



# Traffic Safety Facts 1993

## Occupant Protection

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**“Safety belts, when used, reduce the risk of fatal injury to front-seat passenger car occupants by 45 percent.”**

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### **Restraint Use Laws**

The U.S. Department of Transportation's July 1984 rulemaking on automatic occupant protection began a wave of legislative action that resulted in the enactment of safety belt use laws in many states. The goal of those laws is to promote belt use and thereby reduce deaths and injuries in motor vehicle crashes.

- The first mandatory belt use law was enacted in the State of New York in 1984.
- As of December 1993, 43 states and the District of Columbia have belt use laws in effect. These laws differ from state to state, according to the type and age of the vehicle, occupant seating position, etc.
- The first mandatory child restraint use law was implemented in the State of Tennessee in 1978.
- Since 1985, all 50 states and the District of Columbia have had child restraint use laws in effect. These laws also cover various segments of the population.

### **Restraint System Effectiveness**

- Research has found that lap/shoulder safety belts, when used, reduce the risk of fatal injury to front-seat passenger car occupants by 45 percent and the risk of moderate-to-critical injury by 50 percent. For light truck occupants, safety belts reduce the risk of fatal injury by 60 percent and moderate-to-critical injury by 65 percent.
- NHTSA's June 1992 Evaluation of the Effectiveness of Occupant Protection evaluated fatality risk of car front-seat occupants at current use rates compared to 1983, just before the requirement for mandatory automatic occupant protection (Federal Motor Vehicle Safety Standard 208). As a result of this work, it was estimated that the combination of air bags and safety belts, at current safety belt use rates, reduce the risk of fatal injury by 25.5 percent. In addition, air bags alone are estimated to be 42 percent effective in reducing moderate-to-critical injury; air bags plus manual lap/shoulder belts are estimated to reduce this risk by 68 percent. Of course, people should always use their safety belts, whether or not their vehicle has an air bag.
- Research on the effectiveness of child safety seats has found them to reduce fatal injury by 69 percent for infants (less than 1 year old) and by 47 percent for toddlers (1-4 years old).

### Benefits of Safety Belt Use

- In 1993, 26,873 front-seat occupants of passenger vehicles (cars, light trucks, vans, and utility vehicles) were killed in motor vehicle traffic crashes, 67 percent of the 40,115 traffic fatalities reported for the year.
- Among front-seat passenger vehicle occupants over 4 years old, safety belts saved an estimated 5,344 lives in 1993 and prevented approximately 139,200 moderate-to-critical injuries.
- From 1983 through 1993, an estimated 40,138 lives were saved by safety belts, and over 1 million moderate-to-critical injuries were prevented.
- At the high use rates achieved in other countries (85 percent), safety belts could have saved the lives of 11,030 front-seat occupants (that is, an additional 5,686) for the nation as a whole in 1993. If ALL front-seat occupants wore safety belts, 14,389 lives (that is, an additional 9,045) could have been saved in 1993.
- Ejection from the vehicle is one of the most injurious events that can happen to a person in a crash. In fatal crashes, three-quarters of the occupants who were ejected from passenger cars were killed. Safety belts provide the greatest protection against occupant ejection: in fatal crashes in 1993, only 2 percent of restrained occupants were ejected, compared to 22 percent of unrestrained occupants.

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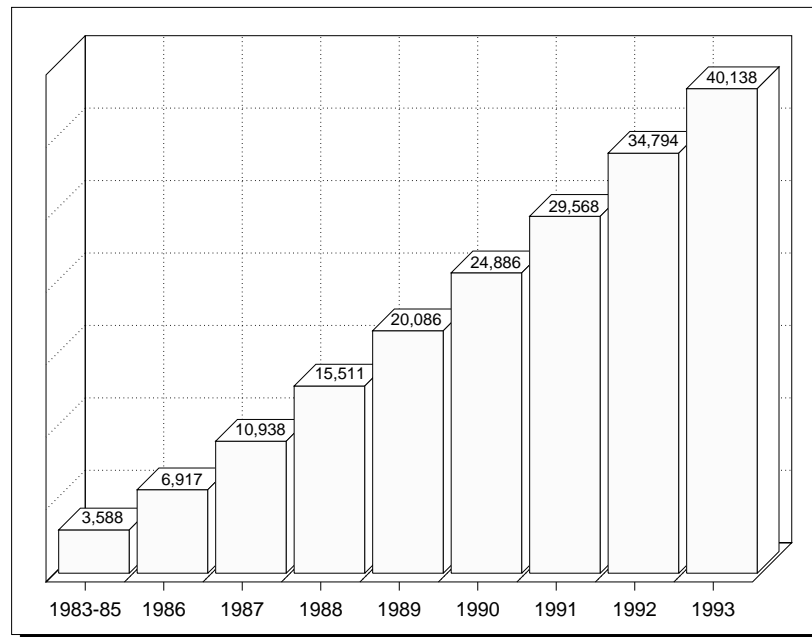
**“From 1983 through 1993, an estimated 40,138 lives were saved by safety belts.”**

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**Figure 1. Cumulative Estimated Number of Lives Saved by Safety Belt Use, 1983-1993**



### **Air Bags**

- Air bags, combined with lap/shoulder safety belts, offer the most effective safety protection available today for passenger vehicle occupants.
- As of December 1993, it is estimated that over 19 million passenger vehicles on the road were equipped with air bags.
- In 1993, an estimated 468 lives were saved by air bags and/or safety belts in cars equipped with air bags. From 1987 to 1993, a total of 1,026 lives were saved.
- Beginning September 1997 (model year 1998), all new passenger cars will be required to have driver and passenger air bags, along with manual lap/shoulder safety belts. The same requirement applies to light trucks beginning in September 1998.
- Air bags are *supplemental* protection and are not designed to deploy in all crashes. Most are designed to inflate in a moderate-to-severe *frontal* crash.
- Some crashes at lower speeds may result in injuries, but generally not the serious injuries that air bags are designed to prevent. For this and other reasons, **lap/shoulder belts should always be used, even in a vehicle with an air bag.**
- Children in rear-facing child seats **should not** be placed in the front seat of cars equipped with passenger-side air bags. The impact of a deploying air bag striking a rear-facing child seat could result in injury to the child.

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**“Between 1987 and 1993, 1,026 lives were saved by air bags and/or safety belts in cars equipped with air bags.”**

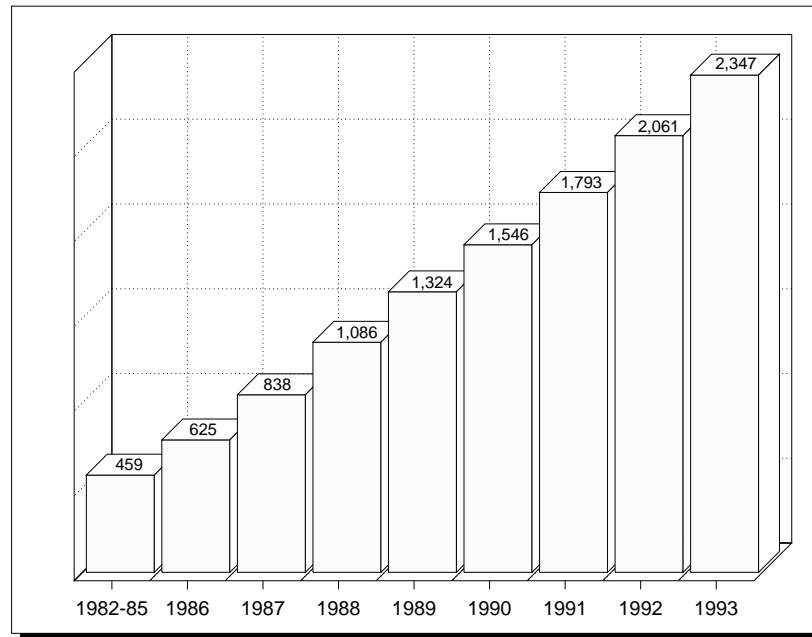
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### **Benefits of Child Restraint Use**

- In 1993, there were 615 occupant fatalities among children under 5 years of age. Of these 615 fatalities, an estimated 362 (or 59 percent) were totally unrestrained.
- Among children under 5 years old, an estimated 286 lives were saved in 1993 by child restraint use. Of these 286 lives saved, 247 were associated with the use of child safety seats and 39 with the use of adult belts.
- At 100 percent child safety seat use for children under 5, an estimated 489 lives (that is, an additional 203) could have been saved in 1993.
- Over the period 1982 through 1993, an estimated 2,347 lives were saved by child restraints.

**Figure 2. Cumulative Estimated Number of Lives Saved by Child Restraints, 1982-1993**



***“From 1982 through 1993, an estimated 2,347 lives were saved by child restraints.”***

### ***Restraint Use***

- According to observational surveys conducted by the states and reported to NHTSA, 66 percent of passenger vehicle occupants used their safety belts in 1993.
- The reported restraint use rate among all occupants of passenger cars involved in fatal crashes was 51 percent in 1993. The use rate for drivers was higher (55 percent), and the highest use rate was reported for children age 4 and under (60 percent).

#### **For more information:**

Information on occupant protection is available from the National Center for Statistics and Analysis, NRD-31, 400 Seventh Street, S.W., Washington, D.C. 20590. Telephone inquiries should be addressed to Ms. Louann Hall at (202) 366-4198. FAX messages should be sent to (202) 366-7078. To report a safety-related problem or to inquire about motor vehicle safety information, contact the Auto Safety Hotline at 1-800-424-9393.

***“Serving the Highway Safety Community by the Numbers”***