

Roadside Surveys in Conjunction with Sobriety Checkpoints

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ABSTRACT

Since the 1970s, law enforcement agencies in the US have become reluctant to participate in standard roadside surveys of drinking-driving. Typically, concerns with liability and the increasing prevalence of violence associated with illegal drug activities are cited as reasons not to participate in such surveys. Hence, an alternative roadside survey procedure has been adopted in some locations. By combining survey procedures with sobriety checkpoints established for enforcement purposes, researchers can obtain the law enforcement cooperation necessary to permit collection of needed data.

In September and October, 1994 and January, 1995, roadside surveys in conjunction with enforcement checkpoints were conducted in 15 North Carolina counties. These surveys sought (1) to provide a population-based estimate of drinking-driving in the state and (2) to obtain baseline and follow-up data on drinking-driving in 4 areas targeted in a multi-faceted intervention.

Surveys conducted in conjunction with enforcement checkpoints differ from those not associated with enforcement actions in several ways. This paper focuses on these differences, emphasizing both the advantages and disadvantages of such cooperative ventures. Political, logistic, and research dimensions of the different procedures are discussed. It is concluded that, on balance, combining surveys with enforcement constitutes a viable alternative procedure for obtaining valid BAC data from the driving public.

INTRODUCTION

During the early 1970s roadside surveys were conducted in a number of U.S. cities as integral elements in the evaluation of Alcohol Safety Action Programs (ASAPs). Since that time, however, standard roadside surveys have become increasingly difficult to conduct in the U.S. In particular, it has become more difficult to obtain political and law enforcement support for roadside surveys of drinking-driving. Typically, concerns with liability and the increasing prevalence of violence associated with illegal drug activities are cited as reasons not to participate in such surveys.

In an attempt to conduct a follow-up of a 1973 nationwide roadside survey, Lund & Wolfe (1991) reported substantial attrition of police agencies willing to participate again in 1986. Of the 34 agencies that participated initially, only 18 agreed to participate 13 years later. Of those, two would only participate by conducting sobriety checkpoints where researchers interviewed individuals who were not arrested and obtained breath test information on arrested drivers from officers.

Because it is important to measure BAC from a representative sample of drivers, especially for the evaluation of drinking-driving countermeasures, an alternative roadside survey procedure has been adopted in some locations. By combining survey procedures with sobriety checkpoints established for enforcement purposes, researchers can obtain the law enforcement cooperation necessary to allow collection of needed data. These will be called *Checkpoint Surveys* in this paper. Standard roadside surveys, in which drivers are stopped by law enforcement officials, but only to direct them to researchers, will be referred to as *Roadside Surveys*.

This paper describes a recent statewide checkpoint survey of North Carolina drivers. This study illustrates how both logistics and interpretation of results differ from the typical roadside survey.

NORTH CAROLINA STATEWIDE SURVEY

Beginning in November 1994 the second phase of the NC Governor's Highway Safety Initiative was implemented (Williams, Wells & Foss, 1995). This phase focused on alcohol-impaired driving, and employed intensive enforcement throughout the state along with extensive media coverage of the increased enforcement effort. As a part of the evaluation of this initiative, a statewide roadside survey was to be conducted to provide a baseline against which future progress in the effort to reduce impaired driving can be measured. In addition, before-after surveys were to be conducted in four representative communities to evaluate the short-term effect of the November enforcement/media 'blitz.'

Traffic law enforcement in North Carolina has traditionally been strong. North Carolina has taken a progressive stance on DWI since 1983 when the 'Safe Roads Act' completely rewrote statutes governing drinking-driving. This act established a *per se* illegal limit (100 mg/dL at the time), enacted administrative license revocation for first time offenders, and enacted zero tolerance for persons under the age of 18. Because of this traditionally tough stance regarding drinking-driving, there was little interest by law enforcement officials in detaining drivers, only to turn them over to researchers who would take them home if they were alcohol-impaired. Thus, to obtain data on the prevalence of drinking-driving, it was necessary to obtain data together with enforcement checkpoints.

During September, October, and November 1994, checkpoint surveys were conducted in 15 North Carolina counties. Follow-up surveys were conducted in four communities during January and February 1995. The statewide survey ($N = 5695$) found 2.35% of sampled drivers to have a BAC over 80 mg/dL, the legal limit in North Carolina since October 1993. More drivers were over the limit after midnight than between 10 p.m. and midnight (4.51% vs. 1.54%, $z = 6.60$, $p < .001$), but weekend nights did not differ from week nights (2.42% vs. 2.25%, $z = .63$, n.s.). In the four communities where surveys were repeated ($N_1 = 2801$, $N_2 = 2471$) the proportion of legally intoxicated drivers declined from 1.98% to .90% ($z = 3.21$, $p < .001$).

LOGISTIC DIFFERENCES

Feasibility

As mentioned above, it has become difficult if not impossible to conduct typical roadside surveys in much of the U.S. Ironically, political concerns that make roadside surveys difficult reflect both civil libertarian and arch conservative viewpoints. In seven U.S. states, local laws prohibit sobriety checkpoints. The issue of illegal search inevitably becomes a concern with attempts to conduct roadside surveys, even when enforcement is not involved. Whereas the citizenry (at least as elected officials view their concerns) will generally tolerate the intrusion of an enforcement checkpoint, it is difficult to convince officials that the research value of the data to be obtained would justify an intrusion on unimpeded nighttime travel.

Persons of a conservative political persuasion are frequently unwilling to embrace the idea that an impaired driver, once stopped and discovered to be so, would simply be allowed to go home (in another private vehicle or taxicab). As the citizen movement against impaired driving in the U.S. turned this behavior into a 'high crime' more deserving of enforcement attention, the ability of researchers to distance themselves from enforcement appears to have declined. Thus, there is an interesting mix of opposition to roadside surveys that is difficult to counter when seeking the cooperation of enforcement agencies and their elected governing entities.

In many U.S. jurisdictions, an effective way to avoid the political problems associated with enforcement officials stopping vehicles for non-enforcement purposes is to conduct the research in conjunction with enforcement. If enforcement checkpoints are allowed and are routinely conducted, it is not difficult to obtain the cooperation of officials in directing motorists to researchers as they leave a checkpoint.

Site Selection

A major obstacle for roadside surveys is finding desirable interview locations. In the surveys we have conducted, for purposes of cost efficiency we usually attempt to operate five or six interview bays. The size of these operations and the safety concerns that exist when interviews are actually conducted on the road or at the roadside, dictate a need for large parking lots in which to conduct interviews. Obtaining owners' permission to use their property for this purpose can be a time-consuming, tedious, and often frustrating process. Some owners have objections in principle to the activity, but most are more concerned about the possible liability involved. Researchers often need to deal with a bewildering array of lawyers, insurance agents, and corporate officials to obtain permission to use a single parking lot for two hours. In contrast, if a local police agency wants to use a private parking lot as a part of an enforcement checkpoint they rarely have trouble obtaining permission with a single phone call.

Our recent experience also suggests that, despite extensive efforts to explain the site needs for a survey, when enforcement officials select locations for checkpoints, they do not necessarily understand, or allow for, researchers' needs. Consequently, quick retooling of a planned site layout by the survey team is often required.

Finally, since enforcement officials generally view the purpose of a checkpoint to be arresting motorists, it is important (but sometimes difficult) to convince them that sites cannot be selected merely because they are known to produce a good 'harvest' of drinking drivers. Even under the best of conditions the practical constraints on eligibility of sites (lighting, safety, permission to use, sufficient space and traffic flow) prevents truly random sampling. If the goal of the survey is to estimate the prevalence of drinking-driving, the method of site selection often used for enforcement checkpoints can completely invalidate the survey. This kind of site selection is less problematic, though still undesirable, in surveys conducted to measure change.

Survey Site Differences

Whereas obtaining permission and the needed law enforcement cooperation for a checkpoint survey is easier than for a standard roadside survey, procedures at the survey sites are more complicated. Lacking enforcement activities, the entire site is available to researchers, who can set up the operations to suit their needs for efficiency and safety. Working with enforcement agencies often involves competing needs. Off-road areas most suited for interviewing often are needed for enforcement activities. Physical constraints of the site frequently dictate that interview and enforcement activities have to intermingle, at least to a degree, in the same area. This can cause confusion for motorists. It also may make the difficult task of assuring respondents that their cooperation is voluntary and that the interview is not involved with enforcement even more problematic. Although the obvious presence of law enforcement may increase the cooperation rate, it probably reduces the likelihood that some respondents will provide a good breath sample and honest answers to questions.

Another complication that arises in checkpoint surveys is in sampling vehicles. Because traffic flow at many locations is far too heavy for all drivers to be interviewed, sampling is necessary. In a standard survey, sampling to obtain an essentially random sample is straightforward and easily implemented. When working with a checkpoint, however, vehicles must be sampled *before* entering the checkpoint, then followed through the enforcement process and culled from the traffic stream as they leave the enforcement area. If the driver of a sampled vehicle is detained, that individual must be tracked by a researcher to learn whether an arrest is made and, if so, what the driver's BAC was. If a driver is detained then not arrested, it can be difficult to obtain their cooperation for an interview. Even if it is possible to direct their vehicle into the survey area from the enforcement area, they are often understandably irritated and either refuse the breath test or the entire interview. This biases the data, since those detained by officers are not a representative subset of those sampled for inclusion in the survey.

Comparability of BAC Information

For those drivers who are sampled, but then arrested (or taken from the site for an evidential breath test), it is crucial that researchers obtain BAC information. Normally this can be done at the site by obtaining the cooperation of officers. However, if portable breath testing devices are not used at the site, the logistics of obtaining BAC data matched with a particular sampled individual can be troublesome. If BAC data are not available at the site,

they may be completely lost for low BAC individuals who were taken in for an evidential test, but subsequently not arrested. If no arrest record is created, the BAC information may be irretrievable.

Another issue of potential concern arises when some BAC data are obtained from enforcement officials and other obtained by researchers. That is the comparability of measurement. Although some officers are quite experienced in administering tests, others do so infrequently and may obtain unreliable measurements. By contrast, research team members often have more experience administering breath tests than all but the most experienced officers. A researcher can easily administer 30-40 tests a night, compared with the handful an officer might administer on a given night. In addition, researchers usually have been recently trained.

INTERPRETING RESULTS

Because checkpoints are more 'visible' to the drinking-driving public, they are more likely to be avoided by drinkers and others who would like to avoid any contact with the police. Consequently, the study sample is likely to be biased. Keeping the location of surveys unknown to the public is important, but difficult. Keeping the location of enforcement checkpoints secret is impossible. Because they are larger, involve more personnel, and are more threatening to the drinking-driving public, the likelihood of information about their presence and exact location leaking, even before the checkpoint is set up, is greater. Accordingly, data from checkpoint surveys probably should not be interpreted as unbiased estimates of actual drinking-driving, even if locations selected as survey sites represent the traffic flow in the geographic area studied.

On the other hand, data from checkpoint surveys probably do provide a valid indicator of change in drinking-driving in a region. Unless there is reason to think that the likelihood of avoiding a checkpoint has altered since the preprogram data were collected, the internal validity of checkpoint surveys would not appear to be in question. In comparison to the limitations of other indicators of drinking-driving—DWI arrest rates, surrogate measures of alcohol involvement in crashes, officer judgments of alcohol-involvement, and self-report—the shortcomings of checkpoint survey data detailed above are probably not cause for serious concern.

CONCLUSION

Viewed from a research design standpoint, checkpoint surveys are compromised in several ways. However, rather than distinguishing them qualitatively from standard roadside surveys, this sets them off only in degree. Most difficulties that checkpoint surveys entail also exist with standard surveys, but to a lesser degree. The distinct advantage is that whereas checkpoint surveys are politically feasible in many jurisdictions, the typical roadside survey may not be. Hence the choice often becomes one of either doing a checkpoint survey, or simply collecting no breath test information *in situ*. Especially for purposes of evaluating the effectiveness of an impaired-driving countermeasure or intervention, it would appear that, on balance, surveys combined with enforcement are a viable alternative procedure for obtaining valid BAC information from the driving public. The researcher who

is aware of the issues detailed above can design and implement a survey to be conducted along with enforcement checkpoints that will provide unique and invaluable information about drinking-driving.

REFERENCES

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