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The Effectiveness of Seven Publicized Enforcement Demonstration Programs to Reduce Impaired Driving: Georgia, Louisiana, Pennsylvania, Tennessee, Indiana, Michigan, and Texas

In 2006, preliminary data from NHTSA indicates that more than 17,000 people died in alcohol-related crashes. Prior NHTSA research and demonstration studies have resulted in increased seat belt usage and a reduction in alcohol-related crashes. Some of these programs (*Click It or Ticket*) have involved short-term mobilizations or blitzes while others (Checkpoint Tennessee) involved both blitzes and longer term enforcement efforts. Both kinds of programs have common elements, that is, the coupling of increased and highly visible enforcement with intense publicity about the enforcement program. It thereby seemed logical that a similar strategy could reduce impaired driving when applied to a larger number of States.

Between 2000 and 2003, NHTSA funded seven alcohol demonstration programs designed to reduce impaired driving through well-publicized and highly visible enforcement. These demonstration programs were not specifically designed to be research evaluation studies; instead, they were designed to reduce drinking-and-driving behavior and ultimately alcohol-related crashes. The States varied widely in their enforcement methods, media methods, and their paid and earned media budgets and messages.

Four of the programs (GA, TN, IN, MI) were conducted statewide or nearly statewide. Paid advertising was used in Georgia, Indiana, and Michigan. In Georgia, Tennessee, Indiana, and Pennsylvania sobriety checkpoints were conducted throughout the data collection period. In Louisiana checkpoints were permitted part way through data collection, and in Texas and Michigan checkpoints were not permitted. The number and types of enforcement activities varied considerably from State to State. Georgia reported using 2,837 checkpoints. Pennsylvania used checkpoints, mobile awareness patrols, and roving patrols yielding more than 1,100 roadside enforcement actions, while Tennessee used a combination of checkpoints (535), enforcement roadblocks (approximately 270), and saturation patrols (270). Michigan used 1,122 satu-

ration and routine patrols, and in Indiana more than 3,800 patrol hours were reported. The number of DUI or DWI arrests varied considerably, typically varying from a few hundred to a few thousand.

Survey Findings In five of the seven States (GA, LA, PA, TN, and TX) one random digit dial telephone survey wave of 1,000 drivers was conducted before program implementation, one wave of 1,000 drivers was conducted midway through the program, and a third wave was conducted at the completion of the program. Due to logistical reasons, similar surveys in Indiana and Michigan were not conducted so the impact of their paid advertising is less well understood.

For one of these States—Georgia—there was a positive change in awareness of the enforcement program and a positive change in self-reported behavior. None of the other four States employing essentially the same survey showed positive changes in self-reported behavior.

In general, the findings from the driver surveys in the five States were disappointing. It was thought that the increased media and enforcement program would be associated with an increase in awareness of the enforcement program, a reduction in driving after drinking behavior, as well as an increase in the perception of being stopped by the police for an alcohol offense and arrested if over the limit. Such changes in awareness, perceptions, and self-reported behavior did not occur to a significant extent in any of the States.

Impact Analysis: Time series analyses (ARIMA) were used to determine if the ratio of drinking drivers to non-drinking drivers involved in fatal crashes experienced changes during the enforcement program. NHTSA's Fatality Analysis Reporting System (FARS) was used in the analyses with neighboring States serving as comparisons. This ratio was also used in comparing the intervention counties to non-intervention counties. In addition, alcohol-related fatalities were expressed in a ratio relative to annual vehicle miles traveled (VMT).

As compared to neighboring States, **Georgia** showed a statistically significant decrease (14%; $p < .005$) in the ratio of drinking drivers to non-drinking drivers. Using this measure, an estimated 60 lives were saved in the first year associated with the Georgia program. A non-significant 5-percent decrease was found in alcohol-related fatalities per 100 million VMT. **Louisiana** experienced decreases in their intervention counties, but compared to the non-intervention counties and neighboring States, significant decreases were not obtained; in fact, relative to their neighboring States, a significant increase was obtained. Although **Pennsylvania** showed decreases in the driver ratio measure for intervention and nonintervention counties versus neighboring States, none were statistically significant. **Tennessee** experienced a significant decrease (-10.6%, $p < 0.35$) in the driver ratio relative to neighboring States and no significant change in alcohol-related fatalities per 100 million VMT. In **Texas**, the 14 intervention counties showed no significant change in the ratio of drinking drivers to non-drinking drivers involved in fatal crashes nor in the alcohol-related fatality rate. The intervention counties in **Indiana** experienced a statistically significant decrease of 13 percent ($p < .02$) in the ratio of drinking drivers to non-drinking drivers involved in fatal crashes and a 20-percent decrease ($p < .002$) in alcohol-related fatalities per 100 million VMT. Indiana also experienced significant decreases in the nonintervention counties compared to neighboring States. Using the drinking driver ratio measure, it was estimated that 25 lives were saved in the intervention counties and 17 in the rest of the State. Also, **Michigan** experienced a 14-percent decrease ($p < .07$) in the ratio of drinking drivers to non-drinking drivers involved in fatal crashes in the intervention counties compared to neighboring States. This resulted in an estimated 57 lives saved during the program. Michigan also experienced a significant decrease of 18 percent ($p < .003$) in alcohol-related fatalities per 100 million VMT.

A major finding concerned the use of paid advertising. Three of the four States (GA, IN, MI) demonstrating a decrease in drinking driver fatal crashes used paid advertising.

In summary, it appears that a variety of media and enforcement procedures that supplement ongoing statewide efforts

can yield meaningful crash reduction effects among alcohol impaired drivers. In general, States employing sobriety checkpoints, using paid advertising and programs implemented statewide were associated with crash reductions relative to surrounding States. In addition, the use of saturation patrols alone may result in crash reduction.

Also, as each of these demonstration programs was unique and superimposed on existing State program activities targeting drinking drivers, simple relationships were not obtained between crash reductions and (a) amount, type, and target of publicity campaigns; (b) amount and type of enforcement activities; and (c) driver awareness, perceptions, and self-reported behavior. Based upon previous research and some of the implications from this study, a State impaired driving enforcement program is more likely to be successful if it incorporates (a) numerous checkpoints or highly visible saturation patrols conducted routinely throughout the year along with mobilized crackdowns (at least two per year); and (b) intensive publicity coverage of the enforcement activities, including paid advertising.

The results from these seven high-visibility enforcement demonstration programs have helped shape NHTSA's current annual *Over the Limit. Under Arrest.* national crackdown mobilization around Labor Day and in December. The lessons learned include the need for sustained high-visibility enforcement, for sufficient enforcement efforts that create the impression of increased risk of detection by impaired drivers, and the need for intensive publicity about the increased enforcement activity that reaches the impaired driver population.

How To order: *Evaluation of Seven Publicized Enforcement Demonstration Programs to Reduce Impaired Driving: Georgia, Louisiana, Pennsylvania, Tennessee, Texas, Indiana, and Michigan* (137 pages plus appendices), write to the Office of Behavioral Safety Research, NHTSA, NTI-130, 1200 New Jersey Avenue SE., Washington, DC 20590, fax 202-366-2766, or download from www.nhtsa.dot.gov. Marvin Levy, Ph.D. was the Contracting Officer's Technical Representative for this project.



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