

Sobriety Checkpoints Annotated Bibliography
as of November 2006

Castle, S.P.; Thompson, J.D.; Spataro, J.A.; Sewell, C.M.; Flint, S.; Scirmer, J.; Justice, M.; and Lacey, J. 1995. Early evaluation of a statewide sobriety checkpoint program. *Proceedings of the 39th Annual Meeting of the Association for the Advancement of Automotive Medicine*, 65-78. Des Plaines, IL: Association for the Advancement of Automotive Medicine.

A two-year statewide sobriety checkpoint program was initiated in 1993 in New Mexico. The program was associated with a 26 percent decline in alcohol-related fatal crashes.

Elder, R.W.; Schults, R.A.; Sleet, D.A.; Nichols, J.L.; Zaza, S.; and Thompson, R.A. 2002. Effectiveness of sobriety checkpoints for reducing alcohol-involved crashes. *Traffic Injury Prevention* 3:266-74.

The authors review the research literature evaluating sobriety checkpoint programs in the United States and abroad. They found a large body of highly competent research on checkpoint effectiveness in a variety of settings (urban, rural, and mixed) that utilized a variety of outcome measures. They concluded that reliable studies consistently demonstrate the deterrent effect of sobriety checkpoints programs. The size of the deterrent effects reported also is consistent. The median decline in fatal crashes thought to involve alcohol for the 23 studies evaluated was 22 percent. Crashes were found to have declined regardless of the follow-up time of the study.

Fell, J.C.; Ferguson, S.A.; Williams, A.F.; and Fields, M. 2003. Why are sobriety checkpoints not widely adopted as an enforcement strategy in the United States? *Accident Analysis and Prevention* 35:897-902.

Despite evidence that checkpoints are effective in reducing drinking and driving and alcohol-related fatal crashes, many police agencies have been unenthusiastic about using them. Information was collected from all 50 states and the District of Columbia on the use of checkpoints. A total of 37 states reported conducting checkpoints at least once or twice a year. Only 11 reported they were conducted weekly. Thirteen states do not use sobriety checkpoints either because of legal or policy reasons. More detailed information was gathered from 5 states that frequently use checkpoints and 5 similar states that do so infrequently. Those that conducted frequent checkpoints had several common features such as program themes, support from task forces and citizen activist groups, use of a moderate number of police at checkpoints, and use of all available funding mechanisms (federal, state, and local) to pay for checkpoints. States that conducted checkpoints infrequently claimed a lack of funding and police resources prevented more extensive use of checkpoints, and preferred saturation patrols, believing them to be more "productive." They also used more officers at checkpoints than the states that conducted them frequently. Ways to overcome perceived barriers to the use of checkpoints are discussed.

Fell, J.C.; Lacey, J.H.; and Voas, R.B. 2004. Sobriety checkpoints: evidence of effectiveness is strong, but use is limited. *Traffic Injury Prevention* 5:220-27.

Research shows that highly publicized highly visible, and frequent sobriety checkpoints in the United States reduce impaired driving fatal crashes by 18-24 percent. However, despite the efforts of the U.S. Department of Transportation to encourage checkpoint use, only about a dozen of the 37 states that conduct checkpoints do so on a weekly basis. Lack of local police resources and funding, lack of support by task forces and citizen activists, and the perception that checkpoints are not productive or cost effective are the main reasons for their infrequent use. This article disc uses each of these problems and suggests a method for local communities to implement checkpoints without depending on state or federal funds through the use of low-staffing checkpoints.

Jones, R.; Joksch, H.; Lacey, J.; Wiliszowski, C.; and Marchetti, L. 1995. Site report: Wichita, Kansas field test of combined speed, alcohol, and safety belt enforcement strategies. Report no. HS-808-244. Washington, DC: National Highway Traffic Safety Administration.

Nighttime single-vehicle crashes involving injury decreased 23 percent following implementation in 1991 of a comprehensive traffic law enforcement program involving sobriety checkpoints in Wichita, Kansas.

Jones, R.K. and Joscelyn, K.B. 1978. Alcohol and highway safety 1978: a review of the state of knowledge. Washington, DC: National Highway Traffic Safety Administration.

This comprehensive report notes the estimates of the actual risk of being arrested for alcohol-impaired driving vary from one in 200 to one in 2,000.

Lacey, J.H.; Ferguson, S.A.; Kelley-Baker, T.; and Rider, P.R. 2006. Low-manpower checkpoints: Can they provide effective DUI enforcement in small communities? *Traffic Injury Prevention* 7:213-18.

Although sobriety checkpoints can be effective in reducing alcohol-impaired driving, checkpoints are underutilized. The study evaluated the feasibility and impact of conducting small-scale checkpoints in rural communities. An enforcement agencies in two counties agreed to conduct weekly checkpoints for one year. Two nonadjacent counties did not undertake additional checkpoints. Evaluation included public-awareness surveys and roadside surveys (including blood alcohol concentration (BAC) measurements) of weekend nighttime drivers. Relative to drivers in the comparison counties, the proportion of drivers in the experimental counties with BACs >0.05 percent was 70 percent lower. Drivers surveyed at driver's license offices in the experimental counties after program implementation were more likely to report seeing or passing through a checkpoint and were more aware of publicity on driving under the influence (DUI) enforcement. The authors concluded that small rural communities can safely and effectively conduct low-staff sobriety checkpoints on a weekly basis. Such programs can be expected to result in large reductions in drivers operating at higher BACs.

Lacey, J.H.; Jones, R.K.; and Fell, J.C. 1995. A comparison of blitz versus continuous statewide checkpoints as a deterrent to impaired driving. *Proceedings of the 13th International Conference on Alcohol, Drugs, and Traffic Safety* (eds. Kloeden, C.N. and McLean, A.J.), 2:845-48. Adelaide, Australia: NHMRC Road Accident Research Unit, University of Adelaide.

Survey research in New Mexico found that the number of respondents in New Mexico who believed it was almost certain or very likely that a drunk driver would be stopped by police rose during a study period during which checkpoints were conducted from 24 percent for females to 27 percent and finally to 34 percent. For males, the values were 24 percent, 28 percent and 20 percent. In New Mexico, following an aggressive checkpoint program, 60 percent of respondents in a series of telephone surveys reported having heard of the program.

Preliminary results of checkpoint programs in New Mexico and Tennessee indicate that both were associated with a reduction in alcohol-related fatal crashes. The reduction was 3.7 per month, a 21 percent reduction in New Mexico and 1.8 per month, an 8 percent reduction in Tennessee.

Respondents to a written survey on sobriety checkpoints in Tennessee overwhelmingly approved the use of checkpoints. The approval rating was 88 percent in the first wave of the survey and almost 92 percent in the second.

Lacey, J.H.; Jones, R.K.; and Smith, R.G. 1999. An evaluation of checkpoint Tennessee: Tennessee's statewide sobriety checkpoint program. Washington, DC: National Highway Traffic Safety Administration.

This study evaluates a program that involved checkpoints held every weekend between April 1994 and March 1995 in Tennessee. A 20 percent decline in fatal crashes involving at least one driver with a BAC of 0.10 or greater. An estimated nine fatal crashes a month were avoided during the program. Nighttime single-vehicle crashes decreased almost 6 percent. Comparison states' (Alabama, Georgia, Kentucky, Louisiana, and Mississippi) data were analyzed to assure the effect in Tennessee was related to the checkpoint program and not part of a general trend. The comparison states did not show declines in fatalities involving drivers with high BACs during the relevant period.

Lacey, J.H.; Stewart, J.R.; Marchetti, L.M.; Popkin, C.; and Murphy, P.V. 1986. Enforcement and public information strategies for DWI general deterrence: arrest drunk driving: the Clearwater and Largo, Florida experience. Chapel Hill, NC: University of North Carolina Highway Safety Research Center.

Similar results were obtained under a checkpoint program in Clearwater and Largo, Florida which experienced a 12 percent reduction in alcohol-related crashes following checkpoint operations.

Levy, D.T.; Asch, P.; and Shea, D. 1990. An assessment of county programs to reduce driving while intoxicated. *Health Education Research* 5:247-56.

The authors report a 29 percent overall reduction in single-vehicle nighttime crashes that they attributed to sobriety checkpoints for the period May 1983 to July 1986.

Levy, D.; Shea, D.; and Asch, P. 1989. Traffic safety effects of sobriety checkpoints and other local DWI programs in New Jersey. *American Journal of Public Health* 79:291-93.

In New Jersey checkpoints with educational programs were associated with a drop of 10 to 15 percent in single-vehicle nighttime crashes (a commonly used measure of alcohol-impaired driving). This effect lasted for years.

Mercer, G.W. 1985. The relationships among driving while impaired charges, policy drinking-driving roadcheck activity, media coverage and alcohol-related casualty traffic accidents. *Accident Analysis and Prevention* 17:467-74.

This study in British Columbia demonstrated the value of highly visible, well publicized sobriety checkpoints in deterring alcohol-impaired driving. Alcohol-related crashes declined with increased checkpoint activity and publicity. The authors concluded that arrest rates alone did not demonstrate any deterrent effect.

Mercer, G.W.; Cooper, P.J.; and Kristiansen, L.A. 1996. A cost/benefit analysis of a 5-month intensive alcohol-impaired driving road check campaign. *Proceedings of the 40th Annual Meeting of the Association for the Advancement of Automotive Medicine*, 283-92. Des Plaines, IL: Association for the Advancement of Automotive Medicine.

A checkpoint program in British Columbia conducted in the period July to December 1995 was associated with a 19 percent decrease in single-vehicle injury crashes involving male drivers ages 21 to 40 years. The reduction in crash costs for the insurer supporting the program was estimated to be 3.4 times greater than the cost of the program.

Miller, T.R.; Galbraith, M.S.; and Lawrence, B.A. 1998. Costs and benefits of a community sobriety checkpoint program. *Journal of Studies on Alcohol* 59:462-68.

The cost and the estimated financial benefits from a hypothetical community sobriety checkpoint program were compared. A review of the literature concerning sobriety checkpoints indicates that a well funded checkpoint program conducting 159 checkpoints per year can be expected to reduce alcohol-related crashes by approximately 15 percent. Benefits of such a program were calculated using 1993 alcohol-involved crash incidence from the National Highway Traffic Safety Administration. Costs were updated from published studies. The estimated annual savings to a hypothetical community of 100,000 licensed drivers were \$7.9 million (\$3.1 million for fatalities avoided, \$4.5 million for non-fatal injuries avoided, and \$0.3 million for property damage avoided). For every \$1 spent on a sobriety checkpoint program, a community can expect to save more than \$6.

National Highway Traffic Safety Administration. 2006. Low-staffing sobriety checkpoints. Report no. DOT HS-809-999. Washington, DC: National Highway Traffic Safety Administration. Available: www.nhtsa.dot.gov/people/injury/enforce/LowStaffing_Checkpoints/pages/TOC.htm.

This document is a guide for law enforcement agencies on how to coordinate the planning, operation, data collection, and other activities of low-staffing sobriety checkpoints.

Presidential Commission on Drunk Driving. 1983. Final report. Washington, DC.

The Commission recommended the use of sobriety checkpoints to raise the actual and perceived risk of arrest.

Ross, H.L. 1984. *Deterring the Drinking Driver: Legal Policy and Social Control*, rev. ed. Lexington, MA: Lexington Books, D.C. Heath and Co.

Sanctions that are swift, certain, and highly visible are most effective in creating general deterrence. Occasional enforcement blitzes and severe sanctions that are infrequently imposed have little long term effect. The public's perception of the likelihood of being caught driving while impaired is the most important element in deterrence. Where that perception of the likelihood of apprehension is low, enforcement efforts have little long term effect.

Ross, H.L. 1992. The deterrent capability of sobriety checkpoints: summary of the American literature. Washington, DC: National Highway Traffic Safety Administration.

This paper concluded, "[B]oth U.S. and foreign experiences support the proposition that sobriety checkpoints are capable of reducing the extent of drunk driving and injuries on the highways. It is no longer necessary to ask whether sobriety checkpoints can deter."

Stuster, J.W. 2006. Creating impaired driving general deterrence: eight case studies of sustained, high-visibility, impaired-driving enforcement. Report no. DOT HS-809-950. Washington, DC: National Highway Traffic Safety Administration.

The document presents eight case studies of selected programmatic efforts intended to reduce the incidence of impaired driving and improve traffic safety. Each of the programs is unique, but all eight are characterized by sustained, high-visibility, special impaired driving enforcement activity and all are supported by vigorous publicity and education campaigns. Twenty-nine special enforcement programs from across the United States were investigated and summarized, from which a sample of programs was selected for additional study and description. One of the case studies describes a highly mobile sobriety checkpoint program conducted by the Jefferson County Sheriff's Office, Jefferson County, CO.

Stuster, J.W. and Blowers, P.A. 1995. Experimental evaluation of sobriety checkpoint programs. Washington, DC: National Highway Traffic Safety Administration.

This study compared the effectiveness of checkpoint programs to special DWI enforcement patrols in similar, but geographically disperse communities in California. Four communities undertook checkpoint programs which varied according to staffing levels (three to five officers and eight to twelve). Mobility was varied as well. Some remained in one location throughout the evening while others moved twice in an evening. A fifth community undertook a rigorous program of aggressive roving patrols focused on DWI enforcement. The same amount was spent on the roving patrols as on the checkpoints. A sixth community did no special DWI enforcement during the project.

Crash, arrest, and BAC data were obtained, and survey data were collected on public awareness of the programs and perceived risk of arrest. The proportion of alcohol-involved crashes in the four checkpoint communities declined by 43, 32, 19, and 16 percent, compared to a state-wide decline of 8 percent. The proportion in the roving patrol community was 5 percent. Alcohol-involved crashes declined significantly in the checkpoint sites, and did not change significantly at the comparison site. The checkpoint communities' decline was more than 3 times greater than the statewide decline.

Voas, R.B.; Holder, H.D.; and Gruenewald, P.J. 1997. The effect of drinking and driving interventions on alcohol-involved traffic crashes within a comprehensive community trial. *Addiction* 92:S221-36.

This study evaluated a program involving checkpoints, media coverage, increased use of breath testing equipment, and increased officer training in three areas in Northern California, Southern California, and South Carolina. Checkpoints were associated with an overall reduction in single-vehicle nighttime crashes in the three communities.

Voas, R.B.; Rhodenizer, A.E.; and Lynn, C. 1985. Evaluation of Charlottesville checkpoint operation (final report). Washington, DC: National Highway Traffic Safety Administration.

This was a comprehensive evaluation of a year-long sobriety checkpoint program in Charlottesville, Virginia. Researchers evaluated checkpoint effectiveness by looking at relevant crash rates, arrest rates, and conducting surveys to determine public awareness and acceptance of the program. The checkpoint program was found to have been highly successful, resulting in a 13 percent reduction in alcohol-related crashes. Police achieved a higher arrest rate at the checkpoint than from patrols and the number of officer hours per arrest at checkpoints (6.5) was 20 percent lower than for patrols (7.9). The increased efficiency is achieved at a cost of a minimal intrusion on individual's time. Drivers typically come in contact with police at checkpoints for significantly less than a minute.

The proportion of young drivers arrested at checkpoints is more reflective of their proportion in crashes than the proportion arrested through other enforcement efforts.

Another finding was that 85 percent of the alcohol servers interviewed in the study reported hearing customers discussing checkpoints. Respondents among the general public were separated into two groups based on their answers to questions about their drinking and driving habits: those who were "at risk" for alcohol-impaired driving and those who were "not at risk." Of the "at risk" respondents, 87 percent either approved or strongly approved of the checkpoint operations. In Blacksburg, Virginia, where checkpoints were not being conducted, 78 percent of "at risk" respondents either approved or strongly approved of checkpoints. Of the "not at risk" respondents, 90 percent in Charlottesville and 88 percent in Blacksburg either approved or strongly approved of checkpoints.

Wells, J.K.; Preusser, D.F.; and Williams, A.F. 1992. Enforcing alcohol-impaired driving and seat belt use laws, Binghamton, New York. *Journal of Safety Research* 23:63-71.

A well publicized checkpoint program in Binghamton, New York, was associated with a reduction of 39 percent in the number of drivers who had been drinking stopped at checkpoints from fall 1988 to fall 1989. This was sustained through fall 1990. Researchers estimated that the program resulted in a 24 percent reduction in late-night crashes in the months when checkpoints were held.

Williams, A.F. and Lund, A.K. 1984. Deterrent effects of roadblocks on drinking and driving. *Traffic Safety Evaluation Research Review* 3:7-18. Washington, DC: National Highway Traffic Safety Administration.

Sobriety checkpoints and accompanying publicity were found effective in increasing the public's awareness of the risk of being apprehended for alcohol-related driving offenses. A visible, well publicized checkpoint program in Montgomery County, Maryland was compared with a serious enforcement effort using patrols in nearby Fairfax County, Virginia. Phone surveys showed that the public perceived that the risk of being apprehended driving while impaired was significantly higher where checkpoints were conducted than where they were not. This was true even though the actual risk of apprehension was greater in Fairfax County. Researchers found widespread public approval of sobriety checkpoints in Montgomery County, Maryland and in Delaware, which were using checkpoints as well as in Fairfax County, Virginia and Maryland's Eastern Shore, comparison communities not using them.

Williams, A.F.; Wells, J.K.; and Foss, R.D. 1995. The North Carolina Governor's Highway Safety Initiative: initial results from "Booze It and Lose It." *Proceedings of the 13th International Conference on Alcohol, Drugs, and Traffic Safety*, 1:347-51. Adelaide, Australia: NHMRC Road Accident Research Unit, University of Adelaide.

An early evaluation of a checkpoint program conducted as a part of the North Carolina Governor's Highway Safety Initiative involved measuring the BACs of drivers passing through checkpoints before and after the demonstration program which was accompanied by widespread publicity. The Initiative is a multiyear enforcement program aimed at increasing safety belt usage and deterring alcohol-impaired driving. The preprogram checkpoint data indicated that 2.4 percent of drivers had BACs at or above the 0.08 percent per se limit in North Carolina. In the demonstration areas, the percentage of drivers with BACs at or above 0.08 percent declined from 1.98 percent to 0.90 percent (Williams, et al., 1995). Before and after the North Carolina program telephone surveys were conducted. After the program, 86 percent of respondents had heard about recent enforcement efforts for drunk driving laws, up from 58 percent prior to the program; the percentage of those thinking drunk driving laws were being very strictly enforced rose from 28 to 37 percent; the percentage of those who thought the likelihood of being caught if driving drunk in the past month increased from 38 to 61 percent.

The checkpoint program also achieved law enforcement benefits beyond apprehension of alcohol-impaired driving. During a three week period of enhanced checkpoint activity in late 1994, 53 fugitives were arrested, 636 drug-related charges were brought, and 55 stolen vehicles were recovered.