the GP group.

Of particular interest was the fact that on many measures the STS group stood out as being more extreme than the CC group. Drivers in this group were most likely to use a cell phone while driving, to have received a traffic ticket, and to have been involved in a collision. The STS group also displayed higher scores than the CC group on Competitive Speed, Risky Driving, and Driving Errors.

Alcohol consumption patterns showed clear differences between the groups. Although a substantial proportion of all three groups reporting drinking, the pattern of drinking reported by the GP group was generally more moderate than that in the other two groups. However, there were also differences between the STS and CC groups in terms of drinking patterns. Whereas the STS reported greater frequency of drinking, the CC group consumed a greater number of drinks on those occasions when they did drink. Importantly, the CC group had significantly higher AUDIT scores than the STS group indicating greater alcohol-related problems among these drivers.

4.2.5 Multivariate Analysis

The overall purpose of the multivariate analysis was to identify the combination of variables that best distinguished among the groups. In this context, the univariate analyses revealed that the GP group differed from the two drinking driver groups on

most variables, and that the two drinking driver groups were more similar to each other than they were to the GP group. The key issue then, was to try to distinguish between the STS and CC groups. Therefore, it was decided not to consider the GP group in further analyses but to include only the STS and CC groups.

Discriminant analysis was selected as the method of choice to identify the set of variables that best distinguished between the STS and CC groups. The method is analogous to multiple regression (and multivariate analysis of variance) in which the dependent measure (driver group) takes on only two values (i.e., either STS or CC). The analysis determines the best combination of variables to distinguish between the two groups. The set of variables can then be used to determine which group each individual most closely resembles. Group membership predicted from the linear combination of variables (the discriminant function) can be compared with actual group membership to evaluate the success of the prediction.

The analysis revealed the two groups could be distinguished from each other using a linear combination of nine variables—age, cell phone use, driving after drinking, traffic tickets, risky driving, competitive speed, frequency of drinking, quantity of consumption, and AUDIT score (Wilk's $\lambda = .808$, $\chi^2 = 62.6$, 10 df, $p < .001$). Table 4-5 displays the discriminant classification function coefficients. The analysis confirms what was evident from the univariate analyses—i.e., the STS group is distinguished by their poor and/or risky driving behaviours, and the CC group is characterized by heavier drinking.

Table 4-5: Discriminant Classification Function Coefficients

Variable	STS	CC
Age	0.347	0.406
Cell Phone Use	0.391	-0.617
Drink-drive past 30 days	-0.890	-1.887
Number tickets	2.267	1.851
Crash involved	1.470	1.571
Risky driving	1.042	1.073
Competitive speed	-0.458	-0.551
Frequency of drinking	0.721	0.472
Quantity of drinking	5.150	5.347
AUDIT score	-0.087	0.006
Constant	20.007	-21.195

Wilks $\lambda = .808$; $\chi^2 = 62.607$; 10 df, $p < .001$

Table 4-6 shows actual group membership and group membership predicted from the discriminant function. This table shows that two-thirds of the STS group were correctly classified by the discriminant function and almost three-quarters of the CC group were correctly classified. Overall, the discriminant function predicted correct group membership in 70.3% of cases.

Table 4-6: Actual and Predicted Group Membership

Actual Group	Predicted Group Membership		N
	STS	CC	
STS	66.7%	33.3%	147
CC	26.1%	73.9%	153

Overall correct classification 70.3%

4.3 DISCUSSION

The group of drivers selected at random from driver record files who had no short-term suspensions or *Criminal Code* impaired driving convictions were expected to represent the “average” or “typical” driver in Saskatchewan. In this sense, their responses can be considered to represent the population norm on the various dimensions assessed by the questionnaire. The STS and CC groups were compared with this standard to assess the extent and direction of any differences.

The analysis of data from the driver survey revealed very clear differences between the three groups of drivers. In general, on many dimensions, the two drinking and driving groups (STS and CC) were more extreme or deviant than the GP group. In addition to being younger and comprised of a greater proportion of males, the STS and CC groups revealed higher levels of alcohol consumption and riskier patterns of driving behaviour.

In many ways, the STS and CC groups were more similar to each other than they were to the GP group. But there were also important differences between the STS and CC groups. For example, the STS group was characterized by riskier driving practices whereas the CC group was distinguished by their greater extent of excessive drinking. Multivariate discriminant analysis confirmed this distinction between the two drinking and driving groups. The riskier driving practices of the STS group is consistent with the findings of Vingilis et al. (1993) who reported that high proportion of drivers issued a short-term suspension in Ontario had an extensive record of traffic violations.

It would appear that drivers in the STS and CC groups represent relatively distinct groups within the driver population. Although there is some degree of overlap between the two groups, there are sufficient differences to suggest that it may be appropriate and warranted to consider separate approaches for dealing with these two groups of drivers. Initially, the behaviour that resulted in their being placed in either the STS or CC group was different. One group was issued a short-term suspension as a result of having a relatively low BAC; the other was charged under the *Criminal Code* for a more serious impaired driving offence. The results of the questionnaire data presented here, however, would suggest that the differences between these two groups go well beyond differences in the BAC on the occasion of their drinking and driving infraction. Rather, the present data indicate more pervasive differences in psychosocial and behavioural characteristics that may underlie the nature and extent of their drinking and driving behaviour.

The differences between the STS and CC groups have important implications for measures to deal effectively with them. The STS group may benefit from driver improvement programs, alcohol educational/awareness programs, and/or brief alcohol interventions. Even though they are not as extreme as the CC group in their drinking patterns, they exhibit higher levels of consumption and more alcohol-related problems than the GP group. Hence, it may be appropriate to screen for excessive drinking and alcohol problems among all drivers issued a short-term suspension to identify those who might benefit from an alcohol rehabilitation program. With an average AUDIT score of more than 8, it is apparent that alcohol assessment and rehabilitation is indicated for drivers convicted of a *Criminal Code* impaired driving offence.

5 Survey of Police Attitudes and Practices (Study 4)

The decline in the magnitude of the alcohol-crash problem in the 1980s has been attributed to a variety of factors and events that occurred during that period, including increases in the amount, efficiency, and effectiveness of police enforcement, which served to increase the perceived and actual likelihood of detection, thereby increasing the deterrent value of DWI laws.

Data from recent years show a significant slowing of the downward trend in the alcohol-crash problem (Mayhew et al. 2004; NHTSA 2004), suggesting that the public and/or the police may have become somewhat complacent in their individual and collective efforts to deal with the issue. Police resources have been stretched to the limit with demands for more service in other areas. DWI laws have become more complicated, and the legal system that has developed to support the enforcement and adjudication of those laws has become increasingly complex. More police time is required to negotiate the labyrinth of procedures and requirements necessary to process a DWI charge. This, combined with the apparent frequency with which offenders are acquitted on what appear to be technicalities or manage to plea bargain to a lesser offence, can lead to frustration on the part of the police (cf. Robertson and Simpson 2002a, 2002b, 2003; Simpson and Robertson 2001). To the extent this frustration results in a reduction in enforcement activities, the deterrent value of the law may be diminished.

Several years ago, a survey of front-line police officers in Canada revealed that the police were concerned about the impaired driving problem but experienced numerous legal and procedural difficulties that hindered their effectiveness in enforcing DWI laws (Jonah et al. 1997, 1999). Among the problems identified were: the excessive amount of

time required to process an impaired driving charge, the amount of paperwork required to process a charge, the length of trials, the use of plea bargaining, and inadequately prepared prosecutors. Similar problems were identified in a survey of police officers in the United States (Simpson and Robertson 2001). All the issues identified have contributed to a situation that has increased the frustration of police officers, compromising their effectiveness in their efforts to enforce drinking and driving legislation.

These surveys also served to underscore that an integral, but often neglected, aspect of the evaluation of DWI laws is the process by which they are applied. In this context, police attitudes towards the law, their perceptions of the law, as well as their actual practices in applying the law are critical components in determining the overall impact of the law. Understanding police officers' perceptions of the law and their experiences in enforcing it can serve to enhance the effective utilization of available resources.

Short-term administrative suspensions have been used for more than two decades. Despite the long history of these laws and large number of offenders who have been issued short-term suspensions, little is known about the perceptions of police officers concerning short-term suspensions and how they are used on a day-to-day basis. Previous research indicated that police officers did, on occasion, issue short-term suspensions when they thought criminal charges might be more appropriate. The extent of this discretionary use of short-term suspensions, as well as the reasons for it and circumstances surrounding it, need to be examined in greater detail.

This study examined the attitudes, perceptions, and practices of police officers in Saskatchewan on the issue of drinking and driving and, in particular, short-term suspensions as a means to deal with drinking drivers.

5.1 METHOD

5.1.1 Survey Sample

The most efficient means of obtaining information from police officers about the enforcement of impaired driving laws was to distribute a questionnaire through the police departments and detachments in Saskatchewan to all officers involved in impaired driving enforcement. Previous police surveys using this approach have achieved very satisfactory response rates (i.e., 65 to 70%) (Jonah et al. 1999).

The survey was distributed to front-line police officers involved in impaired driving enforcement activities through commanding officers of police departments involved in the Selective Traffic Enforcement Program (STEP). This program began several years ago when the various police departments and detachments in Saskatchewan, together with Saskatchewan Government Insurance (SGI) and Saskatchewan Justice, united to tackle important traffic safety issues such as seat belt use and impaired driving. Members of STEP coordinate enforcement blitzes focusing on a particular traffic safety issue several times each year and meet periodically to discuss strategies, tactics, and progress. Representatives of STEP agreed to distribute the survey to officers within their own department or detachment who deal directly with impaired driving enforcement. Completed surveys were returned to SGI and forwarded in bulk to TIRF for data entry and analysis.

5.1.2 The Questionnaire

- A questionnaire was developed to assess the attitudes, opinions, and practices of police officers in Saskatchewan concerning impaired driving (see Appendix B). Key issues to be addressed were determined through previous discussions with police officers across the country and items were developed to address these issues. Some items were adapted for use from a previous survey of police officers conducted by Transport Canada (Jonah et al. 1997). The questionnaire gathered information on the following areas:
- Officer experience (e.g., length of time as a police officer, type of duties, breath-test technician)
- Detecting drinking drivers (e.g., number of DWI arrests, number of short-term suspensions issued, situations that lead to arrest, signs, and symptoms used to detect impaired driving)
- Charging and court practices (e.g., time required to process impaired driving charges, disposition of charges, problems in court)
- Use of discretion by police officers (e.g., use of short-term suspensions rather than *Criminal Code* charges, reasons for using discretion)
- Agreement with measures to reduce impaired driving (e.g., compulsory assessment and rehabilitation, random breath testing, increasing the short-term suspension to 48 hours)

- Opinions about drinking and driving enforcement and sanctions
- Officer characteristics (type of police service, age, gender, extent of special training in impaired driving enforcement)

5.1.3 Data Analysis

The data were analyzed to determine the general nature of police attitudes and practices and to determine how these varied by officer experience, special training in impaired driving enforcement, and community size. Officers were divided into two groups based on their experience as a police officer using a median split. Officers with less than 72 months of experience formed one group; those with 72 months or more of experience formed the other. A median split was also used to produce two groups of officers based on the extent of special training in impaired driving enforcement—those with 22 hours or less of training formed one group; those with more than 22 hours of training formed the other. Community size was divided into three groups: fewer than 50,000 residents, 50,000 to 199,999, and 200,000 or over. Tests of significance were conducted using parametric (t-tests, ANOVA) and non-parametric (χ^2 , Mann-Whitney U) procedures, as appropriate.

5.2 RESULTS

5.2.1 Characteristics of the Sample

In total, 165 police officers completed the survey¹³. By far, the majority of officers surveyed were male (87%), and the average age was 35.4 years (range 23 to 55). About half of the officers had served for six years or longer (ranging from less than a year to 33 years). Most described their current duties as general policing/patrol (70%) with 27% indicating they were assigned to full-time traffic duties.

Over 90% of officers reported they had received at least some special training in DWI enforcement. The median number of hours of DWI training was 22 (ranging from 1 to 200). Although the Standardized Field Sobriety Test (SFST) (Tharp, Burns, and Moskowitz 1981) is not widely used in Canada, 21% of officers indicated they had been trained to assess the extent of driver impairment using the SFST. Just over one-quarter (29%) of respondents were trained as breath test technicians.

¹³The response rate is unknown, because it is not known how many officers actually received a copy of the survey.

Overall, 57% of officers who responded to the survey served communities with a population of at least 200,000 residents. Approximately 22% were members of police departments in communities with a population between 50,000 and 199,999 and the remaining 21% served communities with fewer than 50,000 residents.

5.2.2 Number of Drinking Drivers Charged

Officers surveyed reported laying an average of 11.6 (± 1.25) *Criminal Code* DWI charges in the past 12 months. The most commonly laid *Criminal Code* charges were impaired driving (Section 253a), which involves evidence of driver impairment, such as physical behaviours, and driving with a BAC over 0.08% (Section 253b), which refers directly to the BAC reading following testing. These accounted for 46.2% and 42.9% of all DWI charges, respectively. Refusing to provide a breath or blood sample (Section 254.5) accounted for 8.8% of charges; 2.1% were for impaired driving causing bodily harm (Section 255.2). None of the officers surveyed reported laying any charges for impaired driving causing death (Section 255.3).

An analysis of charges laid according to the extent of experience as a police officer revealed that officers with less experience laid more “impaired” and “over 0.08%” charges than those with greater experience (Mann-Whitney U = 1696.5, $p < .01$ and 1571.5, $p < .001$, respectively). There were no differences in the number of charges laid for refusal to provide a sample or impaired driving causing bodily injury according to officer experience.

Participating officers were also divided into two groups based on a median split of the number of hours of special training in impaired driving enforcement. Officers with more special DWI training (i.e., more than 22 hours) were more likely than officers with less training to lay charges for impaired driving (Mann-Whitney U = 1014.5, $p < .01$), driving with a BAC in excess of 0.08% (Mann-Whitney U = 987.0, $p < .05$), and impaired driving causing bodily harm (Mann-Whitney U = 169.5, $p < .02$).

There were no differences in the number of *Criminal Code* DWI charges laid according to the size of community.

Police officers who completed the survey also reported issuing an average of 10.4 (± 1.16) short-term suspensions to drinking drivers in the past twelve months. This

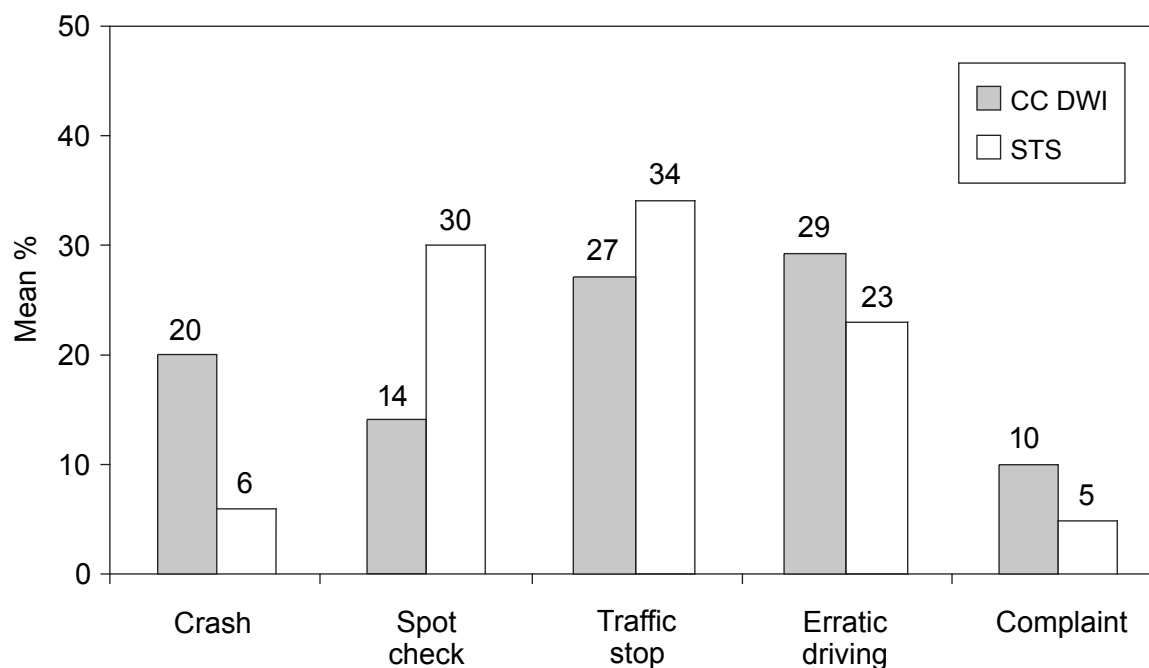
is almost the same as the number of *Criminal Code* DWI charges laid, and effectively doubles the total number of drivers identified and sanctioned for drinking and driving behaviour. However, note that the survey did not dissociate between STS charges laid alone or those in conjunction with Criminal Code DWI charges. Thus, the “doubling” of the number of drivers may be an over-estimate.

The number of short-term suspensions issued did not differ according to amount of experience as a police officer, the extent of special training in impaired driving enforcement, or community size.

5.2.3 Detection of Drinking Drivers

Officers were asked to indicate the percentage of all the DWI charges they laid as a result of various circumstances. Similarly, they were asked to do the same for short-term suspensions they had issued. Figure 5-1 displays the mean percentage of DWI charges and short-term suspensions that resulted from various situations. On average, officers indicated that about 29% of *Criminal Code* DWI charges were laid as the result of having stopped a driver specifically for erratic driving with an additional 27% being the result of a routine traffic stop. Twenty percent of DWI charges were the result of a traffic collision. Spot checks were the source of 14% of all charges, and public complaints led to an average of 10% of DWI charges.

Figure 5-1: Circumstances Resulting in Criminal-code DWI Charges or Short-term Suspensions



A somewhat different pattern emerges for the circumstances leading to short-term suspensions. Routine traffic stops were the most common source of short-term suspensions (34%), followed by spot checks (30%), and stops for erratic driving (23%). Relatively few short-term suspensions were issued as the result of a traffic collision (6%) or public complaint (5%).

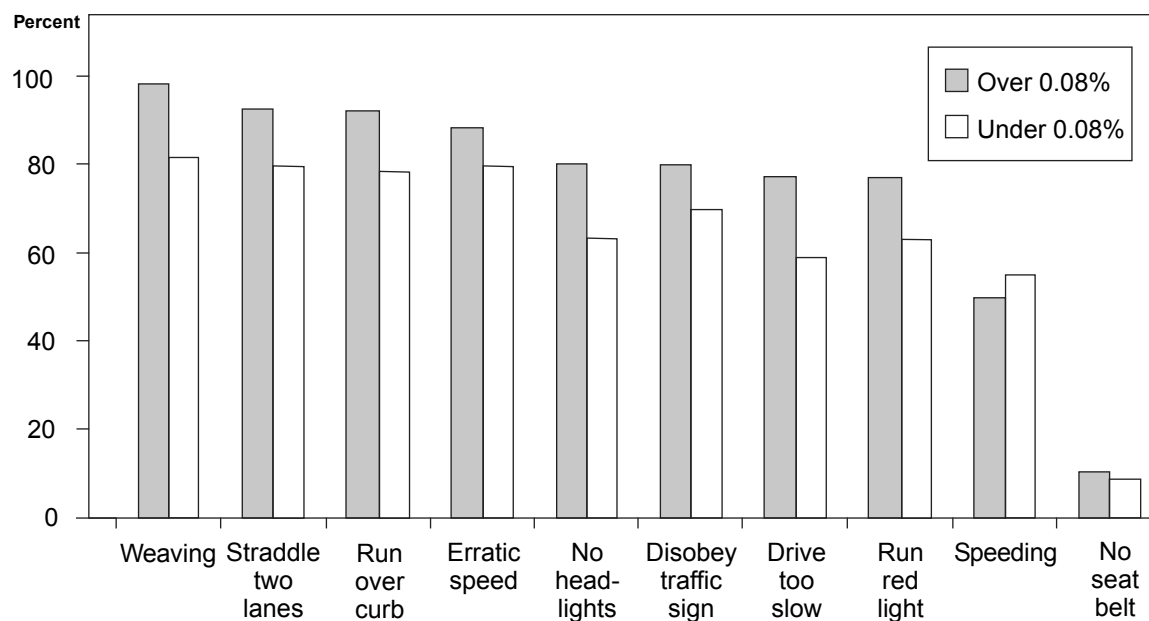
More experienced officers reported that a significantly greater proportion of DWI arrests ($t = -2.51$, $df = 122$, $p < .05$) occurred as a result of random spot checks than officers with less experience. This was marginally significant for short-term suspensions ($t = -1.82$, $df = 117$, $p = .07$). Officers with greater training in DWI enforcement reported a greater percentage of DWI arrests resulted from spot checks than officers with less training ($t = -2.34$, $df = 90$, $p < .05$). This was marginally significant for short-term suspensions ($t = -1.75$, $df = 85$, $p = .08$). There were no differences according to community size.

5.2.4 Behavioural Cues for Impaired Driving

Participating officers were asked to rate the usefulness of a series of behavioural cues for identifying impaired drivers using a scale from 1 (not at all useful) to 4 (very useful). The items were completed twice—once as cues for driving with a BAC over 0.08% and again as cues for driving with a BAC under 0.08%.

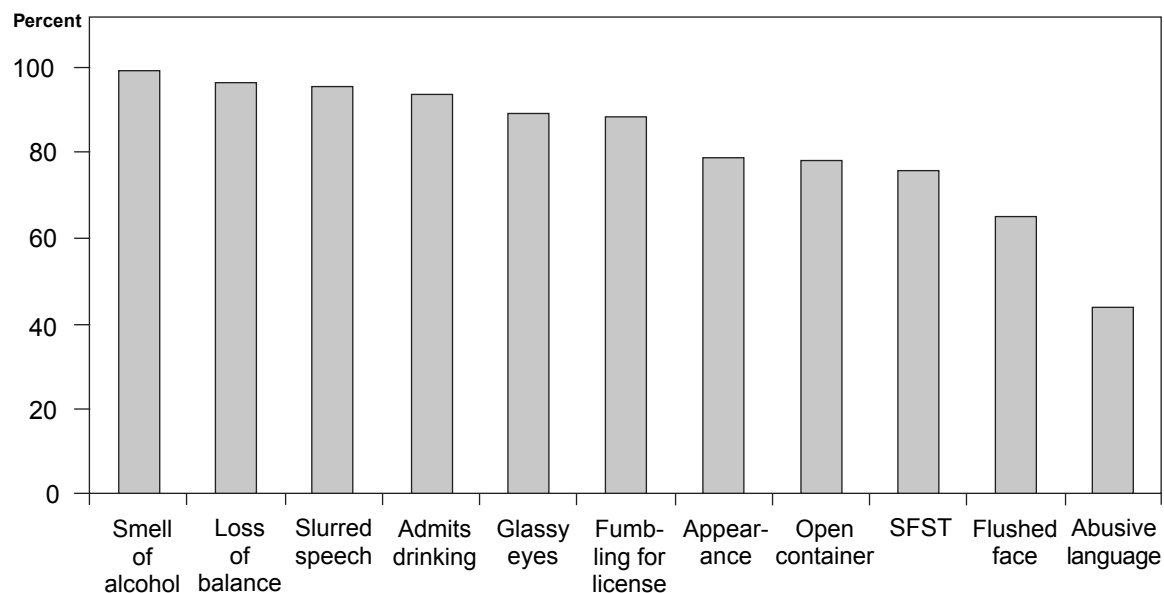
Figure 5-2 displays the percent of officers who rated each cue as “fairly useful” or “very useful”, separately for drinking drivers over or under 0.08%. The same cues were rated as being useful for identifying drinking drivers both over or under 0.08%. The extent of the perceived usefulness of these cues was less useful for identifying drivers with BACs lower than 0.08% than for identifying drivers with higher BACs. Weaving, straddling two lanes, running over a curb, and erratic speed were rated as the most useful cues. There were no differences in the perceived usefulness of cues according to officer experience or training in DWI enforcement.

Figure 5-2: Percent who Rate Behavioural Cues used to Identify Possible Drinking Drivers as fairly useful or very useful



Officers were also asked to rate the usefulness of a series of signs of suspected alcohol use that could lead to a demand for the driver to provide a breath sample. Figure 5-3 shows the percent of respondents who rated each sign or symptom as “fairly useful” or “very useful”. Not unexpectedly, the classic, well-known signs of drinking—i.e., the smell of alcohol, slurred speech, loss of balance—were rated as the most useful. There were no differences in ratings of perceived usefulness according to the extent of experience or the amount of special training in DWI enforcement.

Figure 5-3: Percent who Rate Signs used to Determine Demand for Breath Sample as Fairly Useful or Very Useful



5.2.5 Charging and Court Practices

The BAC specified in the *Criminal Code* as the level over which it is a criminal offence to operate a motor vehicle is 0.08%. However, it is well recognized that drivers are not routinely charged unless their BAC is sufficiently in excess of 0.08% so as to take account of known measurement error, thereby reducing the possibility of the case being dismissed on the grounds that the driver's BAC might actually have been below 0.08%.

Officers were asked to indicate the threshold BAC at which *Criminal Code* impaired driving charges were typically laid in their department or detachment. The most common response was 0.10%—61% of officers selected this option. Only 14% indicated charges were laid at 0.08%, 16% said 0.09%, and 6% said 0.110%.

The time required to process a *Criminal Code* impaired driving charge can be a significant deterrent for officers to lay such charges. Officers who responded to the present survey indicated that it took an average of 133 minutes (range 60 to 240 minutes) to process *Criminal Code* DWI charges. This did not differ according to the officer's experience or training. The time to process criminal charges did, however, vary by community size. Less time was required to process charges in the smallest communities (113 minutes), and the longest times were reported by officers in the largest communities (142 minutes; $F = 5.18$, $df = 2$, $p = .007$).

Over half (53%) of all respondents said they would be likely to charge more drivers with impaired driving offences if the time required to process such *Criminal Code* charges was reduced.

5.2.6 Court Experiences

Officers reported that an average of 72% of the drivers they charged with a *Criminal Code* DWI offence pleaded guilty to the offence, 4% pleaded guilty to a lesser offence under the *Highway Traffic Act*, and 2% pleaded guilty to another *Criminal Code* offence (e.g., dangerous driving or criminal negligence). Overall, officers reported that an average of 22% of drivers charged with a *Criminal Code* DWI offence pleaded not guilty and went to trial.

Of those drivers who went to trial, officers reported that, on average, 76% were convicted of the *Criminal Code* DWI offence and 2% were convicted of some other

Criminal Code driving offence. In an average of 4% of cases, the accused was convicted of a lesser offence under the *Highway Traffic Act*. The driver was acquitted in 17% of cases. These percentages are fairly consistent with others reported (Jonah et al. 1997; Vingilis et al. 1987). The percent convicted of DWI was marginally higher for officers with more experience ($t = 1.79$, $df = 58$, $p = .08$) and officers with more training ($t = 1.80$, $df = 46$, $p = .09$). There were no other significant differences in the conviction and acquittal percentages according to officer experience, amount of DWI training, or community size.

Officers were asked about the extent to which they experienced problems in court associated with the introduction of the results from a roadside breath test using an approved screening device. Over three-quarters (78%) of officers indicated they “never” or “rarely” experienced problems introducing this evidence, only 17% said they had problems a “few times”, and 5% said they “regularly” had problems. There were no differences in the extent to which problems were encountered according to officer experience, training, or community size.

Participating officers were also asked to indicate how often they felt drivers accused of impaired driving escaped conviction under the *Criminal Code* due to legal or technical difficulties. Almost half (48%) of all officers said this “never” happened, 9% said it happened “rarely”, and 39% said it happened “a few times”. No one indicated that this was a “regular” occurrence. There were no differences in responses according to officer experience, amount of training, or community size.

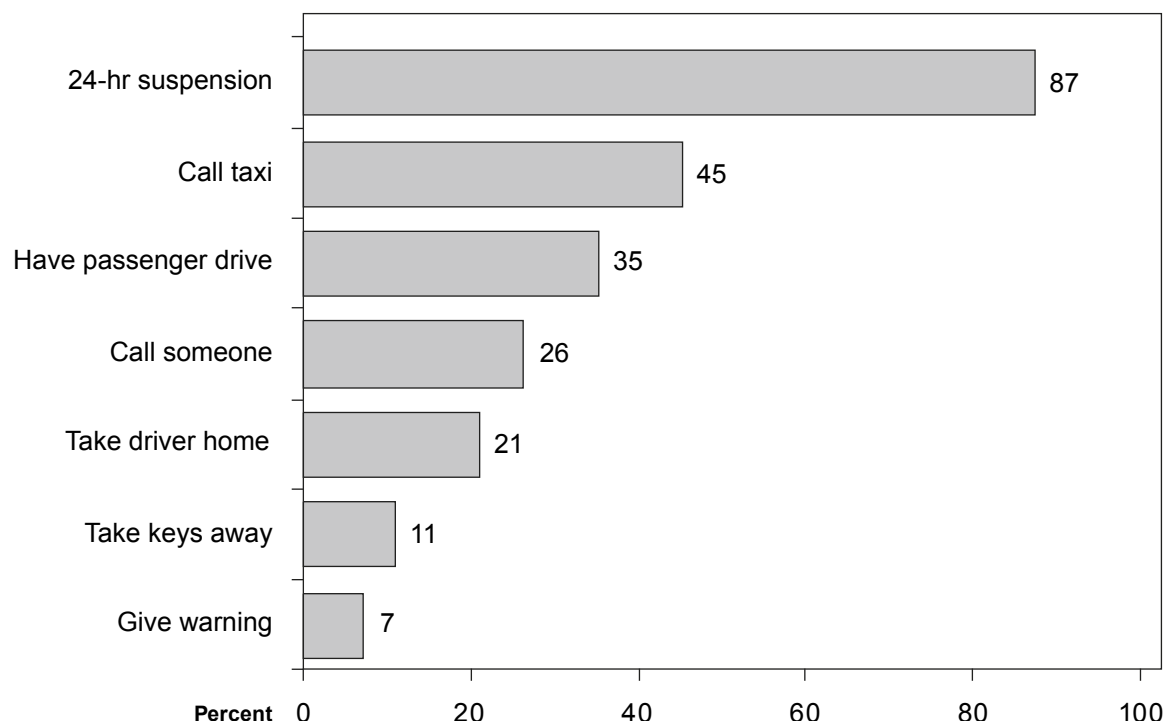
5.2.7 Use of Discretion

Only 15% of officers indicated that they “never” used discretion in dealing with suspected impaired drivers. The largest group said they did so “rarely” (41%); less than one in five did so “regularly” (18%). The use of discretion did not differ according to officer experience or the extent of special DWI training. Discretion was more common among officers serving larger communities ($\chi^2 = 17.01$, $df = 6$, $p < .01$).

Figure 5-4 expands on the issue of discretion by presenting the proportion of officers who reported taking various actions rather than charging the driver with a *Criminal Code* DWI offence, even if actions meriting a DWI conviction had been committed. The most commonly reported action was to issue a short-term suspension; 87% of the officers who reported having taken alternate actions said they had issued a short-term

suspension. This was followed by arranging for a taxi (42%) or having a non-impaired passenger take over as driver (35%). Taking the driver's keys away and giving a verbal warning were reported considerably less frequently (11% and 7%, respectively).

Figure 5-4: Percent Taking Actions other than Charging a Driver with a DWI Offence

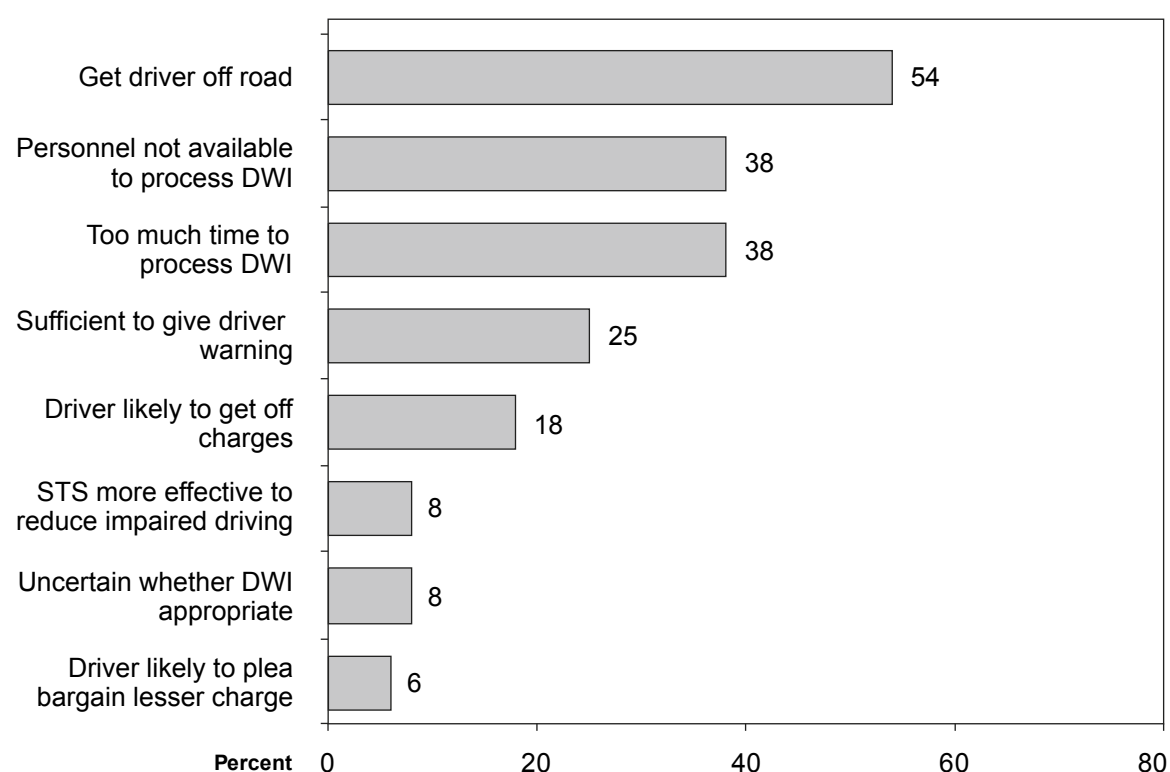


Having a non-impaired passenger drive the vehicle was more commonly reported by officers with greater experience ($\chi^2 = 6.97$, $df = 1$, $p < .01$). Taking the driver home was more common among officers with higher levels of special training in DWI enforcement ($\chi^2 = 8.0$, $df = 1$, $p < .01$) and in smaller communities ($\chi^2 = 6.52$, $df = 2$, $p < .05$). Arranging for a taxi was more frequently reported by officers in larger communities ($\chi^2 = 6.33$, $df = 2$, $p < .05$). Issuing a short-term suspension was less common as an alternative in smaller communities ($\chi^2 = 20.1$, $df = 2$, $p < .001$).

Overall, 21% of officers surveyed reported that drivers are “regularly” issued short-term suspensions rather than being charged with *Criminal Code* DWI offences when their BACs are likely over 0.08%. About one-third (35%) said it was done “a few times”, and another one-third said it was done “rarely”. However, only 11% said it was “never” done. Officers with more training in impaired driving enforcement were more likely to report that short-term suspensions were “never” issued in place of *Criminal Code* DWI charges ($\chi^2 = 8.88$, $df = 3$, $p < .05$).

The reasons for issuing a short-term suspension rather than charging suspected impaired drivers under the *Criminal Code* are listed in order of reported frequency in Figure 5-5. The most commonly reported reason for not charging the driver with a *Criminal Code* DWI offence was that the short-term suspension served to get the driver off the road (54%). This was followed by “it takes too much time to process *Criminal Code* DWI charges” (38%) and “personnel not available to process impaired driving charges” (38%). Only 25% of officers indicated that a short-term suspension “was sufficient to give the driver a warning”.

Figure 5-5: Reasons for a 24-hour Suspension rather than a Criminal-code DWI Offence



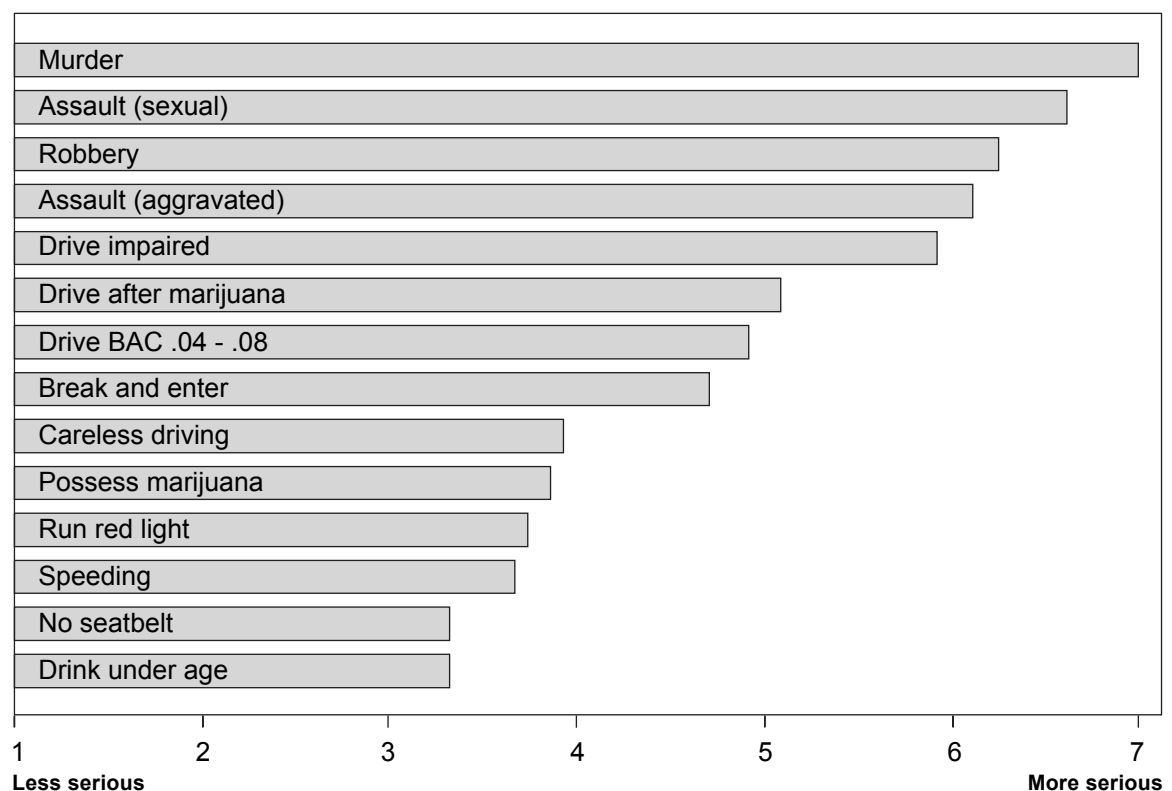
Officers with less experience were more likely than more experienced officers to indicate that a short-term suspension was sufficient ($\chi^2 = 4.911$, $df = 1$, $p < .05$). In addition, the idea that a short-term suspension was sufficient was more prevalent in medium and large communities than in smaller communities ($\chi^2 = 6.11$, $df = 2$, $p < .05$).

5.2.8 Officer Attitudes and Opinions

To determine the extent to which impaired driving and drinking and driving were

perceived as serious offences, officers were asked to rate the seriousness of a number of common offences using a 7-point scale, where 1 represented “less serious” and 7 represented “more serious”. Figure 5-6 presents the average ratings of the perceived seriousness of these offences from most serious (i.e., murder) to least serious (i.e., underage drinking). With an average rating of 5.9, impaired driving was rated among the more serious offences. Driving with a BAC between 0.04% and 0.08% received an average rating of 4.9.

Figure 5-6: Average Ratings of Perceived Offence Seriousness



Participating officers were also asked to provide their opinions on a number of issues related to impaired driving. Just over half (53%) of the officers felt the current penalties for those convicted of *Criminal Code* impaired driving offences were too light; 41% felt the penalties were about right.

The majority of officers agreed that drinking and driving was a serious problem in Canada (85%), and that increased enforcement could help decrease the magnitude of the problem (79%). Many officers (84%) also indicated that other police priorities often make it difficult to spend more time on impaired driving enforcement.

Only 36% of officers agreed with the statement that the community approach to policing was creating a reduced focus on the drinking and driving issue. This approach involves de-centralizing core police services by having officers work primarily in a community to deal with the specific concerns of that community. Individuals may feel that impaired driving is not a problem within their community and, therefore, it receives less focus. Dedicated impaired driving courts received the support of 42% of officers. There was virtually no agreement with the idea of removing simple impaired driving without a collision from the *Criminal Code*. Fewer than 1% of officers indicated support for this idea.

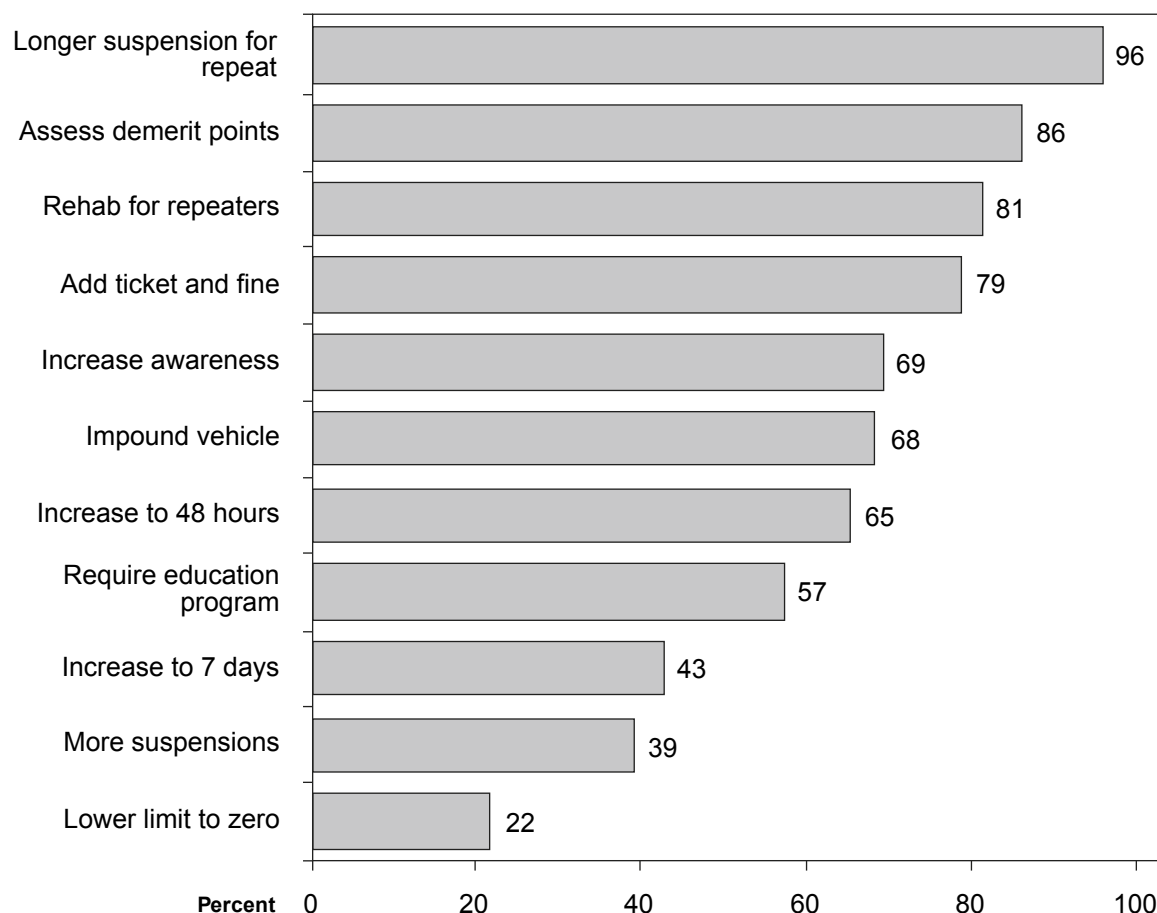
There was a high level of agreement with some countermeasures already in place—e.g., vehicle impoundment for disqualified drivers (90%), administrative licence suspension (84%), compulsory assessment and rehabilitation for convicted impaired drivers (85%), and ignition interlock programs for convicted offenders (74%). There was also strong support for other measures, such as mandatory breath testing of all drivers involved in a collision (77%) and promoting public education programs on the risks of riding with an impaired driver (80%). However, there was relatively weak support for random breath testing (36%) and for lowering the legal BAC limit in the *Criminal Code* from 0.08% to 0.05% (35%).

5.2.9 Measures to Enhance Short-term Suspensions

Figure 5-7 presents the percent of officers who agreed or strongly agreed with each of several measures that might enhance the effectiveness of short-term suspensions. Imposing a long suspension for repeat violations received the highest level of support—96% of officers agreed with this measure. Strong support was also found for many other measures as well, including: assessing demerit points (86%), adding a traffic ticket and a fine to the suspension (79%), and requiring repeat violators to attend an alcohol screening and/or rehabilitation program (81%). As of 2004, Saskatchewan has introduced demerit points in association with the short-term suspension. Each point is equivalent to a \$25 fine and one short-term suspension is equal to \$100. These financial penalties are cumulative in that someone with a previous short-term suspension who receives a second one within a three-year period will pay \$200.

There was considerably less support for increasing the length of the suspension from 24 hours to 7 days (43%), simply issuing a greater number of suspensions (39%), or lowering the BAC limit for short-term suspensions from 0.04% to zero (22%).

Figure 5-7: Support for Measures to Enhance 24-hour Suspensions



5.3 DISCUSSION

It is apparent that the police in Saskatchewan view impaired driving as a serious problem and are committed to removing impaired drivers from the road. However, based on their own self-reports, they lay relatively few impaired driving charges—on average, less than one per month. Officers recognize the numerous competing priorities for their time and acknowledge that they are unable to devote as much effort to impaired driving enforcement as they believe is necessary and/or desirable. In addition, they express a degree of frustration over the length of time required to process an impaired driving charge and, to some extent, the number of offenders who are acquitted of DWI charges or who plea bargain to lesser offences.

Police officers also indicate that they issue almost as many short-term suspensions as *Criminal Code* DWI charges—about one per month. Short-term suspensions were introduced as a quick and efficient procedure that the police could invoke to re-

move from the road those drivers who had been drinking but whose BACs were below the legal limit. The brief period of suspension was considered appropriate for the level of risk associated with the behaviour. The swift and certain nature of the short-term suspension for drivers with low BACs gave police officers another tool for dealing with drinking drivers. The use of the short-term suspension by the police in Saskatchewan effectively doubles the number of drinking drivers that are removed from the roads.

Drinking drivers come to the attention of the police in one of two primary ways: through their own driving behaviour (e.g., erratic driving, a violation, or collision) or through spot checks. Not surprisingly, because of the higher BACs and more extensive degree of impairment involved, *Criminal Code* DWI charges are more likely to be identified through erratic driving and a crash and less likely through spot checks, compared to short-term suspensions. The extent of impairment and the risk of crash involvement among low BAC drivers is not as profound as that among those with higher BACs, so they are less likely to be detected as a result of gross driver errors.

Most officers tend to rely on the obvious signs and symptoms to help identify drivers who may be under the influence of alcohol. These typically include the gross, outward physical characteristics associated with alcohol intoxication such as ataxia, slurred speech, the smell of alcohol, and glassy or bloodshot eyes.

The extent of experience as a police officer and the amount of special training in DWI enforcement issues appeared to have relatively limited impact on DWI enforcement. It should be noted, however, that most officers who completed the survey had at least some special training in DWI enforcement issues. Hence, the difference in skill level between the low and high training groups may not have been profound and may have been of little practical significance.

Most officers acknowledged using discretion in dealing with drinking drivers at least occasionally. Issuing a short-term suspension rather than proceeding with *Criminal Code* DWI charges was the most commonly reported use of discretion. Getting the driver off the road was most often cited as the reason for taking this action. However, other common reasons included the excessive amount of time required to process *Criminal Code* DWI charges and the lack of personnel available to process them. These latter two reasons are systemic problems over which the individual officer has little control. Their use of discretion is, in part, likely a function of frustration with inadequacies in the

system and a desire to have an immediate impact of road safety by taking the drinking driver off the road.

The use of discretion was the one area where there appeared to be some evidence of the influence of experience and/or special training in DWI enforcement issues. Officers with greater levels of experience and/or special DWI training were somewhat less likely to use discretion—or at least particular types of discretion—in dealing with drinking drivers. The use of discretion was also more commonly reported in larger communities, perhaps reflecting the greater demands placed on police services in metropolitan areas and the lack of time available for DWI enforcement.

Police officers are often faced with difficult situations when dealing with drinking drivers. Based on the available evidence—e.g., the driver’s behaviour or preliminary breath test results—there may not be sufficient evidence to warrant the investment of time, effort, and resources associated with the processing of *Criminal Code* DWI charges that may ultimately be dismissed. On the other hand, officers may be uncomfortable allowing a person who has obviously been drinking to simply drive away. The short-term suspension is an option available to police officers in Saskatchewan for getting these “borderline” cases off the road.

In using discretion, one must be cognizant of the potential longer term impact of the action. For some drivers, a short-term suspension may be sufficient to send a strong warning about their drinking and driving behaviour. For others, a short-term suspension may be seen as a relatively minor penalty to pay—a temporary annoyance—which ultimately has little impact on their subsequent behaviour. Although it may be extremely difficult to predict how an individual may react to being issued a short-term suspension, particularly in cases where criminal charges may have been warranted, the results of Study 2 in this series of studies clearly indicate that drivers who have been previously convicted of a *Criminal Code* DWI offence are at extremely high risk of subsequent criminal convictions if they are issued a short-term suspension.

In conclusion, police officers in Saskatchewan are committed to DWI enforcement and take advantage of all the tools at their disposal to reduce the number of drinking drivers on the road. The short-term suspension is used almost as frequently as *Criminal Code* DWI charges as a means of dealing with drinking drivers.

The majority of officers admit that, at times, they exercise discretion in dealing with particular cases. In many of these situations, the short-term suspension is often a valuable alternative that can be implemented quickly and easily to prevent the impaired driver from driving. Although this serves to get the drinking driver off the road, officers should exercise caution when using discretion. In looking at the specific deterrent effect (Section 3), a percentage of drivers, who have been issued a short-term suspension, do re-offend, and this is more likely if the driver has a prior *Criminal Code* DWI. Therefore, an officer's consideration of priors and knowledge of the likelihood of a short-term suspension re-offence would be helpful in their determination of the charge to be laid.

6 Conclusions

Short-term suspensions were introduced in many provinces across Canada as a quick and efficient procedure that police could invoke to remove from the road those drivers who had been drinking but whose BAC was below the legal limit. Police issue short-term suspensions about as often as they lay *Criminal Code* DWI charges, thereby taking approximately twice as many drinking drivers off the road as might otherwise be the case if *Criminal Code* charges were the only option available. This alone may be sufficient reason to retain short-term suspensions apart from its effect, or lack thereof, on deterrence.

The swift and certain nature of the short-term suspension for drivers with low BACs was expected to enhance the general deterrent effect, thereby reducing the prevalence of drinking and driving behaviour and alcohol-involved collisions. Although the results of the present study reveal reductions in driver fatalities with low BACs and alcohol-involved driver injuries following the implementation of the short-term suspension law in Saskatchewan, the decreases could not be isolated from the existing downward trends in these indices. At best, the short-term suspension law may have contributed to the ongoing downward trend in alcohol-involved crashes in Saskatchewan, but any effect the short-term suspension may have had was not sufficiently strong to isolate it from that of other factors.

The target of the short-term suspension law was drivers who had consumed some alcohol but not a sufficient amount to elevate their BACs above the legal limit—i.e., drivers with BACs between 0.04% and 0.08%. Drivers with BACs in this range account for only 3% of all driver fatalities and 8% of all drinking and driving fatalities in Canada.

The relative risk of crash involvement at BACs of this magnitude is considerably lower than that associated with higher BACs (e.g., Borkenstein et al. 1964, Compton et al. 2002). Even if the short-term suspension law had a substantial general deterrent impact and effectively changed the behaviour of drivers with BACs in the target range, they contribute so little to the overall number of alcohol-related fatal crashes that the impact would be minimal and difficult to detect.

Nevertheless, the analysis of the fatality data indicated that there was a net decrease in the absolute number of driver fatalities with BACs below 0.08% following the introduction of the short-term suspension law in Saskatchewan. Although the numbers are small and the magnitude of the decrease was not statistically significant, it was the only BAC group in which a reduction in driver fatalities was evident. This suggests that the general deterrent impact may have been restricted to those who drive after drinking, but only at relatively low BACs.

In this context, it is important to recognize that the majority of drinking drivers who experience problems have BACs well in excess of the 0.08% limit. For example, the median BAC among drivers arrested or convicted of a DWI offence is 0.16% to 0.17% (Hedlund and McCartt 2002). In addition, 83% of drinking drivers killed in crashes in Canada in 2002 had BACs over 0.08%; 57% were over 0.16% (Mayhew et al. 2004). Those who drive with BACs of this magnitude do not comply with the existing BAC limit in the *Criminal Code* and do not appear to be easily deterred. There is no compelling reason to believe that these individuals would be motivated to change their behaviour in response to the threat of a short-term suspension at a lower BAC. This suggests that this high-BAC group of drivers would not be deterred by the short-term suspension for low BACs, unlike those who drive after drinking at low BACs.

The short-term suspension was also expected to have a specific deterrent effect. It was viewed as a means to provide drivers with a warning about their driving after drinking behaviour without the stigma and serious consequences of *Criminal Code* DWI charges. As an early warning system, it was expected that drivers issued short-term suspensions would reduce their drinking and driving behaviour or at least prevent it from escalating to a level whereby they would be liable to *Criminal Code* DWI charges.

The specific deterrent impact of the short-term suspension law was difficult to determine. This was because it was not possible to identify a group of drivers at low

BACs who were not subject to a short-term suspension. Hence, it was necessary to draw inferences from comparisons with a group of drivers charged with a *Criminal Code* DWI offence and a group of drivers with no drinking and driving violations of any type. These three groups of drivers initially differ from each other on at least one critical dimension—i.e., their driving after drinking behaviour. Conclusions about specific deterrent effects must be based on inferences of differences between non-equivalent groups.

An analysis of driver records revealed different re-offence rates for the various groups examined. Among drivers issued a short-term suspension, most subsequent drinking and driving violations were repeat short-term suspensions. Among drivers convicted of a *Criminal Code* DWI offence, most subsequent drinking and driving violations were repeat *Criminal Code* DWI offences. The apparent consistency of behaviour, as determined by the most common type of subsequent violation, suggests that the drinking and driving behaviour of those issued a short-term suspension differs from that of *Criminal Code* offenders and does not necessarily escalate to more serious—and risky—levels of drinking and driving.

For those without a prior *Criminal Code* DWI, relatively few drivers (i.e., < 8%) who were originally issued a short-term suspension committed a subsequent *Criminal Code* DWI offence over the six-year follow-up period. Most of those who were convicted of a subsequent *Criminal Code* DWI offence did so within the first twelve months following the initial short-term suspension. This suggests that there exists a small group of drivers for whom a short-term suspension is clearly not an effective deterrent in preventing the escalation of their drinking and driving behaviour to a more serious level.

Part of the rationale underlying short-term suspensions is its function as an early warning and/or early detection system. Imposing a swift and certain—but not necessarily severe—sanction on those drivers whose drinking is sufficient to warrant intervention but not sufficient to impose criminal sanctions is intended to send a message to drivers that their behaviour is inappropriate or “borderline” and is in need of modification before it escalates. The fact that relatively few drivers issued a short-term suspension have subsequent *Criminal Code* DWI convictions suggests that the “message” of the short-term suspension is being heeded by the majority of these drivers. On the other hand, the fact that some drivers issued a short-term suspension are subsequently charged with a *Criminal Code* DWI offence and that these offences occur relatively quickly following the short-term suspension indicates that the short-term suspension

is not effective for all drivers. In fact, the extremely high rate of subsequent *Criminal Code* DWI convictions among those with a prior DWI conviction identifies this group as a particularly high-risk group for whom a short-term suspension is inappropriate. These drivers need to be identified and targeted for immediate remedial intervention.

Taken together, the evidence suggests that drivers issued a short-term suspension for driving with BACs between 0.04% to 0.08% represent a group of drinking drivers that is different from those who are charged with a more serious impaired driving offence under the *Criminal Code*. This hypothesis was examined in Study 3, which involved a questionnaire-based survey of the psychological, social, and behavioural characteristics of three groups of drivers—the first group had been issued a short-term suspension (STS) for driving with a low BAC, the second had been convicted of a *Criminal Code* impaired driving offence (CC), and the third group was from the general population of drivers who had never been sanctioned for drinking and driving behaviour (GP).

The two drinking driver groups (i.e., STS and CC) differed in many ways from the sample of drivers from the general population. The drinking driver groups were younger and more likely to be male. They also exhibited higher levels of alcohol consumption. In many ways, the STS and CC were more similar to each other than they were to the GP group, but there were also important differences between the STS and CC groups. The STS group was characterized by riskier driving practices, whereas the CC group was distinguished by the extent of their excessive drinking. Drivers in the STS group were risky drivers who drank frequently but at relatively low levels. They were most likely identified in traffic as a result of their risky driving behaviour and subsequently found to have been drinking. On the other hand, drivers in the CC group indicated drinking heavily and often. They were most likely come to the attention of the police as a result of the extent of their impaired driving behaviour.

The differences between the STS and CC groups suggest that different remedial interventions may be appropriate. The STS group may benefit from a driver improvement program with an emphasis on separating drinking and driving. The excessive level of alcohol consumption among drivers in the CC group indicates the need for assessment and treatment of alcohol problems.

The survey of police officers revealed that they view impaired driving as a serious problem, but they recognize that competing priorities limit the amount of time available

for impaired driving enforcement. They also expressed a degree of frustration over the length of time required to process a *Criminal Code* impaired driving charge.

Short-term suspensions provide the police with a swift and certain means of dealing with drivers who have been drinking but have relatively low BACs and may not necessarily display overt signs of impairment. However, many officers acknowledged that, on occasion, they exercise discretion and issue a short-term suspension rather than proceed with *Criminal Code* charges. For some, the use of discretion was related to their frustration with the limitations and inadequacies in the criminal system; for others, it was a desire to have an immediate impact on road safety by taking the driver off the road.

The discretionary use of short-term suspensions has been subject to considerable criticism. However, the practice needs to be viewed within the context of overall drinking and driving enforcement. It must be recognized that determining the extent of a driver's impairment at roadside can be a challenging task. Indeed, other research has reported that police officers fail to detect at least half of all legally impaired drivers in random roadside check programs (Wells et al. 1997). In many cases, the officer may suspect alcohol use but not necessarily at a level sufficient to warrant charges. This requires the officer to make a difficult choice—spend two hours processing charges that will likely be dismissed or allow the driver to proceed. The short-term suspension provides the officer with an option to deal with these cases decisively and efficiently, and in a manner that is consistent with the interests of road safety.

The extent to which police officers exercise discretion in dealing with impaired drivers introduces a potential source of bias in this study. For example, in Studies 2 and 3, the STS group was defined as those drivers who had been issued a short-term suspension. Drivers who were issued a short-term suspension in lieu of more serious *Criminal Code* charges would be included in the STS group rather than the CC group. This would result in the STS and CC groups being more similar to each other than might actually be the case. Further contributing to this potential bias are those drivers who were issued a short-term suspension in conjunction with a *Criminal Code* impaired driving offence, but who were never convicted of the *Criminal Code* offence. Because driver records only include convictions (not charges), these drivers would have been included in the STS group rather than the CC group. Again, these drivers would be expected to have characteristics more similar to the CC group than the STS group.

Despite these potential sources of bias, the fact that the STS and CC groups could be distinguished from each other along a number of dimensions indicates that the extent of the bias was small and/or the differences between the groups may be larger than they appear.

6.1 RECOMMENDATIONS

Saskatchewan is one of the jurisdictions in Canada that records short-term suspensions on the driver record. Beyond the importance of maintaining records of short-term suspensions for purposes of evaluation, such records are critical for tracking and identifying repeat offenders for remedial interventions. In Saskatchewan, drivers who receive a second short-term suspension are required to take the *Driving Without Impairment* course within 90 days. Subsequent occurrences within five years result in a 90-day suspension and a requirement to complete addiction screening and an education or recovery program before the licence is reinstated. The recording of suspension along with the “early intervention” feature are strengths of the Saskatchewan program and should be considered by all jurisdictions that have, or are considering, short-term suspensions for low BAC drivers.

The lack of a substantial general deterrent impact of the short-term suspension law may suggest that the length of the suspension may not be sufficiently severe. Although short-term suspensions are swift and certain, these are only two of the elements necessary for effective deterrence. Enhancing the severity of the sanction may increase the deterrent value of the law. Options for consideration include increasing the length of the suspension and/or issuing a traffic citation along with an associated fine. This latter option received the support of 78% of police officers who participated in the police survey. About two-thirds (65%) of officers supported increasing the length of the suspension to 48 hours; 42% agreed with a seven-day suspension. Although there appears to be support for increasing the severity of the sanction among police officers, it is not known how much of an increase is necessary to affect an increase in deterrence. As part of the Strategy to Reduce Impaired Driving (STRID), the Canadian Council of Motor Transport Administrators (CCMTA) has recently proposed a model for short-term suspensions that includes a suspension period of 7 to 14 days (STRID 2005). It is recommended that consideration be given to increasing the severity of the sanction as well as the inclusion of a formal appeal process.

General deterrence also depends upon the level of public awareness of the law. A recent survey of Canadian drivers found less than half (46%) of respondents in Saskatchewan were aware of the short-term suspension for low BACs. In the present study, just under half of drivers from the general population could identify the BAC at which short-term suspensions were imposed. Clearly, there is room for improvement in this area. It is, therefore, recommended that greater efforts be made to increase the level of public awareness about short-term suspensions for drivers with low BACs.

It has long been suspected that police officers have been issuing short-term suspensions to drinking drivers in cases where *Criminal Code* impaired driving charges may be appropriate and/or warranted. The police survey confirmed that police, on occasion, use their discretion in this regard. In light of the differences in the characteristics and the likelihood of repeat instances of driving after drinking among groups of drivers issued short-term suspensions and those charged under the *Criminal Code* (with and without prior *Criminal Code* convictions), it is recommended that the use of discretion should be reviewed with the intent of ensuring that the best interests of justice and road safety are being upheld.

The high recidivism rate (i.e., 88%) among drivers issued a short-term suspension, who have a prior *Criminal Code* impaired driving conviction, is of some concern. These drivers are at particularly high risk of engaging in subsequent impaired behaviour. It is recommended that drivers with a prior *Criminal Code* impaired driving conviction on their record who are issued a short-term suspension be flagged for immediate assessment and remedial intervention. As well, priors should be identifiable to officers in order to assess their use of discretion.

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Appendix A

ROAD SAFETY QUESTIONNAIRE

1. For each of the following road safety issues, please indicate how serious a problem you think it is today. Circle the number between 1 and 6 which best reflects your opinion, where **1 means you feel it is not a problem at all and 6 means you feel it is an extremely serious problem.**

Children who are not properly secured in child safety seats	1	2	3	4	5	6
Speeders	1	2	3	4	5	6
Drivers who run red lights	1	2	3	4	5	6
Driving a car that is <i>not</i> equipped with air bags	1	2	3	4	5	6
Aggressive drivers	1	2	3	4	5	6
Drivers using cell phones	1	2	3	4	5	6
Drivers distracted by such things as tape decks, CDs or radios	1	2	3	4	5	6
Sleepy drivers	1	2	3	4	5	6
Tire defects	1	2	3	4	5	6
Drivers impaired by alcohol	1	2	3	4	5	6
Drinking drivers	1	2	3	4	5	6
Poorly maintained vehicles	1	2	3	4	5	6
Advertising which portrays people speeding or driving irresponsibly	1	2	3	4	5	6
Truck drivers who are tired by driving long hours	1	2	3	4	5	6
Drivers impaired by over-the-counter or prescription medications	1	2	3	4	5	6
Drivers impaired by illegal drugs	1	2	3	4	5	6

Disagree Strongly = 1 Agree Strongly = 6

2. For each of the following statements, please indicate the extent to which you agree or disagree. Circle the number from 1 to 6 that best reflects your opinion, where **1 represents strongly disagree** and **6 represents strongly agree**.

Disagree Strongly = 1 Agree Strongly = 6

The use of hand-held cell phones while driving should be banned	1	2	3	4	5	6
There should be greater enforcement of traffic laws	1	2	3	4	5	6
Police should be able to issue tickets to all drinking drivers regardless of their alcohol level	1	2	3	4	5	6
All drivers involved in serious crashes should be tested for alcohol and/or drugs.	1	2	3	4	5	6
Photo radar should be used to catch speeders	1	2	3	4	5	6
Red light cameras should be used to catch drivers who run red lights	1	2	3	4	5	6
The police should do more spot checks for drinking drivers	1	2	3	4	5	6
Drivers should be required to submit to tests of physical coordination if suspected of using alcohol or drugs	1	2	3	4	5	6
Elderly drivers should have restrictions on their driving	1	2	3	4	5	6
The police should immediately impound the vehicles of drivers who fail a breath test for alcohol	1	2	3	4	5	6
A device that prevents a drinking driver from starting the car should be mandatory for all convicted impaired drivers	1	2	3	4	5	6
After completing a period of licence suspension, drinking drivers should be restricted to a zero alcohol limit	1	2	3	4	5	6
Police should be able to demand a blood test of drivers suspected of being under the influence of drugs	1	2	3	4	5	6
Police should immediately suspend the licence of any driver who has been drinking	1	2	3	4	5	6
Impaired drivers should be screened for alcohol abuse and required to attend an appropriate rehabilitation program	1	2	3	4	5	6
Police should spend more time fighting crime and less on traffic enforcement	1	2	3	4	5	6

3. For each of the following statements, please indicate whether, in your opinion, the statement is **generally TRUE for you (T)** or **generally FALSE for you (F)**.

I get annoyed if the traffic light changes to red as I approach	T	F
I find driving a form of relaxation when I feel tense	T	F
I swear under my breath at other drivers	T	F
If the driver behind me has his lights shining in my mirror, I pay him back in some way	T	F
I sometimes swear out loud at other drivers	T	F
I have never given chase to a driver who has annoyed me	T	F
When I am upset, driving helps soothe my nerves	T	F
I find it difficult to control my temper when driving	T	F
It's fun to beat other drivers at the getaway	T	F
I often use my horn when I get annoyed at other drivers	T	F
It's fun to pass other cars on the highway, even if you are not in a hurry	T	F
I am easily provoked or angered when driving	T	F
During the past few months, I have gone driving to "blow off steam" after an argument at least once	T	F
Driving at high speeds is exciting	T	F
It's fun to outwit other drivers	T	F
Driving helps me forget about pressures	T	F
I sometimes take a risk when driving just for fun	T	F
Being behind the wheel of a vehicle gives me a feeling of power	T	F
It's fun to maneuver and weave through traffic	T	F
I sometimes make rude signs at other drivers who annoy me	T	F
I lose my temper when another driver does something stupid	T	F
I have been known to flash my lights at other drivers in anger	T	F

4. Please indicate how often you engage in each of the following driving behaviours using a six-point scale, where **1 represents “Never”** and **6 represents “Nearly all the time”**.

Driving Behaviour	Never 1	Rarely 2	Some- times 3	Often 4	Very Often 5	Nearly all the time 6
Fail to see pedestrians crossing	1	2	3	4	5	6
Change lanes without checking mirror	1	2	3	4	5	6
Try to pass vehicle turning left	1	2	3	4	5	6
Nearly hit a cyclist while turning	1	2	3	4	5	6
Misjudge the speed of an oncoming vehicle	1	2	3	4	5	6
Nearly hit the car in front	1	2	3	4	5	6
Miss a “Yield” or “Stop” sign	1	2	3	4	5	6
Brake too quickly	1	2	3	4	5	6
Risky passing	1	2	3	4	5	6
Close following/tailgating	1	2	3	4	5	6
Run a red light	1	2	3	4	5	6
Give chase when angry at another driver	1	2	3	4	5	6
Disregard speed limits	1	2	3	4	5	6
Drink and drive	1	2	3	4	5	6
Express hostility or anger towards other drivers	1	2	3	4	5	6
Engage in street racing	1	2	3	4	5	6
Allow another vehicle into line in traffic	1	2	3	4	5	6
Drive more than 10 km/hr over the posted limit	1	2	3	4	5	6
Wear your seatbelt when driving	1	2	3	4	5	6
Wear your seatbelt when a passenger	1	2	3	4	5	6

5. How likely is it that you would do each of these things if you were completely certain of getting away with it. Circle the number that best reflects your opinion.

Action	Not at all likely 1	Quite likely 2	Very Likely 3
Ride on public transit without paying the fare	1	2	3
Park in a "No Parking" zone	1	2	3
Get paid for work in cash to avoid paying taxes	1	2	3
Leave a shop with goods that you have not paid for	1	2	3
Make a fraudulent insurance claim	1	2	3
Keep a \$20 bill which you have found in the street	1	2	3
Hit someone who has annoyed or upset you	1	2	3
Hook up to cable or satellite TV without subscribing	1	2	3
Call in sick to work when you have something more interesting to do	1	2	3
Drive down the hard shoulder of the highway when the other lanes are jammed	1	2	3
Drive 20 km/hr or more over the posted limit	1	2	3

ALCOHOL

- In the past 12 months, have you had a drink containing alcohol, such as beer, wine or liquor?
☐ YES (continue) ☐ NO (skip to question 7)
- On how many of the past 30 days have you had a drink?
 _____ days
- On occasions when you do drink, how many drinks do you **usually** have?
 _____ drinks
- In the past **30 days**, how many times, if at all, have you driven a motor vehicle within two hours of drinking any amount of alcohol?
 _____ times

5. In the past **30 days**, how many times, if at all, have you been a passenger in a vehicle being driven by someone who has been drinking?
_____ times

6. Within the past **12 months**, on how many occasions, if at all, have you yourself driven when you were probably over the legal limit ?
_____ times

7. The blood alcohol level specified in the Criminal Code of Canada as being the limit over which it is illegal to drive is **0.08%**.

Do you think that this limit is appropriate?

☐ YES ☐ NO Should it be higher or lower? ☐ Higher ☐ Lower

8. In Saskatchewan, there is a lower alcohol limit at which you can receive an immediate 24-hour suspension. What do you think that limit is?

0	0.02	0.04	0.05	0.06	0.07
----------	-------------	-------------	-------------	-------------	-------------

Circle the number that best reflects your answer.

1. How often do you have a drink containing alcohol?

(0) Never (1) Monthly or less (2) Two to four times a month
(3) Two or three times a week (4) Four or more times a week

2. How many drinks containing alcohol do you have on a typical day when you are drinking?
(Count one drink as 1 bottle or can of beer, 1½ oz. liquor, 5 oz. wine.)

(0) 1 or 2 (1) 3 or 4 (2) 5 or 6 (3) 7 or 8 (4) 10 or more

3. How often do you have **six or more drinks on one occasion**?

(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily

4. How often during the last year have you found that you were not able to stop drinking once you had started?

(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily

5. How often during the last year have you failed to do what was normally expected from you because of drinking?

(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily

6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?

(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily

7. How often during the last year have you had a feeling of guilt or remorse after drinking?

(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily

8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?
 (0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily
9. Have you or someone else been injured as a result of your drinking?
 (0) No (2) Yes, but not in the last year (4) Yes, during the last year
10. Has a relative or friend or a doctor or other health worker been concerned about your drinking or suggested you cut down?
 (0) No (2) Yes, but not in the last year (4) Yes, during the last year

DEMOGRAPHICS

1. **Gender:** ☐ Male ☐ Female
2. **Date of Birth:** _____(DD/MM/YY) OR **Age** _____
3. **Occupation:** _____ (Your usual job)
4. **Current Employment Status: (Check only one.)**
- | | |
|--|--|
| ☐ Employed full time | ☐ Full time student |
| ☐ Employed part time | ☐ Homemaker |
| ☐ Unemployed and looking for work | ☐ Disabled |
| ☐ Retired | ☐ Other (Specify) _____ |
5. **Marital Status:**
- | | |
|---|------------------------------------|
| ☐ Single | ☐ Divorced |
| ☐ Married | ☐ Separated |
| ☐ Living with girlfriend/boyfriend | ☐ Widowed |
6. **Household Income:** (Include individual income and that of spouse, only.)
 (Students under 21 years old living at home should include parents' income, if known.)
- | | |
|--|--|
| ☐ Under \$5,000 | ☐ \$50,000–\$74,999 |
| ☐ \$5,000–\$14,999 | ☐ \$75,000–\$99,999 |
| ☐ \$15,000–\$29,999 | ☐ \$100,000+ |
| ☐ \$30,000–\$49,999 | |
7. **Highest level of Education (Check only one.)**
- | | |
|--|--|
| ☐ No formal schooling | ☐ Associate degree (2 yrs.) |
| ☐ First through 7th grade | ☐ Some college/university |
| ☐ 8th grade | ☐ Four-year university graduate |
| ☐ Some high school | ☐ Some graduate school |
| ☐ High school graduate | ☐ Graduate/professional degree |

8. How many traffic tickets have you had in the past 12 months? (**Parking tickets not included.**)

9. During the last seven days, how many minutes would you estimate that you used a cell phone while driving?

_____ minutes

10. Have you ever been injured in a motor vehicle accident? (**Only include injuries that required medical attention.**)

☐ YES ☐ NO

11. How many accidents have you had in the past 12 months as a driver?

_____ accidents

12. What type of vehicle do you drive **most** often for **personal** use?

☐ Passenger car

☐ Minivan/family van

☐ Sport utility vehicle

☐ Pick-up truck

☐ Motorcycle

☐ Other _____

13. Approximately how many kilometers do you drive in a typical month?

_____ km

14. What is your weight approximately?

_____ ☐ pounds or ☐ kilograms

15. What are the **first 3 characters** of your postal code? _ _ _

16. Have you ever had your licence suspended for 24 hours for drinking and driving?

☐ NO ☐ YES ☐ How many times? _____

17. Have you ever been convicted of impaired driving, driving with a blood alcohol level above 0.08%, or refusing to provide a breath sample?

☐ NO ☐ YES ☐ How many times? _____

Appendix B

POLICE SURVEY ON DRINKING AND DRIVING

The Traffic Injury Research Foundation (TIRF), in co-operation with Selective Traffic Enforcement Program (STEP), is conducting a comprehensive study of drinking and driving. Part of this study involves obtaining the thoughts and opinions of police officers who are charged with the responsibility of enforcing these laws.

The following questionnaire has been designed to obtain feedback from police officers such as yourself on the various issues which surround drinking and driving. Because you are on the 'front-line' of these cases, your participation is extremely valuable. Your responses are anonymous and confidential. The information collected will be used as input into a review of the legislation, policies, and procedures surrounding these offences and may facilitate national efforts in simplifying the impaired driving charging process and rate of conviction.

Please take a few minutes to answer the questions on the next several pages. If there are any additional comments you wish to add, please feel free to use the back of the last page.

Thank-you.

SECTION ONE: Experience

1. For how many years and/or months have you been a police officer?

_____ years _____ months

2. Which of the following best describes your current duties?

☐ Dedicated to full time traffic duties

☐ General policing duties

☐ Other (specify) _____

3. Are you a breath test technician? ☐ YES ☐ NO

4. Approximately how many drivers have you charged with the following impaired driving offences under the *Criminal Code* in the last 12 months?

_____ 253(a) [impaired]
_____ 253(b) [over 80 mg%]
_____ 254(5) [refusing to provide a sample]
_____ 255(2) [impaired driving causing bodily harm]
_____ 255(3) [impaired driving causing death]

Note: For the purposes of this questionnaire, all of the above-mentioned *Criminal Code* offences are collectively referred to as “impaired driving” offences, unless otherwise specified.

5. To approximately how many drinking drivers have you issued a 24-hour roadside suspension (Section 91 HTA) in the last 12 months?

Note: For the purposes of this questionnaire, 24-hour roadside suspensions refer only to those cases in which a *Criminal Code* impaired driving charge is not laid at the same time.

SECTION TWO: Detecting Drinking Drivers

1. Of the drivers you have charged with an impaired driving offence, about what percentage resulted from...(Please make sure the percentages add to 100%.)

_____ % a traffic collision
_____ % spot checks
_____ % stopping driver for a traffic violation
_____ % stopping driver for erratic driving
_____ % public complaint
_____ % Other (specify) _____

2. Of the drivers to whom you have issued a 24-hour roadside suspension, about what percentage resulted from (Please make sure the percentages add to 100%.)

_____ % a traffic collision
_____ % spot checks
_____ % stopping driver for a traffic violation
_____ % stopping driver for erratic driving
_____ % public complaint
_____ % Other (specify) _____

3. Please rate how useful each of the following behaviours is in indicating to you that a driver may be driving while impaired or with a BAC over 80 mg%.

Behaviour	Not useful at all	Of limited use	Fairly Useful	Very Useful
Non-use of seat belt	☐	☐	☐	☐
Speeding	☐	☐	☐	☐
Driving too slowly	☐	☐	☐	☐
Driving speed is erratic	☐	☐	☐	☐
Running red light	☐	☐	☐	☐
Failure to obey traffic sign	☐	☐	☐	☐
Weaving	☐	☐	☐	☐
No headlights at night	☐	☐	☐	☐
Straddling two lanes	☐	☐	☐	☐
Running over a curb	☐	☐	☐	☐
Other (specify)	☐	☐	☐	☐

4. Please rate how useful each of the following behaviours is in indicating to you that a driver may be driving after drinking but does not have a BAC over 80 mg%.

Behaviour	Not useful at all	Of limited use	Fairly Useful	Very Useful
Non-use of seat belt	☐	☐	☐	☐
Speeding	☐	☐	☐	☐
Driving too slowly	☐	☐	☐	☐
Driving speed is erratic	☐	☐	☐	☐
Running red light	☐	☐	☐	☐
Failure to obey traffic sign	☐	☐	☐	☐
Weaving	☐	☐	☐	☐
No headlights at night	☐	☐	☐	☐
Straddling two lanes	☐	☐	☐	☐
Running over a curb	☐	☐	☐	☐
Other (specify)	☐	☐	☐	☐

5. Deleted

6. Once you have stopped a vehicle, how useful is each of the following signs in determining if there is reasonable suspicion to demand a breath sample for the approved (roadside) screening test?

Sign	Not useful at all	Of limited use	Fairly Useful	Very Useful
Slurred speech	☐	☐	☐	☐
Smell of alcohol	☐	☐	☐	☐
Flushed face	☐	☐	☐	☐
Fumbling to get out licence	☐	☐	☐	☐
Abusive language	☐	☐	☐	☐
Loss of balance	☐	☐	☐	☐
Standardized Field Sobriety Test (SFST)	☐	☐	☐	☐
Admission of drinking by driver	☐	☐	☐	☐
Open or empty container	☐	☐	☐	☐
Glassy or bloodshot eyes	☐	☐	☐	☐
Appearance of driver	☐	☐	☐	☐
Other (specify)	☐	☐	☐	☐

SECTION THREE: Charging and Court Practices

- What is the *minimum* level of blood alcohol concentration (BAC) at which impaired driving charges usually laid in your police service under Section 253(b) of the *Criminal Code*?
 - ☐ 80 mg%
 - ☐ 90 mg%
 - ☐ 100 mg%
 - ☐ 110 mg%
 - ☐ Other (specify) _____
- On average, how long does it take to process a driver who is charged with an impaired driving offence under the *Criminal Code*?

_____ hours _____ minutes
- If it took less time to process Criminal-impaired driving charges, would you be more likely to lay these charges?

☐ Yes ☐ No
- How often have you experienced problems in court with the introduction of roadside screening test results as evidence of “reasonable grounds” to demand a breath sample the evidentiary breath testing equipment?

☐ Never ☐ Rarely ☐ A few times ☐ Regularly

5. In the past 12 months, roughly what percentage of the drivers that you have charged under the impaired driving sections of the Criminal Code have pleaded in court as follows: **(Please make sure the percentages add to 100%.)**

- Pled guilty to impaired driving charge(s) under the Criminal Code? _____%
- Pled guilty to other Criminal Code offences (e.g., criminal negligence, dangerous driving), impaired driving charges dropped? _____%
- Pled guilty to a Highway Traffic Act offence (e.g., careless driving) impaired driving charges dropped? _____%
- Pled not guilty to impaired driving charges? _____%

6. In the past 12 months, roughly what percentage of your impaired driving cases which went to trial ended up with the following dispositions: **(Please make sure the percentages add to 100%.)**

- Accused was convicted at trial of impaired driving charge under the *Criminal Code*? _____%
- Accused was convicted at trial of other *Criminal Code* offences (e.g., criminal negligence, dangerous driving) _____%
- Accused was convicted only of a *Highway Traffic Act* offence (e.g., careless driving) _____%
- Accused was acquitted of all charges? _____%

7. How often do you feel that impaired drivers escape conviction under the *Criminal Code* due to legal or technical difficulties?

- ☐ Never ☐ Rarely ☐ A few times ☐ Regularly

SECTION FOUR: Discretion

1. How often do you use discretion in dealing with impaired drivers?
☐ Never ☐ Rarely ☐ A few times ☐ Regularly
2. What actions do you take with these drivers rather than charging them under the *Criminal Code*? (Please check all that apply.)
☐ Give them a verbal warning
☐ Take their keys away
☐ Arrange for a taxi to take the driver home
☐ Have a sober passenger drive the vehicle
☐ Have driver call someone to pick them up
☐ Take the driver home
☐ Issue a 24-hour suspension
☐ Other (specify) _____
3. How often are drivers being given only a 24-hour roadside suspension and not charged with an impaired driving offence under the Criminal Code when the driver's BAC is likely over 80 mg%?
☐ Never ☐ Rarely ☐ A few times ☐ Regularly
4. What are the reasons for not charging these drivers under the *Criminal Code*?
☐ Takes too much time to process *Criminal Code* impaired driving charges
☐ Driver likely to plea bargain to lesser charges
☐ Driver likely to get off charges
☐ 24-hour suspension gets the driver off the road
☐ 24-hour suspension more effective in reducing impaired driving
☐ Personnel not available to process impaired driving charges
☐ Uncertainty about whether criminal charges are appropriate
☐ 24-hour suspension sufficient to give driver warning
☐ Other (specify) _____
5. How often have you personally used a 24-hour suspension in place of charging the impaired driver under the *Criminal Code*?
☐ Never ☐ Rarely ☐ A few times ☐ Regularly

SECTION FIVE: Opinions

1. Do you think that Criminal Code penalties currently assessed for those convicted of impaired driving offences are:

☐ Too light ☐ About right ☐ Too stringent ☐ No opinion

2. Do you think the penalties currently assessed for impaired driving offences under the Highway Traffic Act are:

☐ Too light ☐ About right ☐ Too stringent ☐ No opinion

3. Below is a series of statements. Please indicate how strongly you agree or disagree with each.

Statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
a) Increased enforcement activity will contribute to a decrease in drinking and driving incidents	☐	☐	☐	☐	☐
b) The community approach to policing has led or is leading to a reduction in focus on the drinking and driving issue	☐	☐	☐	☐	☐
c) In the investigation there is an over-reliance on 253(b) evidence to the detriment of 253(a) evidence	☐	☐	☐	☐	☐
d) Other priorities make it difficult for police to spend more time on impaired driving enforcement	☐	☐	☐	☐	☐
e) Impaired driving not involving a collision should be removed from the <i>Criminal Code</i>	☐	☐	☐	☐	☐
f) There should be a dedicated court for impaired driving cases	☐	☐	☐	☐	☐
g) Drinking and driving is a serious problem in Canada	☐	☐	☐	☐	☐

4. Please rate each of the following offences in terms of their seriousness:

	Less Serious				More Serious			
Arson	☐	☐	☐	☐	☐	☐	☐	
Assault—simple (without a weapon)	☐	☐	☐	☐	☐	☐	☐	
Assault—aggravated (with a weapon)	☐	☐	☐	☐	☐	☐	☐	
Assault—sexual	☐	☐	☐	☐	☐	☐	☐	
Break and enter	☐	☐	☐	☐	☐	☐	☐	
Careless driving	☐	☐	☐	☐	☐	☐	☐	
Drinking under the legal age	☐	☐	☐	☐	☐	☐	☐	
Driving after using marijuana	☐	☐	☐	☐	☐	☐	☐	
Driving while impaired	☐	☐	☐	☐	☐	☐	☐	
Driving with a BAC > 0.04% but < 0.08%	☐	☐	☐	☐	☐	☐	☐	
Failing to wear a seatbelt	☐	☐	☐	☐	☐	☐	☐	
Forgery	☐	☐	☐	☐	☐	☐	☐	
Kidnapping	☐	☐	☐	☐	☐	☐	☐	
Murder	☐	☐	☐	☐	☐	☐	☐	
Possession of marijuana	☐	☐	☐	☐	☐	☐	☐	
Running a red light	☐	☐	☐	☐	☐	☐	☐	
Robbery	☐	☐	☐	☐	☐	☐	☐	
Speeding	☐	☐	☐	☐	☐	☐	☐	

SECTION SIX: Solutions

1. Please indicate the extent to which you agree or disagree with each of the following statements about measures to reduce the incidence of impaired driving in Saskatchewan.

Statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
a) More police resources should be dedicated to traffic/impaired driving enforcement	☐	☐	☐	☐	☐
b) Police officers need more training in the enforcement of impaired driving laws	☐	☐	☐	☐	☐
c) Police officers need more training in how to testify effectively in court	☐	☐	☐	☐	☐
d) Random stops under the Criminal Code should require all drivers to provide a breath sample at the roadside without reasonable suspicion	☐	☐	☐	☐	☐
e) Breath testing should be mandatory in drinking and driving incidents involving a collision	☐	☐	☐	☐	☐
f) Administrative licence suspension such that a driver loses his/her driver's licence for 90 days if the BAC is over 80mg%, independent of criminal proceedings	☐	☐	☐	☐	☐
g) Lower the BAC limit in the Criminal Code from 80mg% to 50mg%	☐	☐	☐	☐	☐
h) Increase the provincial licence suspension for a first offence to 2 years	☐	☐	☐	☐	☐
i) Impound vehicles driven by disqualified drivers for 30 days	☐	☐	☐	☐	☐
j) Installing ignition interlock devices on vehicles driven by impaired offenders to prevent them from starting their vehicle if they have been drinking	☐	☐	☐	☐	☐
k) Compulsory assessment and education/rehabilitation for all impaired drivers on a first offence	☐	☐	☐	☐	☐
l) The penalties are too harsh and should be scaled back	☐	☐	☐	☐	☐
m) Promoting public education programmes that show the risks of riding as a passenger with an impaired driver	☐	☐	☐	☐	☐
n) The current system is good. We just need to make it work better	☐	☐	☐	☐	☐

2. Please indicate the extent to which you agree or disagree with each of the following measures to enhance the effectiveness of 24-hour roadside suspensions.

Measure	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
a) Increase the length of the suspension from 24 to 48 hours	☐	☐	☐	☐	☐
b) Increase the length of the suspension from 24 hours to 7 days	☐	☐	☐	☐	☐
c) Supplement the suspension with a traffic ticket and fine	☐	☐	☐	☐	☐
d) Impound the vehicle for a period of time equal to that of the suspension	☐	☐	☐	☐	☐
e) Assess demerit points with the suspension	☐	☐	☐	☐	☐
f) Require drivers issued 24-hour suspensions to attend an educational program within 30 days	☐	☐	☐	☐	☐
g) Lower the 40 mg% limit to zero	☐	☐	☐	☐	☐
h) Increase awareness of the current 40 mg% limit through a public education campaign	☐	☐	☐	☐	☐
i) Impound vehicles driven by disqualified drivers for 30 days	☐	☐	☐	☐	☐
j) The current 24-hour suspension is a good measure. We just need to issue more of them	☐	☐	☐	☐	☐
k) Drivers issued repeat 24-hour suspensions should be subject to a longer suspension	☐	☐	☐	☐	☐
l) Drivers issued repeat 24-hour suspensions should be screened for alcohol abuse and directed to an appropriate rehabilitation program	☐	☐	☐	☐	☐

3. Please add any other comments you wish to make.

SECTION SEVEN: Sentencing

1. In your opinion, are the sentences imposed for impaired driving generally...

☐ Too light ☐ About right ☐ Too stringent

2. Which measures do you think are effective in changing offender behaviour and reducing recidivism? [**Rank the following measures from MOST effective (1) to LEAST effective (9).**]

- ___ incarceration
- ___ education
- ___ treatment for alcohol abuse
- ___ ignition interlocks
- ___ 24-hour suspensions
- ___ electronic monitoring
- ___ fines
- ___ community service orders
- ___ driving prohibition

SECTION EIGHT: Background

1. Is your police service: ☐ Municipal ☐ RCMP ☐ Other _____

2. Gender: ☐ Male ☐ Female

3. Age: _____

4. About how many hours of training have you had related to impaired driving enforcement?

5. Have you been trained to use the Standardized Field Sobriety Test (SFST)?

☐ No ☐ Yes → How many times have you used it? _____

6. How large is the community which your police department/detachment serves?
