Demonstration Project Report

A Campaign to Reduce Impaired Driving through Retail-Oriented Enforcement in Washington State

Pacific Institute for Research and Evaluation

In completion of Task 6 of NHTSA Cooperative Agreement
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Acknowledgements

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Executive Summary

Recognizing the dangers to public health and safety associated with individuals impaired by alcohol, nearly every state and the District of Columbia prohibit alcohol sales to obviously or visibly intoxicated persons. Although these laws have been widely adopted, the laws are largely ignored by alcohol establishments and their staff. The lack of compliance has serious public health and safety implications; many drivers arrested for driving under the influence of alcohol indicate that they had their last drink at a licensed establishment.

The Washington State Liquor Control Board (WSLCB) launched its Driving Under the Influence of Alcohol (DUI) Reduction Program in 2002 with the immediate goal of reducing sales to intoxicated persons through enforcement directed at bars and restaurants. The program targets those establishments that produce high levels of DUI arrests as indicated by “place of last drink” information collected on DUI arrests reports. The ultimate and long-term program goal of the program is to reduce impaired driving and alcohol-related traffic crashes.

The DUI Reduction Program showed promise, with anecdotal reports suggesting that it reduced sales to intoxicated persons at targeted retail establishments. WSLCB conducted the Washington Enforcement and DUI Reduction demonstration project to assess the impact of the program, under an agreement with the Pacific Institute for Research and Evaluation (PIRE) and with funding from the National Highway Traffic Safety Administration (NHTSA). The demonstration project was designed to assess the effects of the program on three outcome measures: retailer willingness to sell alcohol to apparently intoxicated persons, BAC levels of drivers arrested for DUI, and DUI arrestees naming establishments exposed to the program as their place of last drink.

Ten sites each in the WSLCB’s Northern and Southern regions (20 sites overall) were selected to participate in this demonstration project. The intervention consisted of letters to establishment owners notifying them that the agency concerns about reported business practices; provision of a DUI education “packet” to licensees; an offer of free training on how to check identification and avoid overservice of alcohol; unannounced premise checks by self-identified WSLCB agents, with punitive actions taken if necessary; and additional premise checks and undercover operations if no progress was noted through monthly progress evaluations.

The results of this demonstration project are mixed. The evaluation detected no change in retail practices; however, it did produce two promising findings: reductions in the average number of monthly DUI arrests involving drivers who had been drinking at intervention sites and reductions in average BAC levels among DUI arrestees. Several factors limit the potency of findings: small sample size, variation in the protocol for the delivery of education materials, retailers’ level of exposure to RBS training, possible erosion of effects, and the level of enforcement activity in comparison sites.

The evaluation suggests that a stronger intervention involving enforcement of sales to intoxicated persons laws and related educational outreach may produce desired results. This report concludes with suggestions for how future tests of similar interventions could be improved.
Introduction
Recognizing the dangers to public health and safety associated with intoxicated individuals, nearly every state and the District of Columbia prohibit alcohol sales to obviously or visibly intoxicated persons.\(^1\) Although these laws have been widely adopted, these laws are largely ignored; studies have found that 58 to 85 percent of alcohol establishments will serve alcohol to patrons who appear obviously intoxicated.\(^2\) Moreover, up to 50 percent of persons driving under the influence had their last drink at a licensed establishment.\(^3\) Interventions to promote voluntary compliance with alcohol sales laws and increased enforcement of laws prohibiting service to intoxicated persons have had mixed results. Programs with well-designed interventions, particularly those that include enforcement, have been found to promote better compliance and decreases in alcohol-related harm.\(^4\)

Despite the fact that Washington State law prohibits sales to intoxicated persons and lowered the maximum allowable BAC level to .08 in 1999, drivers with high BAC levels continue to be involved in fatal traffic crashes. In 2001, 86 percent of alcohol-related crashes in the State involved drivers with a BAC level of over .08.\(^5\) In 2002, the Washington State Liquor Control Board (WSLCB) launched its DUI Reduction Program with the immediate goal of reducing sales to intoxicated persons through enforcement directed at bars and restaurants. The ultimate and long-term goal of the program is to reduce impaired driving and alcohol-related traffic crashes.

The DUI Reduction Program uses analyses of monthly DUI arrest reports, which include “place of last drink” locations, as well as the BAC levels of arrested drivers. The analyses are used to create a “worst offenders” list of establishments; that is, a list of establishments associated with the highest number of DUls or the highest BAC levels recorded among DUI arrestees. The program then executes a plan that includes outreach to and training for retailers, targeted enforcement, and, as necessary, the implementation of corrective actions.

The Washington Enforcement and DUI Reduction demonstration project was a joint effort conducted by WSLCB and the Pacific Institute for Research and Evaluation (PIRE) with funding from the National Highway Traffic Safety Administration. The purpose of the project was to evaluate the effectiveness of the DUI Reduction Program. It focuses on three outcome measures: (1) The likelihood that retail establishments that sell alcohol to intoxicated people would change this practice after establishment owners were provided with information about the state’s sales to intoxicated persons law, given notification that enforcement of the law would increase, and then subjected to enforcement actions; (2) BAC levels among drivers arrested for DUI.; and (3) the degree to which DUI arrestees named establishments exposed to the program as their place of last drink. Due to the modest nature of this demonstration project and evaluation, it was not feasible to select as an outcome measure reductions in the incidence of DUI.

Methodology
The demonstration project employed a quasi-experimental pre-post evaluation design with the inclusion of comparison sites. Ten sites each in the WSLCB’s Northern and Southern regions (20 sites overall) were selected to participate in this demonstration project based on the following criteria:
• Establishments were cited as the place of last drink by the highest number of DUI arrestees in that region between the period of May 2004 and May 2005;

• The average BAC levels of arrestees from May 2004 to May 2005 were among the highest recorded for that region; and

• Establishments had not previously participated in the WSLCB’s DUI Reduction program.

In each region, the selected establishments were randomly assigned to intervention and comparison groups (with five establishments in each condition for each of the two regions). Intervention sites were exposed to the DUI Reduction program, and comparison sites were exposed only to routine enforcement (i.e., complaint-driven enforcement).

Baseline data collection on retail sales practices occurred in August 2005. Post-intervention data collection took place in June 2006. Data were collected by sending pseudo-intoxicated actors who attempted to purchase alcohol at all 20 sites in each region before and after the enforcement intervention.

After auditioning for a position on the data collection team before a panel comprised of PIRE evaluators and WSLCB agents, the hired actors were trained in all aspects of data collection to ensure the integrity of data as well as personal safety. Data collectors worked in teams of two with one person filling the role of a pseudo-intoxicated patron (PIP) and the other serving as the Observer. In preparation for data collection, the team dressed in a manner suitable for the establishments to be visited (e.g., restaurants, bars, night clubs), and the PIP sprayed himself/herself with an atomizer containing liquor.

The PIP and Observer entered establishments together acting as acquaintances. Once inside an establishment, the PIP simulated reliable signs of intoxication such as decreased alertness, quick, slow or fluctuating pace of speech, fine or gross motor coordination problems, slowed speech, slowed respiration, sweating, and sleepiness. The PIP and Observer remained together throughout their time in the establishment either sitting together at a table when in restaurants without a bar area or sitting next to each other at the bar (or, if only one bar stool was available, with the Observer standing next to the PIP). The PIP then requested a beer from the first available server or bartender with the server given a good opportunity to observe signs of intoxication while the PIP ordered. Shortly after the PIP was served or refused service, the Observer paid for any beer served and then exited the establishment with the PIP. After leaving the establishment, the Observer drove away to a safe location where both the PIP and the Observer completed data collection forms before proceeding to the next establishment.

Data collection utilizing the pseudo-intoxicated actors occurred on Friday and Saturday evenings between 6:00 and 11:00 p.m. Actors who conducted baseline data collection also conducted follow-up data collection.

Data collection on DUI arrests occurred in the three months preceding the enforcement intervention and in the three months following the intensive enforcement period. This data
collection focused on arrestee reporting of the place of last drink and on the BAC levels of arrestees.

WSLCB conducted a two-phased enforcement intervention in intervention sites from October 2005 to June 2006 with intensive enforcement conducted for the first six months (October through March) and regular complaint-driven enforcement conducted April through June. The intensive phase of the enforcement consisted of the following:

- Letters to establishments notifying them of agency concerns regarding business practices vis-à-vis sales to intoxicated patrons and including a copy of a DUI incident report detailing arrest dates and BAC levels of drivers identifying the establishment as their place of last drink prior to arrest (See Appendix A);
- Provision of a DUI “packet” to licensees (See Appendix B);
- Offer of training on how to check identification and avoid overservice of alcohol;
- Unannounced premise checks by self-identified WSLCB agents, with punitive actions taken if necessary; and
- Additional premise checks and undercover operations if no progress was noted through monthly progress evaluations.

The regular enforcement phase consisted only of unannounced premise checks in response to complaints received by the agency and possible subsequent actions based on the results of those checks.

WSLCB agents working in the state’s Northern Region visited establishments to deliver the notification letter and the DUI packet. The administrative secretary for the Southern Region mailed the notification letter and DUI packet to the five intervention sites in that region.

When the offer of free responsible alcohol beverage service training was accepted, the training occurred on-site at the establishment.

Unannounced premise checks involved agents visiting the establishment to conduct a general inspection. Agents identified themselves as WSLCB agents to the on-duty manager. If violations were detected or observed, the agents would immediately initiate action (e.g., issue a citation) against the establishment or its employees.

At their discretion, agents conducted additional premise checks and undercover investigations. The undercover investigations involved “plain clothes” agents entering and remaining in the establishment for a period to observe business practices without making their presence known to the establishment owner or employees. If any violation was detected or observed (e.g., sale to obviously intoxicated person), the agents would exit the establishment and then record the violation on an agency form. Actions against the establishment (e.g., issuance of a citation) would then be initiated either in person by the back-up team or via postal mail correspondence.
from the agency. When an undercover operation did not find a violation, WSLCB would notify the establishment of this finding at a later point in time.

**Results**

Table 1 details the type and number of activities conducted by the WSLCB in the intervention sites during both phases of the intervention period. Most educational activity involved a one-on-one meeting between a WSLCB agent and the manager on-duty at establishments. Only two licensees accepted the offer for on-site RBS training for managers and employees. The bulk of enforcement operations involved unannounced premise checks with 102 conducted between October and March (the intensive enforcement phase) and 23 conducted between April and June (the regular enforcement phase). Enforcement operations resulted in the issuance of six citations and three written warnings during the intensive enforcement period and no citations or warnings during the regular enforcement period.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Intensive Enforcement Period Oct. 06 – March ’06</th>
<th>Regular Enforcement Period April ’06 – June ’06</th>
<th>Total Oct. ’05 – June ’06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DUI Packet Provision</td>
<td>10</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>1-on-1 Meetings</td>
<td>27</td>
<td>8</td>
<td>35</td>
</tr>
<tr>
<td>RBS Trainings</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Enforcement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum Purchase Age Compliance Checks</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Unannounced Premise Checks</td>
<td>102</td>
<td>23</td>
<td>125</td>
</tr>
<tr>
<td>Undercover Investigations</td>
<td>6</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Violation Notices Issued</td>
<td>6</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Written Warnings</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

The WSLCB conducted less educational and enforcement activity with comparison sites. (See Table 2.) No educational outreach was provided to them during first phase (intensive enforcement) of the intervention period, and a DUI informational packet was given to only one establishment during the second phase (regular enforcement). Unannounced premise checks again constituted the majority of enforcement operations (60), and enforcement operations resulted in six written warnings.
Table 2: Activity Summary – Comparison Sites

<table>
<thead>
<tr>
<th>Activity</th>
<th>Intensive Enforcement Period Oct. 06 – March ’06</th>
<th>Regular Enforcement Period April ’06 – June ’06</th>
<th>Total Oct. ’05 – June ’06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DUI Packet Provision</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1-on-1 Meetings</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>RBS Trainings</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Enforcement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum Purchase Age Compliance Checks</td>
<td>5</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Unannounced Premise Checks</td>
<td>48</td>
<td>12</td>
<td>60</td>
</tr>
<tr>
<td>Undercover Investigations</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Violation Notices Issued</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Written Warnings</td>
<td>6</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>

Between the time of baseline data collection on sales to pseudo-intoxicated patrons in WSLCB’s Southern Region and the time of follow-up data collection, one establishment exposed to the intervention and one comparison establishment closed. Consequently, there were nine intervention and nine comparison sites included in the follow-up analysis. Figure 1 illustrates how the rates of sales to pseudo-intoxicated patrons for intervention sites compared with sales rates for comparison sites. Sales rates for intervention sites increased from 50 percent to 88.9 percent. That is, eight establishments sold alcohol to pseudo-intoxicated patrons during the follow-up (up from five establishments). In contrast, sales rates for comparison sites decreased slightly from 80 percent to 77.9 percent (from 8 establishments to 7 establishments). Due to small sample size, tests of statistical significance were not included in this portion of results analysis.

The average number of DUI arrests in which intervention establishments were identified as place of last drink, decreased 36 percent (from 11.4 to 7.3) between the three months preceding the intensive enforcement period and the three months following it. (See Figure 2). The average number of DUI arrests naming comparison establishments also decreased; however, the decrease was considerably smaller (7 percent). Neither decrease was statistically significant.
Figure 1: Percentage of Pseudo-Intoxicated Persons Served Alcohol

- Intervention: 88.9%
- Comparison: 80% and 77.9%

Figure 2: Average Number of Monthly DUI Arrests with Sites Named as Place of Last Drink

- Intervention:
  - Pre: 7.3
  - Post: 6.7

- Comparison:
  - Pre: 11.4
  - Post: 7.2

Legend:
- Pre (N=10)
- Post (N=9)
Figure 3 compares average BAC levels for the individuals who were arrested for DUI in the three months preceding the intensive enforcement period and three months following this phase. There was a decrease in the average BAC level for the intervention communities from .135 (n = 105) to .127 (n = 19). This decrease was statistically significant (p = .033 for a one-tailed t-test, and p = .067 for a two-tailed test.) The average BAC level for arrestees increased from .135 (n = 67) to .149 (n = 16) for comparison sites. This 10 percent increase was not statistically significant.

![Figure 3: Average BAC Levels of DUI Arrestees](image)

**Discussion**

Given previous research demonstrating that enforcement campaigns supplemented with targeted education for retailers can result in changes in retailer willingness to provide alcohol to apparently intoxicated patrons, similar results were hypothesized for this Washington State demonstration project. Evaluators also theorized that changes in the number of DUI arrests associated with intervention establishments as well as average BAC levels for DUI arrestees who identified intervention establishments as their place of last drink would be affected by intervention as well.

Only two of the three measures changed in the direction anticipated. The average number of DUI arrests where the offender listed an intervention establishment as their place of last drink decreased considerably (36 percent). This finding was statistically significant when compared with comparison establishments. The average number of DUI arrests in which the offender named comparison establishments remained the same. Related to this positive outcome is a recorded decrease in the average BAC level of DUI arrestees who reported intervention sites as the place of last drink in the three months following the intervention. By contrast, the average
BAC level for DUI arrestees listing comparison sites as the place of last drink increased, though not significantly.

Data related to retailer willingness to provide alcohol to apparently intoxicated patrons, however, showed an increase rather than a decrease in “successful” alcohol purchases by pseudo-intoxicated patrons at intervention establishments. The percentage of successful purchases remained relatively stable for the comparison establishments.

These inconclusive findings may be attributable to the evaluation design and intervention implementation (discussed below).

**Limitations of Findings**
The primary purpose of this demonstration project was to determine the feasibility of implementing and assessing the effects of the WSLCB’s DUI Reduction Program on the outcome measures discussed above. The limited number of establishments included in the evaluation precluded the possibility of definitive findings. It is clear also that other factors limit the degree to which evaluation findings can be used either to support or oppose similar interventions being implemented in the future.

One limitation relates to intervention design and execution. Half of the establishments in the experimental sample received the notification letter and the DUI packet from a WSLCB agent who personally delivered the information. The other establishments received the same information from the agency via postal mail. The manner of delivery may have influenced the degree to which establishment owners and personnel appreciated the importance of obeying the law prohibiting sales to intoxicated persons and, consequently, changed their behavior.

Another limitation also relates to the educational aspect of the intervention design. Establishment owners were given the choice of whether to enroll staff in free on-site responsible beverage service training. Few establishments (two out of the ten) participated in such trainings. Results may have been different had RBS training been required.

Study results may also reflect erosion effects. The follow-up measure of sales to pseudo-intoxicated patrons occurred two to three months following the intensive phase of the intervention period. Had the follow-up measure been conducted sooner after the intensive phase and before a return to regular enforcement practice, the rate of sales might have been lower.

It should also be noted that the extent of enforcement activity in comparison sites was greater than evaluators anticipated. Consequently, the comparison between results for the intervention sites and results for the comparison sites does not reflect the strength of an intensive enforcement intervention weighed against little or no enforcement.

**Conclusion and Recommendations**
The Washington State Liquor Control Board’s DUI Reduction Program is based on the premise that enforcement and education targeted at alcohol establishments with patterns of overservice of alcohol will result in positive changes in establishment practices. The project evaluation also sought to detect possible changes in the number of DUI arrests associated with intervention
establishments as well as average BAC levels for DUI arrestees who identified intervention establishments as their place of last drink. While the WSLCB’s DUI Reduction Program was not shown to produce changed behavior among retailers, the program evaluation does offer two promising findings: reductions in the average number of monthly DUI arrests in intervention sites and reductions in average BAC levels among DUI arrestees. The mixed results suggest that a stronger intervention involving enforcement of sales to intoxicated patrons laws and related educational outreach may be needed to fulfill the project’s goals.

As an examination of the feasibility of conducting a larger and more rigorous evaluation of similar DUI reduction programs, the demonstration project offers suggestions for how interventions should be strengthened and evaluations improved. A stronger intervention would likely include personal contact between the WSLCB and the licensees. Personal delivery of educational materials by agents may convey better to licensees the message of the seriousness of the crime of selling alcohol to intoxicated persons as well as the importance of addressing this matter with establishment employees. Personal delivery would also allow licensees to ask questions about and clarify their understanding of the law, their responsibilities, and the consequences of failure to comply with the law. A stronger intervention would also require the licensees of problem establishments to enroll their employees in RBS training.

As executed, the vast majority of enforcement actions involved unannounced inspections. These inspections, however, were general in nature and involved WSLCB agents identifying themselves to establishment personnel. A stronger enforcement intervention would include more undercover investigations to enable agents to observe the known problem server practice without the server being aware of such observation. When necessary, punitive actions (i.e., issuance of citation) would follow undercover investigations. This may prompt changes in server behavior more effectively.

Future tests of similar interventions should include a standard protocol for delivery of educational information and conduct the follow-up assessment of retailer behavior soon after the end of the intensive enforcement. Should financial resources permit it, a subsequent follow-up assessment could be conducted to assess whether there is an erosion of effects following the return to regular enforcement practices.
REFERENCES


6 The WSLCB did not investigate the causes of closure.