

## **Projected Impact**

For each 1 percent increase in seat belt use, approximately 270 lives are saved annually.<sup>491</sup>

## **Economic Factors**

Costs are moderate and vary by state.<sup>492</sup> Federal funding supports the CIOT campaign.<sup>493</sup>

## **Conclusion**

Enhanced seat belt enforcement programs have proven very effective in increasing seat belt use, preventing thousands of traffic fatalities and hundreds of thousands of injuries. Maintaining and expanding federal funding for such programs will increase these benefits.<sup>494</sup>

### **3.6.3 Conclusions: Increase Seat Belt Use**

Efforts have dramatically increased seat belt use from about 10 percent in 1982 to about 85 percent in 2010. However, there is a large potential for further gains by expanding federal incentive programs to encourage states without primary seat belt laws to establish and enforce such laws, and increasing federal funding for enhanced enforcement programs.

## **3.7 Increase Use of Age- and Size-Appropriate Child Safety Seats and Booster Seats**

### **3.7.1 Background: Increase Use of Age- and Size-Appropriate Child Safety and Booster Seats**

#### **Prevalence of Use of Age- and Size-Appropriate Child Safety and Booster Seats**

While there is evidence that more children are restrained in appropriate seats, especially among the youngest children, there is a strong tendency for children to be prematurely graduated out of rear-facing safety seats, out of front-facing safety seats, and into seat belts. Among the oldest and tallest children, only 15 percent were restrained in appropriate safety seats; by contrast, 89 percent of the shortest and youngest children were properly restrained.<sup>495</sup>

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<sup>491</sup> U.S. Department of Transportation National Highway Traffic Safety Administration. 2010. *Analyzing the First Years of the Ticket or Click It Mobilizations*. DOT HS 811 232.

<sup>492</sup> Solomon, M.G., Ulmer, R.G., Presser, D.F. 2002. *Evaluation of Click It or Ticket Model Programs*. National Highway Traffic Safety Administration, DOT 809 498.

<sup>493</sup> U.S. Department of Transportation National Highway Traffic Safety Administration. *Click It or Ticket: Campaign History Fact Sheet*. Available at: <http://www.nhtsa.gov/CIOT> [accessed April 13, 2011].

<sup>494</sup> Ibid.

<sup>495</sup> U.S. Department of Transportation National Highway Traffic Safety Administration. 2009. Traffic Safety Facts. *Child Restraint Use in 2008 – Use of Correct Restraint Types*. DOT HS 811 132.

## Impact on Fatality

Child safety seats reduce fatalities 71 percent for infants (less than a year) and 54 percent for toddlers (1 to 4 years).<sup>496</sup>

## Potential for Lives Saved

In the United States, 1,314 children age 14 and under died in traffic crashes in 2009—at least 23 percent of those were unrestrained (not all children’s restraint use was recorded). NHTSA estimates that 309 children age 5 and under were saved by restraint use in 2009. If child restraints had been used by all children age 5 and under involved in fatal crashes, an additional 63 lives could have been saved.<sup>497</sup> Adjusting the use of child restraints to ensure they are age- and size-appropriate would save at least a similar number of lives.<sup>498</sup>

## Policies for Increasing Use of Age- and Size-Appropriate Child Safety and Booster Seats

The current rate of non-use or misuse of child restraint systems is surprisingly high. Two policies are described for increasing the use of appropriate child restraints.

**Policy 1:** Encourage states to adopt and enforce uniform standards

**Policy 2:** Increase funding for education and enforcement

### 3.7.2 Impact of Policies: Increase Use of Age-Appropriate Child Safety and Booster Seats

#### Policy 1— Encourage states to adopt and enforce uniform standards

##### Definition

From infancy to pre-teen years there are four types of appropriate restraints: (1) rear-facing child safety seats, (2) forward-facing child safety seats, (3) booster seats, and (4) adult seat belts. NHTSA publishes detailed guidelines for appropriate use based on age and weight of the child.<sup>499</sup>

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<sup>496</sup> U.S. Department of Transportation National Highway Traffic Safety Administration. 2009. Traffic Safety Facts. *Occupant Protection*. DOT HS 811 160.

<sup>497</sup> U.S. Department of Transportation National Highway Traffic Safety Administration. 2009. Traffic Safety Facts. *Children*. DOT HS 811 387.

<sup>498</sup> U.S. Department of Transportation National Highway Traffic Safety Administration. 1999. *Final Economic Assessment, FMVSS No.213 and 225, Child Restraint Systems, Child Restraint Anchorage Systems*, Office of Regulatory Analysis. Available at: <http://www.nhtsa.gov/cars/rules/rulings/ucra-omb-j08/econ/regeval.213.225.html> [accessed May 21, 2011].

<sup>499</sup> U.S. Department of Transportation National Highway Traffic Safety Administration. 2011. *Child Safety: Which Car Seat is the Right One for Your Child?* Available at: <http://www.nhtsa.gov/Safety/CPS> [accessed May 21, 2011].

## History of Deployment

NHTSA, in particular, has developed guidelines and recommendations for child restraint devices.<sup>500-501</sup> Federal rules in this area were strengthened in 2002 with the adoption of LATCH (Lower Anchors and Tethers for Children), a system mandated for nearly all passenger vehicles and all child safety seats in an effort to standardize and simplify the installation of child restraint systems. While all 50 states and the District of Columbia currently have child restraint laws in effect, requirements differ, with many falling short of offering the best protection—and three states have no booster seat use requirement.

In March of 2011, NHTSA released new guidelines based on age to help parents choose the appropriate restraints for their children.<sup>502</sup> However, many parents still prematurely “graduate” their children to older-child restraints.<sup>503,504</sup>

## Effectiveness Studies

Education and training programs increase child restraint device use.<sup>505</sup> Research is needed on the potential impact of setting and enforcing uniform standards.

## Projected Impact

There has been little study on the impact of standardized regulations of child protection systems on parents’ ability to use them more appropriately. Research on parents’ perceptions, as well as the implications such standards would have for simplifying and improving enforcement, would contribute to an understanding of the effectiveness of this policy.

## Economic Factors

There is little information on the cost of adopting and enforcing uniform standards on a national basis. Given the high impact that any improvement in use rates would have, any steps to make compliance easier for parents are likely to lead to significant safety gains and cost savings. NHTSA has been giving states incentive grants to improve compliance and enforcement.<sup>506</sup>

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<sup>500</sup> U.S. Department of Transportation National Highway Traffic Safety Administration. 2009. Traffic Safety Facts. *Child Restraint Use in 2008 Use of Correct Restraint Types*. DOT HS 811 132.

<sup>501</sup> U.S. Department of Transportation National Highway Traffic Safety Administration. 2010. *Child Safety*.

<sup>502</sup> U.S. Department of Transportation National Highway Traffic Safety Administration. 2011. *Child Safety: Which Car Seat is the Right One for Your Child?* Available at: <http://www.nhtsa.gov/Safety/CPS> [accessed May 21, 2011].

<sup>503</sup> Rivara, F.P., Bennett, E., Crispin, B., Kruger, K., Ebel, B. and Sarewitz, A. 2001. Booster seats for child passengers: lessons for increasing their use. *Injury Prevention*, 7: 210-213.

<sup>504</sup> Ramsey, A., Simpson, E. and Rivara, FP. 2000. Booster Seat Use and Reasons for Nonuse. *Pediatrics*. American Academy of Pediatrics. 106 (2): e20.

<sup>505</sup> Tessier, Karen 2010. Effectiveness of Hands-On Education for Correct Child Restraint Use by Parents. *Accident Analysis and Prevention*, 1041-1047.

<sup>506</sup> Federal Grants Wire. *Child Safety and Child Booster Seats Incentive Grants (20.613)*. Available at: <http://www.federalgrantswire.com/child-safety-and-child-booster-seats-incentive-grants.html> [accessed May 23, 2011].

## Conclusion

Encouraging states to adopt national standards through incentive programs is likely to reduce traffic deaths and injuries among child passengers.

## Policy 2—Increase funding for education and enforcement

### Definition

Education and enforcement programs combine high-visibility media campaigns with well-publicized enforcement efforts to raise awareness.

### History of Deployment

In the 1990s, NHTSA led the development of a standardized curriculum for child passenger safety education, which includes a process for training and certifying persons in how to correctly install child safety devices. In addition, NHTSA and its many partners each year conduct Child Passenger Safety Week and National Seat Check Saturday, during which parents and caregivers are offered free inspections of their child safety seats and are provided education on correct installation and use.<sup>507,508</sup>

### Effectiveness Studies

Education and enforcement increase child protection device use by a median 23 percent.<sup>509</sup> Education programs that incorporate incentives or rewards are the most effective.<sup>510</sup> Checkpoints increase child seat effectiveness by 21 percent.<sup>511,512</sup>

### Projected Impact

There is little information on the impact of education and enforcement programs, though they have been shown to work. Additional study of the effectiveness of different approaches would aid the design of more effective policies.

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<sup>507</sup> U.S. Department of Transportation National Highway Traffic Safety Administration. 2009. Traffic Safety Facts. *Child Restraint Use in 2008—Use of Correct Restraint Types*. DOT HS 811 132.

<sup>508</sup> U.S. Department of Transportation National Highway Traffic Safety Administration. 2010. *Child Safety Seat Inspection Station Locator*.

<sup>509</sup> The Community Guide to Preventive Services. 2010. *Use of Child Safety Seats: Distribution and Education Programs*. Available at: <http://www.thecommunityguide.org/mvoi/childsafetyseats/distribution.html> [accessed September 17, 2010].

<sup>510</sup> Zaza, S., Sleet, D.A., Thompson, R.S., Sosin, D.M., Bolen, J.C. and Task force on Community Preventive Services. 2001. Reviews of Evidence Regarding Interventions to Increase the Use of Child Safety Seats. *American Journal of Preventive Medicine*, 21 (4S): 31-47.

<sup>511</sup> Decina, L.E., Hall, W.L. and Lococo, K.H. 2010. *Booster Seat Law Enforcement: Examples from Delaware, New Jersey, Pennsylvania and Washington*. National Highway Traffic Safety Administration. DOT HS 811 247.

<sup>512</sup> Miller, T. R., Zaloshnja, E. and Sheppard, M.A. 2002. *Child Safety Distribution & Misuse Reduction Programs Sound Investments?* Paper presented at the 130th Annual Meeting of the American Public Health Association, Philadelphia, PA.

## Economic Factors

Given the relatively low expense, child safety seat programs for education or enforcement are highly cost-effective.<sup>513</sup> NHTSA has provided consistent although limited funding for such programs for some time.<sup>514</sup>

## Conclusion

Even when parents select the appropriate child safety seat, improper installation or misuse is common.<sup>515</sup> Increased funding for parent and community education, as well as increased enforcement, are likely to increase the age- and size-appropriate use of child restraint systems.<sup>516</sup>

### 3.7.3 Conclusions: Increase Use of Age-Appropriate Child Safety Seats and Booster Seats

There is considerable room for improvement in the rate of use of child restraints that provide the most protection for children based on their size and age. Giving incentives for states to adopt uniform child restraint laws and increasing funding for education and enforcement are very likely to increase appropriate child restraint use and prevent child passenger fatalities and injuries.

## 3.8 Conclusions for Chapter 3

Motor vehicle crashes are the leading cause of fatality and injury for Americans age 1 to 34. In 2009, traffic-related crashes resulted in 33,808 deaths and over 2 million injuries.

DUI crash fatalities decreased from 53 percent all traffic fatalities in 1982 to 32 percent in 2009 largely due to governmental policies. Significant additional savings in lives and dollars could be achieved through expanding interlock programs, increasing the use of sobriety checkpoint programs, maintaining the minimum drinking age law at 21 and expanding enforcement, and strengthening the implementation and enforcement of zero-tolerance laws for underage drivers.

Distracted driving increases crash risk—in the case of cell phone use, to rates approximating those for DUI. Three policies at the federal level have potential for reducing this risk: incentive grants to states to pass rigorous and effective bans on cell phone use, grants to support high-visibility enforcement of cell phone bans, and support for distracted driving education programs in conjunction with enforcement.

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<sup>513</sup> Ibid.

<sup>514</sup> United States Department of Transportation. 1998. *TEA-21: A Summary – Improving Safety*. Available at: <http://www.fhwa.dot.gov/Tea21/sumsafe.htm> [accessed September 17, 2010].

<sup>515</sup> Decina, L.E., Lococo, K.H. and Block, A.W. 2005. *Misuse of Child Restraints: Results of a Workshop to Review Field Data Results*. Traffic Safety Facts, Research Note. National Highway Traffic Safety Administration. DOT HS 809 851.

<sup>516</sup> Pierce, S.E., Mundt, M.P., Peterson, N.M. and Katcher, M.L. 2005. Improving Awareness and Use of Booster Seats in Head Start Families. *Wisconsin Medical Journal* 104 (1): 46-51.