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Evaluation of Maryland's Nighttime Seat Belt Demonstration Program

About half of all traffic fatalities occur at night, although only about one quarter of travel occurs after dark. Lower rates of seat belt use at night may be a factor. In terms of crash history, evidence suggests that unbelted drivers are more likely to be on the road at night, to drive after drinking, and to be worse drivers than those who wear seat belts. NHTSA and the Maryland Highway Safety Office jointly conducted and evaluated the effectiveness of a high-visibility nighttime seat belt enforcement program. Evaluation measures included pre- and post-intervention changes in observed daytime and nighttime seat belt use, driver awareness of the nighttime enforcement effort, and changes in nighttime injuries and fatalities. In addition, the project aimed to assess characteristics of high-risk drivers by examining the driver records of motorists who received seat belt citations over the course of the project.

The program followed the basic *Click It or Ticket* (CIOT) model – high-visibility enforcement (HVE) combined with paid and earned media. The HVE deployments featured “channelization” and spotter strategies with a lesser focus on saturation patrols. The emphasis occurred at night to address nighttime crash problems. Eight law enforcement agencies covering six counties in the Baltimore-Washington corridor participated. A comparison area was designated on Maryland's Eastern Shore. Five waves of activity were conducted from May 2011 to November 2013. The primary message of the ad campaign was that “Cops are cracking down on seat belt violations, especially at night.” A total of 5,683 seat belt citations were issued during the five activity waves.



Observed Seat Belt Use Increases

Observations of driver and front-seat-passenger seat belt use were collected at 20 sites across the program area, selected from among Maryland's official seat belt observation sites. Nighttime observations were typically conducted from 8 p.m. to midnight. There were significant increases

in nighttime seat belt use. Nighttime belt use started at 90 percent in April 2011 and ended at 95 percent in December 2013. Observed daytime belt use started at 91 percent and ended at 95 percent. There was little to no indication that belt use rates were lower at night versus the daytime, or that belt use rates declined late at night versus earlier in the evening.

Public Awareness Increases

Maryland conducted public awareness assessments before and after the first four mobilizations at Motor Vehicle Administration offices. There were significant pre- and post- increases in the proportions of drivers who said they had recently read, seen, or heard about nighttime seat belt enforcement, and in the percentage of respondents who said they had recently noticed increased enforcement of seat belts at night. There was, however, no indication that increased public awareness of the nighttime seat belt enforcement activity led to increases in self-reported use of seat belts, with the exception of Wave 4.

Unbelted Nighttime Drivers Have Worse Driving Records

Comparisons were made between the driving records of unbelted drivers and drivers who did not receive seat belt citations (Table 1). To assess characteristics of unbelted drivers, the Maryland District Court database was queried to determine all drivers who were issued a seat belt citation in Maryland during the five activity waves. The driver license file was merged with the citation data to provide a different comparison group for each wave. There was clear evidence that drivers cited for nighttime seat belt violations had poorer driving records than those not cited for seat belt violations. Some of the differences were substantial. For example, drivers cited for seat belt infractions were nearly eight times more likely than drivers not cited for seat belt infractions to have prior seat belt violations on their driver records. Drivers cited at night had poorer driving records than those cited during the day, including more prior speeding citations, citations for negligent/reckless driving, driver-license-related offenses, and crashes.

Table 1: Percentage of Drivers With 1+ Previous Citations or Crashes for Most Recent Four Calendar Years

Seat Belt Citation Status	N	Seat Belt Citations	Speeding Citations	Alcohol Citations	Negligent Reckless	License Related	Crashes
Daytime Unbelted ¹	44,127	32.0%	33.0%	4.1%	3.8%	9.2%	21.0%
Nighttime Unbelted ²	13,332	30.3%	36.0%	4.3%	4.3%	11.1%	24.4%
Day & Night Unbelted	57,459	31.6%	33.7%	4.2%	3.9%	9.7%	21.8%
Comparison Group	191,702	6.3%	12.9%	1.3%	1.1%	2.2%	11.2%

¹6 a.m. – 6 p.m.

²6 p.m. – 6 a.m.

Analysis of Crash Data

Reducing unbelted occupant injury and fatal crashes is the ultimate objective of seat belt enforcement. For injury crashes, there were significant declines in the proportion of occupants who were unbelted, both at night and during the day. For fatal crashes, there were nonsignificant declines in the proportion of occupants who were unbelted at night, as well as the proportion of occupants who were unbelted during the day and night combined (but not during day-time only).

How to Order

To order *Evaluation of Nighttime Seat Belt Enforcement Demonstration Program and Identification of Characteristics of Unbelted High-Risk Drivers* (Report No. DOT HS 812 474, 47 pages with appendices) write to the Office of Behavioral Safety Research, NHTSA, NTI-130, 1200 New Jersey Avenue SE., Washington, DC 20590, fax 202-366-7394, or download from www.nhtsa.gov. Carole Guzzetta was the Contracting Officer’s Representative for this project.

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National Highway Traffic Safety Administration
 1200 New Jersey Avenue SE., NPD-310
 Washington, DC 20590

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