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Nighttime Seat Belt Enforcement in Washington State

Introduction

About half of all traffic fatalities occur between the hours of 6 p.m. and 6 a.m., and about one-quarter occur between 9 p.m. and 3 a.m. Furthermore, NHTSA's 2014 Fatality Analysis Reporting System indicates that 57 percent of passenger vehicle occupants killed in crashes between 6 p.m. and 6 a.m. were unrestrained, compared to 41 percent during the daytime hours.

The Washington Traffic Safety Commission (WTSC) and NHTSA worked together to conduct a statewide high-visibility nighttime seat belt enforcement (NTSBE) program to address low belt use and high fatality rates at night after the State identified low nighttime belt use as an issue. The program followed the *Click It or Ticket* (CIOT) model by using high-visibility enforcement combined with increased paid and earned media about the enforcement, and it applied efforts during nighttime rather than daytime hours. The NTSBE program conducted five high-visibility enforcement waves from May 2007 to May 2009.

NTSBE Activities

The number of law enforcement agencies participating in the NTSBE program varied across the five waves from 49 to 75. The patrols covered the major population centers and reached about 90 percent of the State's population.

Table 1: Summary of Enforcement Efforts

Wave	Participating Agencies	Total Citations	Seat Belt Citations
May 2007	75	6,756	4,516
October 2007	49	5,322	3,822
May 2008	55	7,228	5,194
October 2008	68	5,416	2,931
May 2009	69	6,225	4,258

Citations are the primary measure of enforcement activities. Law enforcement issued 20,721 seat belt citations during the NTSBE activities. Seat belt citations per hour worked ranged from 0.53 to 0.83, which were only slightly lower than the May 2006 daytime CIOT campaign rate of 0.84 citations per hour. The nighttime enforcement campaign resulted in a variety of other citations including driving under the influence.

WTSC worked with media firms to plan and purchase media for the project. Over two years, WTSC spent $1,358,867 on media and received bonus placements valued at $2,782,253. WTSC "earned" 3,876 public service announcement placements on TV and radio and in newspapers that reported on NTSBE activity. The NTSBE public service announcements featured the Washington State Patrol Head of Field Operations, and the primary message was that "extra seat-belt-focused law enforcement patrols are taking place at night because the death rate at night is four times higher than it is during the day."

Public Awareness

WTSC conducted pre- and post-surveys to monitor the effectiveness of the NTSBE campaign. Washington's Department of Licensing collected 14,411 surveys in five licensing offices from May 2007 to June 2009. Overall, these surveys found that the paid media messages and enforcement campaigns successfully delivered the message to Washington's drivers.

While only 10 percent of the Washington motorists had recently read, heard or saw anything about NTSBE when surveying began in May 2007, the number increased to about 60 percent one month later. Awareness remained significantly greater than the baseline throughout the study with a peak of about 70 percent in November 2007. Awareness among young males, the primary high-risk target group, followed a similar pattern with a peak of about 80 percent awareness in November 2007.

There also were large increases in the percentage of survey respondents who said that they had noticed seat belt enforcement at night but had not been stopped. While only 8 percent indicated that they noticed increased enforcement in May 2007, the number increased to 26 percent by June. Awareness remained significantly greater than the baseline throughout the study.

Seat Belt Use

There were 40 observation sites equally distributed among five counties for day and night observations of seat belt usage. These 40 sites were a subsample of the larger annual statewide belt use survey. Researchers conducted observations 12 times from May 2007 to July 2009.

Table 2: Summary of Belt Use Observations

	May 2007	July 2009	Average Increase per Wave
Nighttime	94.6%	97.2%	0.14 ($p<0.05$)
Daytime	95.4%	95.7%	0.06 ($p<0.05$)

Nighttime seat belt use increased 2.6 percent over the roughly two-year period. A linear trend analysis indicated that, on average, nighttime seat belt use increased by 0.14 percent across each observation wave, or about 0.3 percent per year (two waves per year). Daytime belt usage also increased but at a smaller rate of about 0.1 percent per year.

One important question is whether shifting CIOT resources from daytime to nighttime negatively affected daytime belt use. In 2006, Washington's statewide daytime survey found a belt use rate of 96.3 percent. During the three-year period from 2007 to 2009, the annual statewide daytime surveys found belt use rates almost steady at 96.4, 96.5, and 96.4 percent. Whether considering the statewide survey or the 40-site subsample, the results show that daytime belt use did not decrease during the NTSBE program.

Fatality Rates

Researchers compared the average monthly fatality rate during the NTSBE program (May 2007 to December 2008) with the average monthly rate from July 2002, when Washington adopted a primary seat belt enforcement law, to April 2007.

Table 3: Percentage Change in Washington Passenger Vehicle Occupant Fatality Rates

	Washington Only (No Comparison)	Comparison With Other Primary States
Fatalities per Vehicle Miles Traveled (VMT)	-11.6% ($p<0.05$)	-7.5% (n.s.)
Fatalities per Licensed Drivers	-20.3% ($p<0.05$)	-11.4% ($p<0.05$)

Additional analyses helped address the question of whether trends observed in Washington were similar to changes in other States or due to the NTSBE program. The comparison series of all other primary law States appeared to be the best matched control series for Washington.

Washington's overall occupant fatality rate per VMT decreased significantly during the NTSBE program. However, the decrease was not statistically significant when compared to other primary law States because those States also experienced a similar decrease. Fatalities per licensed drivers also decreased significantly during the NTSBE program. The decrease remained statistically significant, but diminished, when compared to other primary law States.

A related question was whether belt use among fatally injured occupants increased during the program. While there is evidence that nighttime belt use among fatally injured occupants increased during NTSBE, the increases did not achieve statistical significance.

Law Enforcement Experiences

Although it was new to many agencies, law enforcement officers supported WTSC's focus on nighttime seat belt usage. They reported that the publicity campaign enhanced their enforcement efforts. While there were no major operational issues, minor issues arose related to low traffic volumes at night. The stationary spotter technique was an effective strategy in high-traffic volume locations. However, in areas where nighttime traffic dropped off, some agencies began using roving patrols to meet their contact target for the campaigns. These experiences suggest that nighttime enforcement may not be suited for rural areas or other areas with low nighttime traffic volumes.

Conclusions

The results suggest that Washington was able to successfully apply the CIOT model to nighttime hours and that the program could be adapted to other states who identify a need to improve nighttime belt use. Officers were productive at writing seat belt tickets at night, and awareness of nighttime enforcement increased significantly. All of this was accomplished without decreasing the daytime seat belt use rate.

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