Traffic Safety Facts
Research Note

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Summary of Nighttime Belt Use Studies

Despite gains in the daytime national seat belt rate over the past few years, reaching 81 percent in 2006 (Glassbrenner and Ye, 2007), the number of fatalities has remained basically unchanged. One reason for this may be that many fatalities occur at night when seat belt use is much lower than daytime. In 2004, for example, 25 percent of front seat occupant fatalities occurred between the hours of 10:00 pm and 3:59 am. While this window of time represents 25 percent of the hours in a day, only about 12 to 15 percent of daily vehicle traffic occurs during this time (Hallenbeck, Smith, & Cornell-Martinez, 1997). Increasing seat belt usage among occupants traveling at night could substantially lessen injury and fatality rates among passenger vehicle occupants.

Recent research by NHTSA and others shows a significant gap between observed day and night belt use.

- A NHTSA study in Connecticut in 2004 showed that observed nighttime seat belt use (76.6%) was lower than day time seat belt use (83%) by 6.4% as measured on the same day of the week at the same sites. Consistent with belt use among Connecticut fatalities, day versus night differences were greatest in urban areas (Chaudhary, Geary, Preusser, & Cosgrove, September 2005).
- In September, 2004, the Pennsylvania Department of Transportation observed seat belt use during a special seat belt campaign in Reading, Pennsylvania. Night time belt use (50%) was 6 percentage points lower than during the day (56%). After the mobilization, this gap closed to 3 percentage points, and belt use increased in both daytime to 59% and nighttime to 56% (Chaudhary, Alonge, & Preusser, 2004).
- The next year, in 2005, NHTSA went to New Mexico to observe seat belt use at 108 sites across the state during both daytime and nighttime hours, again using the same sites for observations. Belt use at night measured 6.2 percentage points lower than during the daytime. Belt use was related to sex, vehicle type, road type, and population density (Solomon, Chaudhary, & Preusser, January 2007).

Factors That May Contribute to Differences in Day and Night Belt Use

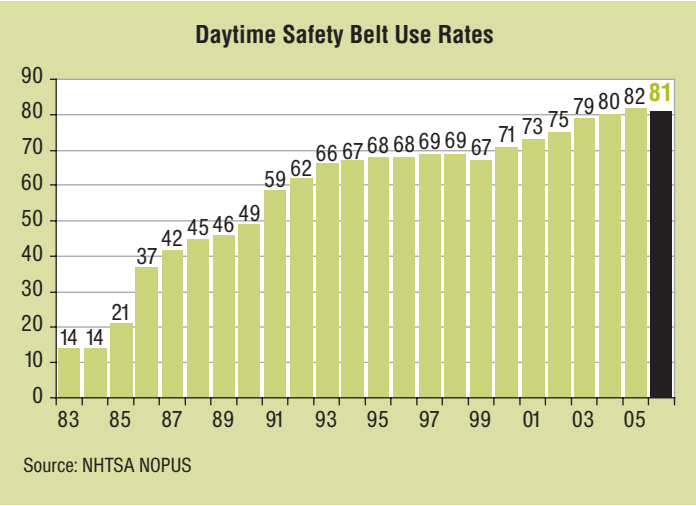
There are a number of factors likely to contribute to the lower seat belt use at night found in several of the studies. First, people who wear seat belts during the day may be less likely to buckle up at night because they know police are less likely to observe non-belt use at night. Next, those drivers and passengers who are more likely to buckle up in general may be less likely to be on the road at night (e.g., parents with children, older adults). Also, those drivers and passengers more likely to engage in risk taking behaviors like speeding, impaired driving and non-use of seat belts are more likely to be out on the roads late at night. Finally, there is a different vehicle mix observed on the roads at night in comparison to during the day, with more vehicles on the road at night that are associated with lower seat belt use rates (e.g., pickup trucks).

Conclusions

More people are buckling up today than in the past. One reason has been the overwhelming response from states, localities, police and motorists to *Click It or Ticket*. However, *Click It or Ticket* is primarily a daylight program. Recent research indicates that next major opportunity to increase belt use, and reduce fatal injury, will come during the night hours.

Crash rates are much higher at night than during the day. Belt use rates are much lower, leading to an extremely dangerous combination. Night belt use pro-

grams, which can be effective as was shown in Pennsylvania, offer an opportunity to substantially reduce fatal and serious crash injury.



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