

Traffic Safety Facts

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Identifying Strategies to Improve the Effectiveness of Booster Seat Laws

Since 1975 motor vehicle crashes have been the leading cause of death for children in the United States. The most effective strategy for preventing injury and death to children involved in crashes is using age- and size-appropriate restraints. Trans-Analytics, LLC, completed a study that examined the factors that relate to the use and nonuse of booster seats, and identified strategies to improve the effectiveness of enhanced child restraint laws that cover booster-seat-age children (booster seat laws).

Review of Changes in Booster Seat Laws

While the number of States and Territories that have enacted booster seat provisions has increased from 11 to 39 since 2000, wide variations in age, height, and weight requirements still exist. Several States have changed their age, height, and weight requirements to meet NHTSA's best practices for booster-seat-age children. The number of jurisdictions with laws that cover children 4 to 8 years old (currently 18 jurisdictions, with 2 of these covering children up to age 9) has more than quadrupled since 2002. Within the same time period, the number of jurisdictions with laws that cover children who weigh up to 80 pounds has increased to 10 States. Unfortunately, more than half of the States with booster seat law provisions are still operating below best practices for age. In 2002 only 3 States had height provisions in their booster seat laws. As of mid-2007, 10 States have height requirements that represent best practice (up to 57 inches). Four other States have height requirements that fall short of best practice recommendations.

Literature Review

A review of recent research noted differences in knowledge, attitudes, and perceptions between parents and caregivers who use booster seats and those who do not. The following factors were associated with nonuse of booster seats: lack of understanding of the laws; low risk perception; permissive parenting; lack of understanding of the safety benefits of booster seats; and child discomfort or resistance.

Observational studies conducted during the past 5 years have reported varying percentages of 4- to 8-year-old children restrained in booster seats; however, the most recent NHTSA

observational study (Glassbrenner and Ye, 2007) found 41 percent restrained in booster seats, 17 percent in child safety seats, and 42 percent either inadequately protected in seat belts (33%) or completely unrestrained (9%).

Effects of Upgrading Booster Seat Laws

Observations of child passengers age 4 to 8, before and after Wisconsin passed its booster seat law in 2006, showed a significant increase in the percentage of appropriately restrained children following enactment of a booster seat law. Child safety seat and booster seat use in this age group increased by 9.1 percentage points in Wisconsin, from 48.6 percent in the pre-law period to 57.7 percent in the post-law period. Similar observations in a comparison State, Michigan, which did not have booster seat provision to its child passenger safety law, showed an increase of 5.9 percentage points during the same time periods; however, the increase was not statistically significant.

Table 1. Restraint Use for Booster-Seat-Age Children

	Wisconsin		Michigan	
	Pre N=407	Post N=355	Pre N=472	Post N=465
Seat belt	30.7%	21.1%	45.6%	35.7%
CSS	8.6%	11.8%	3.0%	7.3%
Booster	40.0%	45.9%	38.6%	40.2%
Unrestrained	20.6%	21.1%	12.9%	16.8%
Total	100.0%	100.0%	100.0%	100.0%

Overall, booster seat use increased 5.9 percentage points in Wisconsin and 1.6 percentage points in Michigan during this period.

Law Enforcement Attitudes

In 2006 focus groups with small groups of 10 law enforcement officers held in Chicago, Pittsburgh, Richmond, and Sacramento identified a number of barriers to enforcing booster seat laws. These include: a lack of commitment by top management (e.g., police chiefs) to enforce these laws; a shortage of law enforcement officers knowledgeable on the subject of child safety seats and booster seats; lack of resources to

enforce booster seat laws; booster seat laws that are secondary violations; and lenient judges who dismiss booster seat citations. Law enforcement officers who identified reasons for parent and caregiver nonuse of booster seats cited the public's ignorance of the child restraint laws, and the public's failure to recognize the degree of risk to unrestrained or inappropriately restrained children.

Parent and Caregiver Attitudes

Groups of 10 to 12 parents and caregivers who attended focus groups in Chicago, Pittsburgh, Richmond, and Sacramento identified several barriers to booster seat use, which they attributed to ignorance of safety issues and laws, parenting styles, and lack of enforcement. Specifically, many parents and caregivers lack an understanding of (a) child occupant protection laws, (b) the risks involved to their children when they are not appropriately restrained, and (c) the safety benefits offered by booster seats. In addition, many parents said they do not enforce discipline when children resist using the seats. Because of the low perceived threat of getting a ticket for booster seat violations, parents have not been compelled to change their habits.

Strategies

The following list of strategies to improve the effectiveness of booster seat laws was developed from information generated from the previous task activities. Although education, enforcement, and legislation are strategies commonly practiced, they continue to be valid approaches to increase booster seat use.

Education

It is important to educate those parents and caregivers who do not use, use inconsistently, or use booster seats inappropriately, based on age and height the best practices identified by NHTSA. The assumption is that once parents and caregivers know how, when, and why they should use booster seats, they will properly secure their booster-age children. Each year, new children reach booster seat age, so the need to educate parents and caregivers remains constant. Efforts to educate parents and caregivers need to be periodically refreshed to address changing sensibilities, changes in law, and updated research about child passenger safety. Many people can educate parents and caregivers about booster seat use. These include child safety advocates, car seat technicians, law enforcement officers, emergency medical service technicians and health care providers, as well as child safety seat and car manufacturers and retailers. Topics that should be taught include:

- The best practices for securing children in age- and size-appropriate restraints;
- The risks caused by inappropriate restraint use; and
- Resources to find booster seats in low-income communities.

Enforcement

Effective enforcement of booster seat laws requires coordination between several sectors of the enforcement community. The following strategies are interdependent, and address five key points:

- Motivate law enforcement leadership to enforce occupant restraint laws.
- Train law enforcement officers on child passenger safety issues.
- Strictly enforce laws pertaining to child passenger safety.
- Train judges about child passenger safety issues to uphold citations.
- Collect appropriate enforcement data to analyze and refine booster seat law enforcement efforts.

Legislation

A final strategy is to promote “stronger” booster seat laws (e.g., without unnecessary exemptions, and conforming with best practice recommendations) and primary enforcement of seat belt laws. This study showed that passage of a booster seat law increases child safety seat and booster seat use. To strengthen these laws, there is a need to increase the age, weight, and height limits in the booster seat provisions of the child restraint law in many States (e.g., at least to 8 years old and 4'9" tall). The study found that there are some misperceptions by parents and caregivers that the State law represents the best practice; therefore, if they follow the law, their children are safely secured. However, the booster seat laws do not represent best practice in all States.

How to Order

To order *Identifying Strategies to Improve the Effectiveness of Booster Seat Laws* (59 pages plus appendices), prepared by TransAnalytics, LLC, 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.dot.gov. John Siegler, Ph.D., was the Contracting Officer's Technical Representative for this project.



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