“Safety belts, when used, reduce the risk of fatal injury to front-seat passenger car occupants by 45 percent.”
Table 1. Estimated Number of Lives Saved by Restraint Systems, 1975-2001

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</thead>
<tbody>
<tr>
<td>Seat Belts</td>
<td>60,838</td>
<td>9,206</td>
<td>9,790</td>
<td>10,414</td>
<td>11,018</td>
<td>11,197</td>
<td>11,889</td>
<td>12,144</td>
<td></td>
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<tr>
<td>Air Bags</td>
<td>389</td>
<td>276</td>
<td>470</td>
<td>686</td>
<td>842</td>
<td>1,043</td>
<td>1,263</td>
<td>1,584</td>
<td>1,816</td>
</tr>
<tr>
<td>Child Restraints</td>
<td>2,630</td>
<td>308</td>
<td>279</td>
<td>365</td>
<td>312</td>
<td>299</td>
<td>307</td>
<td>316</td>
<td>269</td>
</tr>
</tbody>
</table>

**Benefits of Safety Belt Use**

Starting in 1994, NHTSA revised its method for calculating lives saved by safety belts. The note at the bottom of this page explains the new method. The estimates in Table 1 and Figure 1 reflect this revision.

In 2001, 31,910 occupants of passenger vehicles (cars, light trucks, vans, and utility vehicles) were killed in motor vehicle traffic crashes, 76 percent of the 42,116 traffic fatalities reported for the year.

Among passenger vehicle occupants over 4 years old, safety belts saved an estimated 12,144 lives in 2001.

At the high use rates achieved in other countries (85 percent), safety belts could have saved the lives of 16,754 passenger vehicle occupants over age 4 (that is, an additional 4,610) for the nation as a whole in 2001.

If ALL passenger vehicle occupants over age 4 wore safety belts, 21,311 lives (that is, an additional 9,167) could have been saved in 2001.

**Figure 1. Cumulative Estimated Number of Lives Saved by Safety Belt Use, 1975-2001**

In 1994, NHTSA revised its method of estimating lives saved by safety belts. The previous method incorporated survey data from states with and without belt use laws. The current method relies on police-reported restraint use information for each individual occupant fatality. In addition, the estimate now includes lives saved in passenger vehicles at ALL seating positions, where previously it had been front outboard positions only. Both methods address only occupants age 5 years and older; younger occupants should be restrained by child safety seats or booster seats, as appropriate.
The 1996 NHTSA study, *Crash Outcome Data Evaluation System (CODES)*, linked traffic and medical records in seven states to assess total costs of injury from motor vehicle crashes. The study found that the average inpatient costs for crash victims who were not using safety belts were 55 percent higher than for those who were belted.

Ejection from the vehicle is one of the most injurious events that can happen to a person in a crash. In fatal crashes in 2001, 75 percent of passenger car occupants who were totally ejected from the vehicle were killed. Safety belts are effective in preventing total ejections: only 1 percent of the occupants reported to have been using restraints were totally ejected, compared with 24 percent of the unrestrained occupants.

**Air Bags**

In 1995, NHTSA revised its method for calculating lives saved by air bags. The estimates in Table 1 reflect this revision.

Air bags, combined with lap/shoulder safety belts, offer the most effective safety protection available today for passenger vehicle occupants.

It is estimated that, as of 2001, more than 120 million air-bag-equipped passenger vehicles were on the road, including 96 million with dual air bags.

In 2001, an estimated 1,816 lives were saved by air bags. From 1987 to 2001, a total of 8,369 lives were saved.

Beginning September 1997 (model year 1998), all new passenger cars were 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 vehicles 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.*

**Benefits of Child Restraint Use**

In 2001, there were 497 passenger vehicle occupant fatalities among children under 5 years of age. Of these 497 fatalities, an estimated 242 (or 49 percent) were totally unrestrained.

Among children under 5 years old, an estimated 269 lives were saved in 2001 by child restraint use. Of these 269 lives saved, 235 were associated with the use of child safety seats and 34 with the use of adult belts.
At 100 percent child safety seat use for children under 5, an estimated 407 lives (that is, an additional 138) could have been saved in 2001.

Over the period 1975 through 2001, an estimated 5,085 lives were saved by child restraints.

**Figure 2. Cumulative Estimated Number of Lives Saved by Child Restraints, 1975-2001**

Restraint Use

In 2002, NHTSA conducted the National Occupant Protection Use Survey (NOPUS). The overall observed shoulder belt use rate was 75 percent, compared to 71 percent observed in 2000, 69 percent in 1998, 61 percent in 1996, and 58 percent in 1994.

The reported restraint use rate among all occupants of passenger cars involved in fatal crashes was 61 percent in 2001. The use rate for drivers was higher (64 percent), and the highest use rate was reported for children age 4 and under (74 percent).

For more information:

Information on occupant protection is available from the National Center for Statistics and Analysis, NPO-121, 400 Seventh Street, S.W., Washington, D.C. 20590. NCSA information can also be obtained by telephone or by fax-on-demand at 1-800-934-8517. FAX messages should be sent to (202) 366-7078. General information on highway traffic safety can be accessed by Internet users at http://www-nrd.nhtsa.dot.gov/people/ncsa. To report a safety-related problem or to inquire about motor vehicle safety information, contact the Auto Safety Hotline at 1-800-424-9393.

Other fact sheets available from the National Center for Statistics and Analysis are **Overview, Alcohol, Older Population, Speeding, Children, Young Drivers, Pedestrians, Pedalcyclists, Motorcycles, Large Trucks, School Transportation-Related Crashes, State Traffic Data, and State Alcohol Estimates**. Detailed data on motor vehicle traffic crashes are published annually in **Traffic Safety Facts: A Compilation of Motor Vehicle Crash Data from the Fatality Analysis Reporting System and the General Estimates System**.