

**A Study to Measure the Incidence of Driving
Under Suspension In the Greater Moncton Area**

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Abstract

Road side check points were used to determine the percentage of motorists driving while suspended (DWS) during various times of the day. These data showed that the percentage of motorists driving while suspended was 57% of the expected value if all suspended drivers continued to drive as often as they did prior to suspension. Data also showed that suspended drivers make up a higher percentage of drivers on the road after midnight. Results also indicated that 90% of suspended drivers stopped in this study produced a driving permit even though they are required to surrender it when suspended. In order to compare data collected at road side check points with self report data, a questionnaire was administered to 456 persons taking a re-education course for first offenders and 68 participants taking a re-education course for second offenders. The results indicated that participants under-represented the incidence of driving while suspended. However, when asked about the driving behavior of other suspended drivers their estimates were much closer to the data obtained with the road side survey.

Although license suspension has been documented to be associated with reduced fatal and injury crashes during the suspension period compared with a similar group of drivers who were not suspended (Sadler, 1986; Stewart, Gruenewald, & Roth, 1989), suspended drivers are still over represented in fatal crashes (DeYoung, 1990). For example, data collected by the Centre for Education and Research in Safety suggests that suspended drivers were involved in 8 percent of fatal crashes in the Province of New Brunswick. Since approximately 3.5 percent of drivers in the province of New Brunswick are under suspension at any given time these data demonstrate that suspended drivers are more than twice as likely to be involved in a fatal crashes. Suspended drivers were also documented to be involved in 8 percent of fatal crashes in Nova Scotia (N.S. DOT), Manitoba (Manitoba DOT) and California (DeYoung, 1990).

These results suggest that a subset of the suspended driver population continue to drive while their driving permit is suspended. Unfortunately, no objective data currently exists on the driving habits of suspended drivers. Instead safety researchers have had to rely on data collected using survey methodologies that are flawed in two respects. First, surveys have used non randomized sampling procedures because of the low level of response to mail out questionnaires, or the difficulty in contacting and obtaining compliance from this group for interview surveys (Ross & Gonzales, 1988). Second, even if it were possible to obtain an unbiased sample it is not certain that people respond truthfully to questions about their illegal behavior. Keeping in mind these limitations, the results of such surveys have typically found that many suspended drivers continue to drive but at reduced levels (Ross & Gonzales, 1988; Hagen, McConnell & Williams, 1980; Smith & Maisey, 1990).

In the absence of objective data, it is difficult to determine the actual level of driving exposure for persons driving while suspended (DWS) nor is it possible to accurately evaluate countermeasures designed to deter driving while suspended. The purpose of this

study was two fold: first, determine the incidence of DWS using road side check points similar to those employed to determine the incidence of DWI offenses; second, compare the results of a questionnaire on DWS administered to drivers suspended for a DWI offence with the data collected at road side check points.

Experiment 1

Method

Subjects and Setting. Motorists with a mailing address in the Greater Moncton area (defined by having a postal code beginning with one of the three alpha numeric codes during December of 1996) served as subjects in this experiment. The City of Moncton and the Town of Dieppe of located in the center of the Greater Moncton area in the province of New Brunswick, and are the most densely populated municipalities in the Greater Moncton area.

Measures. Only drivers who lived within the Greater Moncton area as determined by their postal code served as subjects in this experiment. Motorists stopped who lived outside this area were not included in the analysis to ensure that sampled data could be compared with a known data base. The measure of DWS selected is the percentage of driving exposure (PDE). Percentage of driving exposure was defined as the percentage of sampled of drivers found to be driving while suspended divided by the percentage of persons known to be suspended in the target area.

The PDE measure would then have the following limits: If the percentage of sampled drivers is found to be the same as the percentage drivers suspended in the Greater Moncton area the PDE would be 100% because suspended drivers are detected at the rate that would be expected assuming they continued to drive as much as they did before suspension. This type of result would indicate that suspended drivers have made no change in their driving exposure following suspension. If no drivers are detected driving while suspended the PDE would be zero and this outcome would show that suspended

drivers have reduced their driving exposure to zero. Data between these limits would show relative reductions in driving exposure with a PDE rate of 50% representing a reduction in exposure by half. Such a reduction could be obtained in a number of ways. For example all suspended drivers might drive half as much as before they were suspended, or half might continue to drive as much as before they were suspended while the other half don't drive at all. Although it is impossible to determine how the level of exposure was produced, an exposure measure can be valuable because it should be directly related to crash probability.

Procedure. Check points were scheduled at 14 locations at various times (including night time checks) in order to determine a valid estimate of the percentage of motorists driving under suspension in the Greater Moncton area. A similar number of drivers were stopped during each of the four time intervals in order to compare the percentage of suspended drivers on the road during various time intervals. The number of drivers stopped during each of the four time intervals is displayed in Figure 1. Of particular interest is the percentage of suspended drivers detected during the night hours because suspended drivers are more likely to be involved in a serious crash at night. Checkpoint locations were selected to ensure that motorists would not be able to easily avoid the checkpoint by turning. Checkpoint sites included major routes, and some side streets that could be used to traverse the city. Checkpoints were not located close to drinking establishments and were selected to represent a cross section of motorists. Sites were sampled using a random sampling procedure, and the checkpoint team collected data for no more than an hour before moving to the next site. Checkpoint teams consisted of a minimum of two police officers. Research assistants accompanied police officers during daytime checks to assist in filling out data sheets. Police officers stopped one vehicle at a time and police did not activate flashing lights until a vehicle was to be stopped. The checkpoint team also checked for a driving permit and recorded the licence plate number of each vehicle. If a driver indicated

that he or she left their license at home the police officer asked for other identification and issued a directive to produce the document within 24 hours. If they failed to produce their drivers permit within 24 hours they were charged with failing to produce their drivers license. The information collected by the police officers was cross checked at a later date using the Department of Motor Vehicles computer in order to determine the percentage stopped who were driving while suspended, why they were suspended, the percentage stopped driving without a valid permit and reason they were suspended. In addition, the number of infractions, suspensions, and reported crashes were also recorded for each motorist caught driving while suspended.

Results

At the time of the study 3,617 drivers were suspended in the Greater Moncton area out of a total of 132,658 drivers for a total percentage suspended of 2.7. The results obtained in this study are presented in Table 1. Data indicated that 75 out of 4906 drivers residing in the Greater Moncton area were driving while suspended. Therefore the percentage driving under suspension was 1.53% for drivers residing in the Greater Moncton area. Based on the sample size the confidence interval for the proportion of drivers who are suspended was determined to be 1.2% to 1.8%. The percentage of driving exposure was calculated by dividing 1.53% by 2.7%, the percentage known to be suspended in the greater Moncton area from the registrars records, which equalled 57%. This represents a reduction in exposure of only 43%. These results are consistent with data obtained using personal interview methodology indicating that suspended drivers claim to drive less while suspended (Ross and Gonzales, 1988). In addition to detecting 75 suspended drivers the survey also detected 5 persons driving with an expired driving permit.

The driver abstracts of all suspended drivers were then examined in order to determine the reason they were suspended as well as, previous suspensions, convictions

and crashes during the past five years. Sixteen of the suspended drivers caught had been suspended for drinking and driving (This is a reasonable proportion given the fact that approximately one fifth of suspended drivers in the province of New Brunswick are suspended for a DWI offence).

The percentage of persons caught driving while suspended, the percentage of drivers caught driving while suspended for offences other than DWI, and the percentage of persons caught driving while suspended for DWI during each of the four time periods is presented in Figure 2. These data show that suspended drivers make up a larger percentage of vehicles on the road after midnight. Further, this effect is larger for drivers suspended for DWI than for drivers suspended for other reasons. It is likely that suspended drivers represent a higher percentage of drivers after midnight because fewer non-suspended drivers are on the road at this time.

While police knew the purpose of the experiment was to determine the number of motorists driving while suspended, they were not asked to check the status of the driving permits of all motorists in order to facilitate stopping a sufficiently large sample of vehicles. It is interesting to note that police only detected a small percentage of suspended drivers at the check points. The remainder were only detected following a more careful screening the research team using the DMV computer. One can understand the relatively low detection rate when one considers that 74 out 82 suspended drivers stopped in this study produced a driving permit. If 91% of persons suspended retain their driving permit rather than surrender it, the police can only determine that the permit has been suspended by checking with the DMV computer, a procedure which would require a fair amount of time.

Drivers caught driving while suspended had an average of 3.5 suspensions and .43 reportable collisions over the past 5 years. These data show that these drivers have much worse than average driving records when compared with other New Brunswick, drivers.

Discussion

The results of the first experiment show that many suspended drivers continue to drive and that suspended drivers in general, and drivers suspended for DWI in particular make up a larger percentage of drivers on the roads after midnight. Even though suspended drivers are over represented in the late night sample, police were more inclined to conduct road side checks during daylight hours. Through-out the study police preferred to perform checks during daylight hours even though they were instructed to try to stop equal numbers during each of the four time periods. Only with repeated reminders was it possible to stop enough vehicles during the two night time sampling periods. If police are to deter suspended driving, it is important that they stop a larger percentage of vehicles during evening hours. Future research should examine factors that could influence police to perform more road side checks during evening and night time hours. Another interesting finding was the percentage of suspended drivers who retained their driving permit and were willing to produce it when stopped by police. In the Province of New Brunswick suspended drivers are notified by certified mail that they must surrender their driving permit. There are no provisions to contact suspended drivers who fail surrender their driving permits. If drivers retain their driving permit, it is more difficult to detect that they are driving while suspended. One way to address this problem would be for police to seize the driving permit of those arrested for DWI and then issue the accused an interim license which can be renewed at the police station every month until the case is decided in court.

Experiment 2

The results of the road side checks reported in the first experiment showed that a high percentage of suspended drivers continue to drive while suspended. The purpose of the second experiment is to compare the data collected at the road side check points with

the results of a questionnaire on DWS administered to drivers suspended for a DWI offence.

Method

Participants. Participants were 456 drivers with a first DWI offence and 68 motorists with a second DWI offence. All drivers were suspended at the time of the assessment and were attending a mandatory education program as a condition for reinstatement of driving privileges at the time the questionnaire was administered.

Material. Two versions of the questionnaire, one French and one English, were used to collect the data. Each questionnaire was composed of two sections. The first section asked the participant's opinion concerning the driving habits of other suspended drivers. The second section of the questionnaire asked the participant to report their own driving habits. Specifically, the questionnaire asked questions about: whether the participants or others drove while suspended, the time and purpose of such driving, whether they or other suspended drivers continued to drink and drive, the distance they or other drivers drove per week while suspended, whether they or others drive more carefully, and their estimate of the effectiveness of various DWS countermeasures.

Procedure. The questionnaires were administered by instructors of the *Auto Control*, first offenders course and *Auto Control Plus* second offenders course. Completion of one of these courses is a necessary condition for license reinstatement. The participants were assured that their responses would be completely confidential and all necessary precautions had been taken to assure that their identity would remain anonymous. Although participants could have chosen not to answer the questionnaires, all of the participants complied including those that required assistance by having someone read the questions to them.

Results.

Persons with a first DWI offence estimated that 32 percent of motorists continue to

drive while suspended and persons with a repeat DWI offence estimated that 35 percent of motorists continue to drive while suspended. Figure 3. shows that first and repeat offenders tend to report that other drivers drive more than they do. For example, 19 percent of first offenders and 22 percent of second offenders report that they continue to drive in non emergency conditions while first offenders and second offenders estimate that 62 and 72 percent of other suspended motorists continue to drive in non emergency conditions. Respondents estimates of other suspended motorists engaging in DWS are in closer accord with the results of Experiment 1 (57%) than self reports of whether they engage in DWS.

The average number of kilometres driven per week reported before suspension was 333 for first offenders, and 337 for repeat offenders. The average number of kilometres they admit driving per week during the suspension period was 44 for first offenders and 75 for repeat offenders. It is likely the post suspension estimates are gross underestimates of the actual amount of driving given the results of the first experiment. Figure 4 presents area graphs showing the percentage of first offenders and second offenders reporting how often they drove while suspended, and how often they estimated that others drive while suspended during each of four time periods. These data show that both 1st and 2nd offenders typically indicate that they never drive during any of the four periods. However, they estimated that other drivers tended to drive a lot during each of the four time periods.

Figure 5 presents histograms for a variety of purposes for driving trips made by suspended first and repeat offenders and where they estimate other suspended motorists tend to drive when suspended. These data show that most first and repeat offenders report that they never drive their vehicles for any of the stated purposes. However, they report that other suspended motorists drive while suspended for a number of purposes. It is interesting to note that responders who estimated that other suspended motorists drove frequently

indicated that they did so most often to go to work or to go out in the evening.

Figure 6 shows that 45 percent of the first offenders and 50 percent of the second offenders responded that they either drove more carefully or with the same degree of care as before they were suspended. This item constituted a forced choice because the only way to respond if the respondent did not drive while suspended was to not answer this question. More than half of first and repeat offenders did not respond to this item. The graph at the bottom of the page shows that most respondents indicated that they thought other suspended motorists drove more carefully than before they were suspended. Figure 7 shows how long following the start of the suspension period the first and repeat offenders reported they began to drive while suspended. These data show that about half of the first offenders and a little more than half of the second offenders did not respond to this question. The remainder of the participants responses showed a U shaped function with more responding that they began driving immediately or after three months than those who said they started to drive within a couple of weeks or a month.

First DWI offenders estimated that 26 percent of suspended drivers continue to drink and drive while repeat DWI offenders estimated that 27 percent suspended drivers continue to drink and drive. The data in Figure 8 show that when first and repeat offenders are asked whether they drink and drive very few admit to engaging in this behavior. Figure 9 shows the percentage of first and repeat offenders that rated each of the DWS countermeasures as effective. The results show that the ignition interlock is rated highest by first and repeat offenders. Vehicle impoundment, vehicle immobilization, and stickers placed on the plates of suspended drivers are rated somewhat higher by first offenders than second offenders. Both groups rate longer suspensions as an equally effective deterrent.

The percentage of motorists suspended for a first or a second DWI offence of

who admitted being found guilty of a traffic offense in the past two years were 64 percent and 60 percent respectively. The Minister of transportation (1997) reported that approximately 26 percent of licenced drivers in the province of New Brunswick have had at least one traffic violation in the last two years.

The results also showed that 22 percent of drivers suspended for a first offence and 12 percent of repeat offenders reported being involved in at least one crash in the past 2 years. The Minister of transportation (1997) reported that 5 percent of licenced drivers were involved in a reported crash in the last two years.

Finally, the most popular strategies reported by DWI offenders to avoid apprehension were obeying all traffic regulations, driving more carefully, and not drinking and driving.

Discussion

The questionnaire results showed that 32% of drivers suspended for a first DWI offence and 35% of suspended for a repeat DWI offence admit driving during the suspension period. These data are significantly lower than the 57% of suspended drivers caught driving during the Road Side Check Points in Experiment 1 and the 66% reported by Ross and Gonzales (1988). Furthermore, the majority of motorists reported that they drove more carefully. Although suspended drivers may indeed drive more carefully during the suspension period, data show that they are still over represented in fatal crashes during the suspension period.

Although few first and second DWI offenders indicate that they drive while suspended they estimate that a higher percentage of other suspended drivers continue to drive while suspended. One very interesting finding was the inconsistency in the percentage of offenders reporting they drove while suspended on the various questions. For example, although only 32 percent of first offenders and 35 percent of second offenders admitted to driving while suspended, 50 percent of the first offenders and 44

percent of the second offenders reported starting driving during at some point in their suspension in question 14. Similarly 47 percent of first offenders and 50 percent of second offenders reported driving more carefully since they have been suspended to question 12. It is interesting to note that a higher percentage of first and second offenders admitted to continuing to drive to questions 12 and 14 than they did the more directly worded question 9 but less than they estimated other convicted drivers continue to drive in question 2.

T h e results of this study showed that 22 percent of drivers suspended for a first offence and 12 percent of drivers suspended for a repeat offence reported being involved in at least one collision in the last two years. An examination of the driving records of motorists caught DWS in experiment 1 indicate that suspended drivers stopped at check points were involved in an average of .44 reported crashes per driver in the previous 5 years. These data indicate that suspended drivers are over represented in crashes. The general under representation of delinquent driving behavior reported in this survey cast serious doubt on the credibility of questionnaire estimates of DWS. For example, even if a high percentage of suspended drivers admit to driving while suspended and driving while impaired they still tend to under represent the incidence of these behaviors as indicated by more objective measures such as Road Side Checks. It is interesting to note that respondents estimates of how often other suspended drivers continued to drive, is much closer to the estimate obtained in the road side measure than their response to the direct question asking whether they continued to drive. These data suggest that asking suspended drivers how often other suspended persons drive provides a proxy measure of what they do themselves. Thus researchers who use questionnaire data to estimate the percentage of suspended drivers who continue to drive should consider using such proxy measures.

Given the seriousness of drink driving offences and incidence of fatal crashes

involving suspended drivers, the above data should be a matter of some concern. Finally, it appears that most DWI offenders consider an ignition interlock as the most effective strategy to reduce DWS. If drivers suspended for a DWI offence can be placed back on the road earlier without subjecting the population of drivers to increased risk of further DWI, the incidence of DWS should decline.

References

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Figure Captions

Figure 1. The number of motorists stopped by police during each of four time periods.

Figure 2. The number of drivers stopped who were suspended for a non-DWI and DWI offence during each time period.

Figure 3. The top frame shows how much first and second offenders say they drive and the bottom frame shows how much they estimate other suspended drivers drive.

Figure 4. Area graph showing the percentage of 1st and 2nd offenders responding when they use their vehicles and estimating when others suspended drivers use their vehicles.

Figure 5. Bar graph showing the percentage of first and second offenders responding how often they use their vehicles for various purposes and how often they estimate other suspended drivers use their vehicles for various purposes.

Figure 6. How carefully 1st and 2nd offenders say they drive while suspended (upper frame) and how carefully they estimate other suspended motorists drive while suspended (lower frame).

Figure 7. When during the suspension period first and second offenders said they began to drive.

Figure 8. The percentage of time that first and second offenders reported they engaged in drinking and driving behavior.

Figure 9. The percentage of first and second offenders rating each of the DWS countermeasures as effective.

Reference Note

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TIME OF DAY	6 AM - NOON	NOON - 6 PM	6 PM - MIDNIGHT	MIDNIGHT - 6 AM	TOTAL
Total Number of Drivers Checked	1532	1368	1226	1300	5426
Drivers Checked Residing in GMA	1386	1203	1117	1200	4906
Drivers Checked Residing in N.B.	1469	1316	1182	1263	5230
Drivers DWS from GMA	14	18	14	29	75
Drivers DWS from N.B.	14	20	14	30	78
Drivers that lost License for DWI	3	2	3	9	17

Table 1. The number of drivers, checked during each of the four time periods during DWS roadside checks.

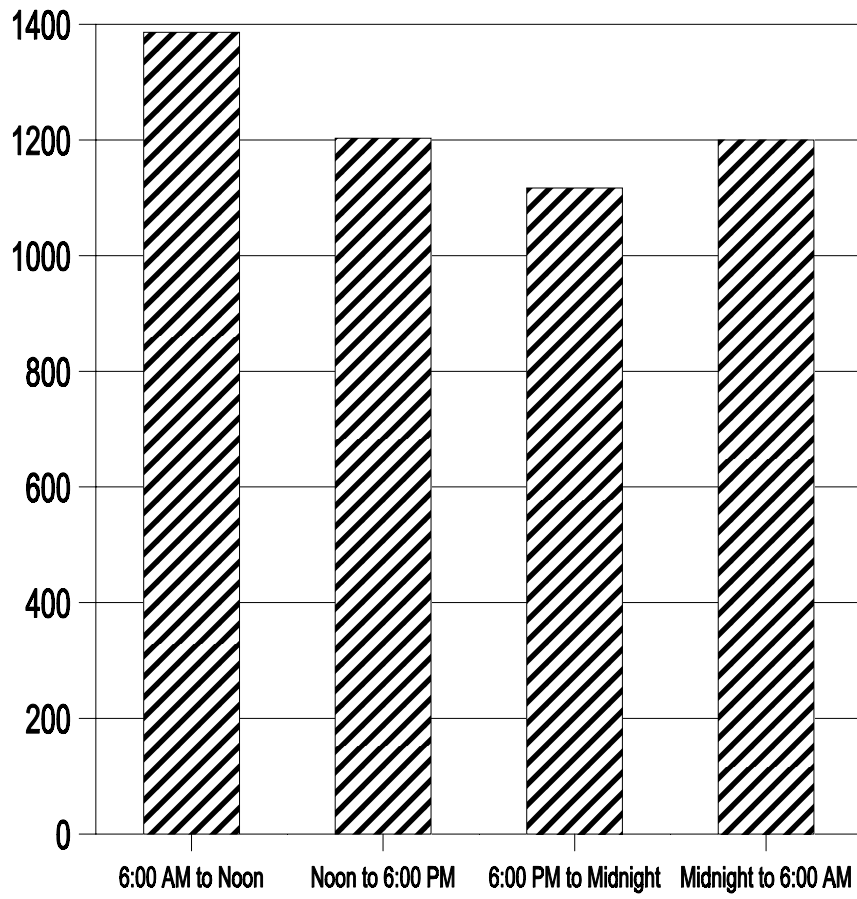


Figure 1. The number of motorists stopped by police during each of the four time periods.

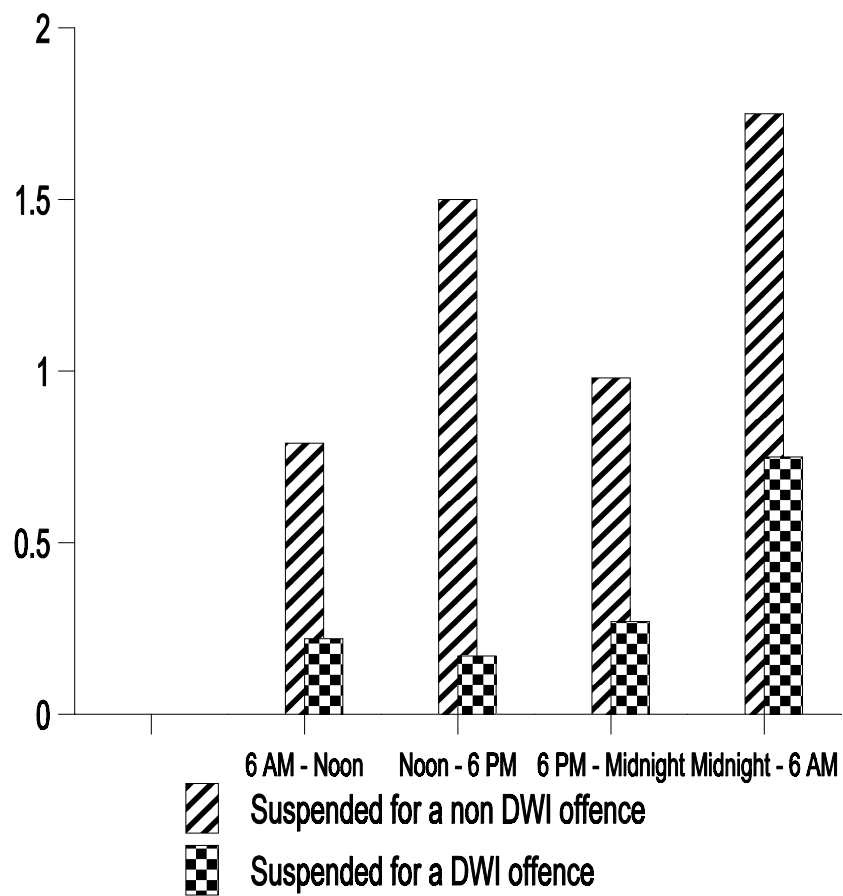


Figure 2. The percentage of drivers stopped who were suspended for a non DWI and DWI offences during each time period.

