

TITLE: Quantifying the Net Accident Contribution of Convicted DUI Repeaters: Some Methodological Issues and Preliminary Findings

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PROJECT OBJECTIVE:

To quantify the role of convicted DUI offenders as a traffic safety problem.

SUMMARY:

This paper illustrates how an interrelated system of California databases can be used to address a number of substantive research questions and methodological issues related to the accident risk of convicted DUI offenders. Three specific questions were addressed in detail:

1. What is the rate of DUI recidivism as a function of time from previous offense?
2. What is the accident rate of convicted DUI offenders prior and subsequent to DUI conviction?
3. What proportion of total and fatal accidents in a given year could be prevented by effectively removing convicted DUI offenders from the driving population?

The remainder of the paper presents a series of empirical findings and statistical analyses, leading to the following conclusions and observations:

- DUI offenders who recidivate tend to do so within 3 years following their initial offense. Roughly 53% of DUI offenders reoffend within 9 years. Offenders who remain DUI-free for 10 years have subsequent DUI rates that are only moderately higher than those of the general driving population.
- The DUI reoffense hazard function was closely approximated by hazard models in which the proportion who reoffend declines as a linear or logarithmic function of increasing years of DUI-free driving.
- It is important to distinguish between prior, concurrent and subsequent accident risk in estimating the safety risk of convicted DUI offenders. Convicted DUI offenders represent substantial accident risks prior to being convicted of a DUI offense but are only moderately over involved during subsequent time periods. This reduction in accident risks over time is largely attributable to the sanctions following the initial conviction, which include fine, jail, alcohol rehabilitation treatment and license suspension.
- Removing or somehow rendering "accident proof" all convicted DUI offenders would have only a modest effect in preventing subsequent accidents. For example, if all drivers (4%) with 1 or more DUI offenses in the previous 5 years were removed from the California driving stream, there would be only 7.2% fewer accidents in the subsequent one-year period.
- The proportion of convicted DUI offenders who recidivate and their role in fatal accidents is inextricably tied to each state's level of enforcement, record-quality and document retention policies. As such, comparisons between states and the very nature of the parameters being estimated are subject to a variety of artifacts.

IMPLEMENTATION STATUS OF FINDINGS AND RECOMMENDATIONS:

Not applicable.

SUPPLEMENTARY INFORMATION:

This paper was sponsored by the Committee on Alcohol, Other Drugs & Transportation. It was presented at the 1994 *Annual Meeting of the Transportation Research Board* and a summary was published in *Transportation Research Board Circular #358*.