

Traffic Safety Facts

Traffic Tech – Technology Transfer Series

How States Achieve High Seat Belt Use Rates

Seat belt use is the single most important factor in preventing or reducing the severity of injuries to vehicle occupants involved in traffic crashes. When used properly, lap/shoulder belts reduce the risk of fatal injury to front-seat passenger car occupants by 45 percent and the risk of moderate to severe injury by 50 percent. All States except New Hampshire require seat belts to be worn by all adult passenger vehicle drivers and right-front passengers.

Increasing belt use rates has been a priority of the National Highway Traffic Safety Administration for 30 years. Belt use has increased from a national level of about 14 percent in the early 1980s to 82 percent in NHTSA's June 2007 nationwide survey. While this increase is impressive, one out of every six occupants still is not buckled up. The belt use rate is far lower for fatally injured occupants in severe crashes: in 2005, fewer than half were belted.

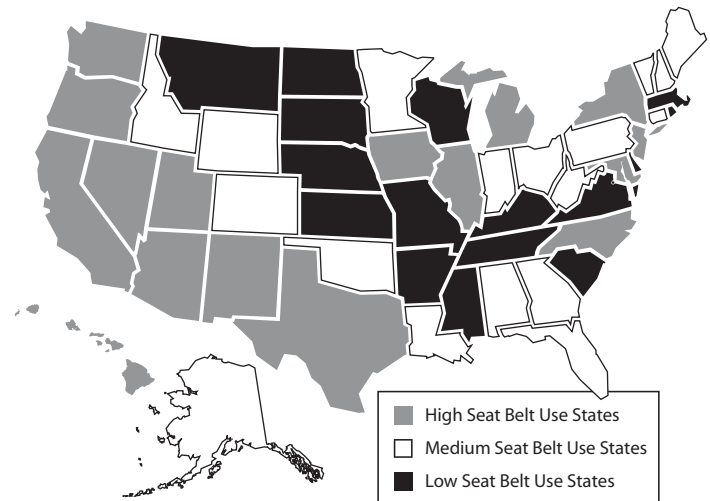
This study investigated why some States have higher belt use rates than others to identify strategies that lower-belt-use States may be able to use to increase belt use. The study was conducted in two parallel phases: statistical analyses comparing high- and low-belt-use States and case studies of selected high-belt-use States.

Statistical Analyses

For the statistical analyses, two groups of States—high- and low-belt-use—were defined based on 2005 belt use rates from observations and from the Fatality Analysis Reporting System (FARS). High-belt-use States were those with at least 90 percent observed belt use, or at least 85 percent observed belt use and at least 50 percent belted fatalities (driver and adult right-front passengers). Low-belt-use States were those with no more than 70 percent observed belt use, or not more than 80 percent observed belt use and no more than 40 percent belted fatalities. These definitions produced 16 high- and 15 low-belt-use States.

The high- and low-belt-use State groups were compared on a number of geographic, demographic, and cultural features. The geographic similarities and differences are suggested by the map, which shows that the high- and low-belt-use States are not randomly distributed across the country. The population density for high-belt-use States was about 50 percent greater and they had significantly more total road miles per capita ($p < .01$). High-belt-use States had significantly more urban miles per capita ($p = .04$) and low-belt-use States had

twice as many rural miles per capita ($p < .01$). Mean annual precipitation and temperature did not differ significantly ($p > .05$) between the high- and low-belt-use States.



High-belt-use States had a substantially higher proportion of Hispanic or Latino residents and a slightly higher proportion of residents with bachelor's degrees. Low-belt-use States had a substantially higher proportion of White residents and a slightly higher proportion of residents 65 and older. High- and low-belt-use States did not differ significantly in the proportions of residents ages 18 to 24 or of high school graduates. They were almost identical on two measures of overall health: the proportions of residents 50 and older with diabetes or with hypertension.

The high- and low-belt-use rates differed significantly on several measures directly related to traffic safety and belt use. High-belt-use States had only half as many front-seat passenger vehicle occupant fatalities per capita as low-belt-use States ($p < .01$). Thirteen of the 16 high-belt-use States had primary belt use laws compared to only one of the 15 low-belt-use States. High-belt-use States also had slightly higher belt law fines, with a median fine of \$25 compared to \$20 ($p = .02$). While the number of law enforcement officers per capita was virtually identical in high- and low-belt-use States, high-belt-use States issued twice as many belt citations per capita in the 2005 *Click It or Ticket* (CIOT) campaign as did low-belt-use States ($p < .001$). Yet the low-belt-use States spent 40 percent more per capita on 2005 CIOT campaign media than did high-belt-use States ($p = .06$).

A survey was administered to a randomly selected national sample of households before the May 2007 CIOT campaign. Most self-reported demographics, including respondent's sex, education, ethnicity, and vehicle type, did not differ between the high- and low-belt-use States, though age did vary. Beliefs about the value of seat belts also did not differ, including strong agreement with the statement that respondents would want to be belted if they were in a crash. However, respondents from high-belt-use States more often agreed that belt law enforcement was important and that their personal risk of getting ticketed was high. Respondents from low-belt-use States reported a significantly lower perceived risk of getting tickets.

In summary, a more vigorous enforcement is one of the key contributing factors between the high- and low-belt-use States. NHTSA recognizes that equally important to the success of States with high-belt-use rates, is the integration of enforcement and paid media. A key characteristic of any effective high-visibility enforcement program is the combination of intensified enforcement and paid media. In the study, both high- and low-belt-use States conducted CIOT enforcement campaigns with the higher-belt-use States having more vigorous enforcement efforts, as shown by an average of twice as many belt law citations per capita during the campaign. While it is possible to achieve high belt use with a secondary law, it is more difficult and requires some effort and a secondary law that is straightforward to enforce. Survey data confirmed the role of enforcement, with respondents in high-belt-use States reporting that they have a higher risk of receiving tickets if unbelted than respondents in low-belt-use States.

Case Studies

This study selected ten States with high belt use to further investigate factors that may have contributed to their success. The 10 States were California, Iowa, Maryland, Michigan, Minnesota, Nevada, Oregon, Texas, Washington, and West Virginia. The research team visited each State and met with key individuals knowledgeable about the State's seat belt program management, activities, communications, law enforcement, data, and research.

The case studies demonstrated that there are no insurmountable barriers to a high-belt-use rate. Three case study States

had a secondary belt use law; several were rural and had older populations. The key factors in all high-belt-use case study States were high-visibility belt law enforcement, excellent relations with law enforcement command and officers state-wide, effective belt law enforcement publicity, high priority for increasing belt use, effective planning and implementation of belt use programs based on solid data and research, and effective Highway Safety Office and belt program management. The case study States differed in the specific activities and strategies they employed in each of these areas. The differences reflect the various States' geography, traffic laws, law enforcement organization and practices, media market structure, resources, social culture, and other features that make each State unique.

Strategies for Increasing Belt Use

Based on these findings, States wishing to increase their belt use should consider the following actions:

- Make belt use a high priority within the State and within the Highway Safety Office.
- Set belt use goals and establish long-range plans to achieve these goals based on the State's unbelted population, laws, law enforcement community, and other characteristics.
- Provide adequate resources.
- Upgrade secondary to primary enforcement laws.
- Use high-visibility sustained enforcement and paid media in the way that best fits the State's resources and characteristics.
- Strive for two ultimate goals: 100 percent belt use and 100 percent enforcement. All drivers and occupants will be buckled up all the time; all officers will enforce the State's belt laws 24/7, on all patrols.

How to Order

To order *How States Achieve High Seat Belt Use Rates* (39 pages plus appendices), prepared by Preusser Research Group, write to NHTSA, NTI-130, 1200 New Jersey Avenue SE., Washington, DC 20590, fax 202-366-7394 or download from www.nhtsa.dot.gov.

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