New Impaired Driving Legislation in British Columbia: The Program and its Evaluation Plan

R. Jean Wilson and G. Greg Chen,
Insurance Corporation of British Columbia, 2631 Douglas Street, Victoria BC,
Canada V8T 5A3

Administrative license actions are considered to be among the most effective countermeasures to deter drinking drivers (Stewart, 1993; Transportation Research Board, 1995). In the United States, 38 states and the District of Columbia have introduced administrative licence suspension or revocation for drinking driving offences. British Columbia will be the fourth Canadian province to introduce such a law. These laws have been credited with reducing fatal crash involvement by 5% in the US between 1978 and 1985 (Zador et al., 1988). Although, the administrative suspension and revocation laws in the US vary considerably in their provisions (e.g., duration of suspension and temporary licence period, hardship provisions, appeal procedures etc.), no particular model has been shown to produce superior results (Ross and Gilliland, 1991). According to a deterrence model, administrative licence actions are assumed to enhance general deterrence by increasing the swiftness and certainty of punishment.

Punishment for drinking driving offences in British Columbia under the Criminal Code of Canada is neither swift nor certain. The delay between charge date and court date can be several months, during which time the offender continues to drive. The conviction rate is among the lowest in Canada. An administrative driving prohibition (ADP) was introduced in British Columbia in May, 1997 to address these shortcomings, while maintaining independence from the judicial process. The British Columbia law has many elements in common with analogous laws in the United States and other Canadian provinces. However, there are also some unique aspects.

THE PROGRAM MODEL

All drivers arrested on suspicion of impaired driving who either refuse to submit to a breath alcohol test or who register a blood alcohol reading of over 0.80 mg% are issued a Notice of Administrative Driving Prohibition. British Columbia has opted to take action against the driver, rather than suspend the licence so that unlicensed and licensed drivers are equally penalized. The driver’s licence, if available, is seized and the driver (if licensed) is issued a temporary 21 day permit to allow time to apply for an administrative review. The 90 day prohibition period commences when the temporary permit expires. Just prior to expiry of the 90 day prohibition,
the driver’s licence is cancelled and the driver is advised that he or she may re-apply for a licence. The reinstatement fees total $115.00 and the driver is required to pay any outstanding debts (e.g., unpaid fines).

A driver may apply for a review and submit the appropriate application fee within 7 days of receipt of the notice of prohibition. Reviews are conducted either by telephone or based on written submission only. The final decision is made by a review officer, on behalf of the Superintendent of Motor Vehicles. Because there are very limited reasons for overturning a prohibition order, it is expected that both the number of applications for review and their rate of success will be low.

To bolster the effectiveness of the Administrative Driving Prohibition, a second law will be introduced on the same date - to impound the vehicles driven by prohibited drivers. Although the vehicle impoundment (VI) law is not specifically targeted at drinking drivers, a drinking driving offence is the most common reason for a driving prohibition. Together, these companion programs aim to improve traffic safety by reducing the overall level of drinking-driving (ADP) and by reducing DWI recidivism (Both ADP and VI). While the traffic safety impacts of the two laws cannot be separated, it is proposed that the ADP legislation would have a larger general deterrent impact on drinking driving because of the direct link with the behaviour. This paper will focus on the ADP legislation, while recognizing that some safety benefit may derive from the combination of the two laws. Furthermore, the present evaluation design does not address specific deterrent effects, as these require a longer post-implementation time interval.

THE EVALUATION DESIGN

The general deterrent impacts will be assessed through intervention time series analyses of monthly intervals. The method is based on the Box and Jenkins (1970) autoregressive, integrated, moving average (ARIMA) technique. The possibility of using a neighbouring jurisdiction as a control was ruled out, because none of British Columbia’s neighbours are sufficiently comparable. The design is similar to that employed to evaluate California’s administrative licence suspension law (Rodgers, 1995). This approach uses multiple measures as a means to increase confidence in the reliability of the results. The utility of including two economic indicators (monthly unemployment rate and gasoline sales) in the models will also be examined.

For each alcohol-related (dependent) series, there is a corresponding non-alcohol related (control) series. The inclusion of the control series helps prevent attributing significant effects to the law that could be more accurately be attributed to some independent but coincident factors.
The following dependent series were identified: alcohol-related fatal collisions, alcohol-related injury collisions and single-vehicle nighttime injury collisions. Only police-attended collisions are included. The classification of alcohol-relatedness is determined by police judgement and is known to underestimate the true frequency of alcohol-involvement. The latter measure is a surrogate for alcohol-involvement and does not depend on police judgement. In our surrogate data set, 42% of collisions were classified as alcohol-involved by the police report.

The program has not been implemented at the time of writing. Figures 1 to 3 show monthly data for the pre-implementation period from January, 1984 to December 1996 for each of the selected dependent series and their appropriate control series. The time series will be updated as each new month of data becomes available. The first ARIMA analysis will be performed after three full months of post-implementation data are available. This analysis should detect any immediate significant change in the dependent time series, if evident, but should be considered as preliminary, with respect to the ADP program evaluation. Any longer term effects of the program will be assessed after a full 12 months of operation.

Figure 1. Police Attended Injury Collisions in BC, 1984-96
(Alcohol Related and Non-alcohol Related)
In addition to collision data, two other types of outcome data will be monitored. Public awareness of the program will be monitored through a continuous tracking telephone survey. Provincial alcohol sales will also be monitored on a monthly basis. Changes to these measures are hypothesized to mediate the impacts on alcohol-related collisions but are not considered program goals on their own. A reasonable level of public awareness and a belief that the program will alter risk of punishment are assumed to be pre-conditions for reductions in alcohol-related collisions. Time series will be constructed for beer sales to licensed outlets (e.g., pubs, restaurants) (dependent series) and for total alcohol sales (control series). The latter
analysis is very exploratory because there is no prior evidence to suggest that programs which reduce impaired driving have any effect on alcohol consumption. We will test the hypothesis that ADP is associated with a reduction in beer consumption to licensed outlets (often a precursor to impaired driving) but has no effect on total alcohol consumption.

SUMMARY

In May 1997, British Columbia will become the fourth Canadian province to implement an administrative per se law for drinking driving offenders. This is the first major legislative impaired driving initiative to be introduced by the province in more than a decade. Based on the experience of similar laws in the US, one would predict a significant general deterrent effect which should be evident as a reduction in alcohol-related collisions, within the first few months of implementation. The main challenges for evaluation are to select valid, sensitive measures and to dissociate program effects from effects of exogenous factors. A future evaluation plan will address the specific deterrent aspects of the program.

REFERENCES


