



# Passenger Vehicles

A passenger vehicle is a motor vehicle weighing less than 10,000 pounds; the category includes passenger cars and light trucks (pickup trucks, vans, SUVs, and other light trucks). Passenger vehicles make up over 90 percent of registered vehicles, and account for nearly 90 percent of total vehicle miles traveled (VMT). In 2012 there were an estimated 9,754,000 vehicles involved in police-reported traffic crashes, 96 percent (9,387,000) of which were passenger vehicles. There were 45,586 vehicles involved in fatal crashes, of which 78 percent (35,346) were passenger vehicles. In 2012, there were 21,667 passenger vehicle occupants who lost their lives in traffic crashes, and an estimated 2.09 million were injured.

*Passenger vehicles make up over 90 percent of the fleet of registered vehicles, and account for nearly 90 percent of total VMT.*

## Changes to Registration Data

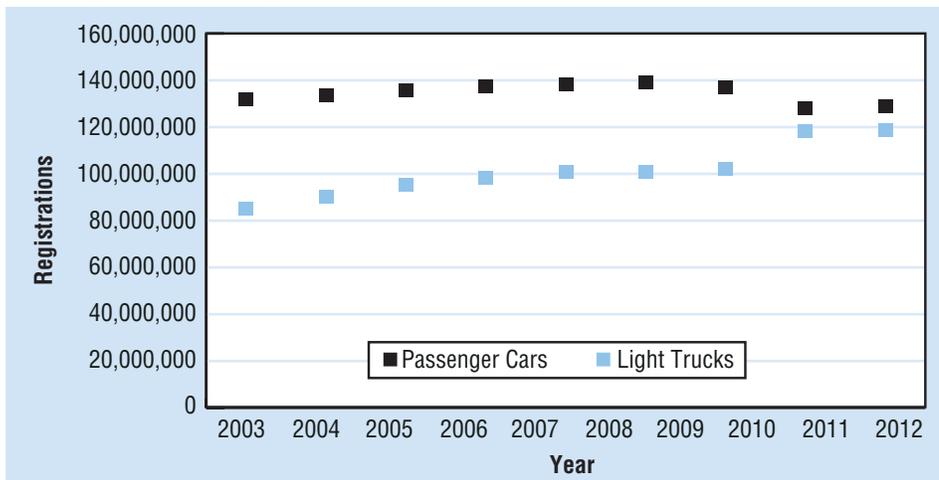
The passenger vehicle (cars and light trucks) registration data contained in this fact sheet was obtained from R.L. Polk's National Vehicle Population Profile (NVPP), which is a compilation of all passenger vehicles that have been registered in compliance with State requirements.

Due to the enhancement in the passenger vehicle registration data for 2011 and 2012, registration counts for these years changed considerably from the counts provided for 2010 and earlier years (Table 1 and Appendix A). Consequently, the 2011 and 2012 data in this fact sheet for vehicle registrations and fatality rates are not strictly comparable with the data for all prior years, which were based on Polk's "Old NVPP." Hence in order to make suitable comparisons over the 10-year period all vehicle registration and fatality rate data are presented across two sets of years, 2011 and 2012; and 2003 through 2010.

Both passenger car and light truck (LTV) registrations remained virtually unchanged from 2011 to 2012 (Figure 1). Among the light-truck categories, compared to 2011, pickup truck registrations decreased by 1 percent and van registrations decreased by 4 percent; however, SUV registrations increased by 2 percent.

Figure 1

**Passenger Vehicle Registrations, 2003–2012**



Source: Registered Vehicles – R.L. Polk, 2003-2010 Old NVPP and 2011-2012 New NVPP.

*The registration-based fatality rates increased for passenger cars, pickup trucks and vans, but decreased for SUVs from 2011 to 2012.*

## Fatalities and Fatality Rates

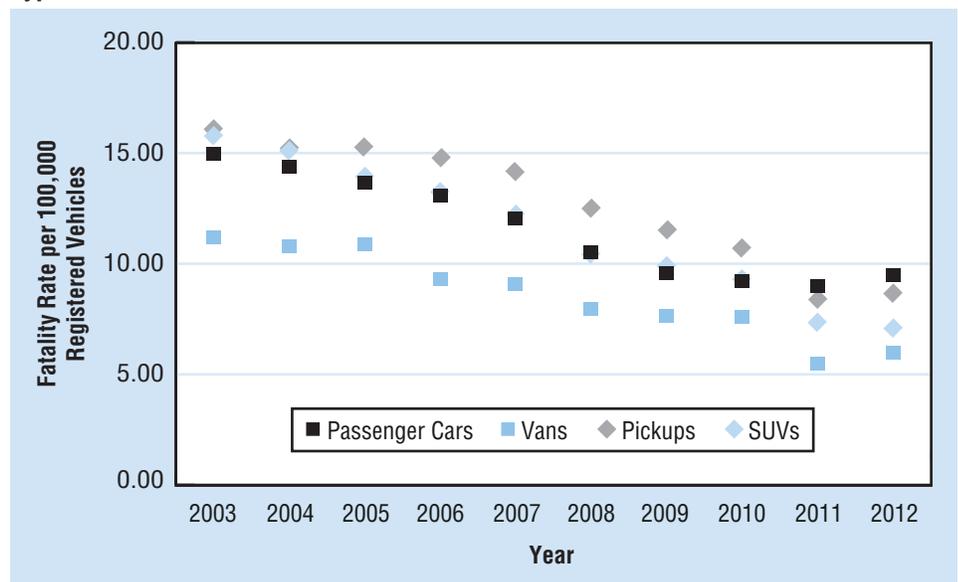
Figure 2 shows that fatality rates per 100,000 registered vehicles have declined since 2003 until 2010 for all passenger vehicle types; this decline has been most pronounced for SUVs. (The data for Figure 2 is presented in Tables 1 and 2.)

Fatality rates per 100,000 registered vehicles from 2011 to 2012 increased for both passenger cars and light trucks (2% and 1% respectively). Among light-truck categories, fatality rates increased for pickup trucks and vans (2% and 7% respectively). However, fatality rates decreased for SUVs by 2 percent.

Among passenger vehicle occupant fatalities, the proportion of light truck occupant fatalities increased to 43 percent in 2012, from 39 percent in 2003, while the proportion of passenger car occupant fatalities declined from 61 percent to 57 percent during the same time span. In 2006, the number of overall light truck occupant fatalities (12,761) experienced a 2-percent decrease, the first decline since 1992. Since this decrease in 2006, light truck occupant fatalities decreased an additional 27 percent until 2011, and increased by 1 percent in 2012.

Figure 2

### Passenger Vehicle Occupant Fatality Rates per 100,000 Registered Vehicles, by Type of Vehicle, 2003–2012



Sources: Fatalities – Fatality Analysis Reporting System (FARS); Registered Vehicles – R.L. Polk, 2003-2010 Old NVPP and 2011-2012 New NVPP.

Table 1 shows the number of occupant fatalities, registered vehicles, and fatality rates for total passenger vehicles, as well as separately for passenger cars and light trucks from 2003 to 2012. Since 2011, both types of passenger vehicles have seen increases in the registration-based fatality rates. Registrations for both passenger cars and light trucks remained almost the same as in 2011. Registration-based fatality rates declined for SUVs in 2012, but increased for pickup trucks and vans. Vans continue to have the lowest registration-based fatality rate among light trucks.

Overall, both types of passenger vehicles have seen reductions in the registration-based fatality rate from 2003 to 2010. Note also that the number of registered light trucks has increased at a much greater rate than that of passenger cars during this period. In Table 2, light trucks are further separated by type as SUVs, pickup trucks, and vans. Again, each group has consistently seen a reduction in the registration-based fatality rate from 2003 to 2010. Among the three types of light trucks, SUVs saw the steepest increase in the number of registered vehicles. Looking at each type of passenger vehicle, vans have the lowest registration-based fatality rate.

Table 1

**Passenger Vehicle Occupant Fatalities, Registered Vehicles, and Fatality Rates\*, by Vehicle Type, 2003–2012**

| Year | Passenger Cars      |                     |                | Light Trucks**      |                     |                | Total Passenger Vehicles |                     |                |
|------|---------------------|---------------------|----------------|---------------------|---------------------|----------------|--------------------------|---------------------|----------------|
|      | Occupant Fatalities | Registered Vehicles | Fatality Rate* | Occupant Fatalities | Registered Vehicles | Fatality Rate* | Occupant Fatalities      | Registered Vehicles | Fatality Rate* |
| 2003 | 19,725              | 131,665,783         | 14.98          | 12,546              | 85,063,823          | 14.75          | 32,271                   | 216,729,606         | 14.89          |
| 2004 | 19,192              | 133,414,552         | 14.39          | 12,674              | 89,799,406          | 14.11          | 31,866                   | 223,213,958         | 14.28          |
| 2005 | 18,512              | 135,324,121         | 13.68          | 13,037              | 94,787,880          | 13.75          | 31,549                   | 230,112,001         | 13.71          |
| 2006 | 17,925              | 137,031,279         | 13.08          | 12,761              | 98,064,117          | 13.01          | 30,686                   | 235,095,396         | 13.05          |
| 2007 | 16,614              | 137,929,951         | 12.05          | 12,458              | 100,817,496         | 12.36          | 29,072                   | 238,747,447         | 12.18          |
| 2008 | 14,646              | 139,028,041         | 10.53          | 10,816              | 100,862,944         | 10.72          | 25,462                   | 239,890,985         | 10.61          |
| 2009 | 13,135              | 137,203,972         | 9.57           | 10,312              | 102,008,600         | 10.11          | 23,447                   | 239,212,572         | 9.80           |
| 2010 | 12,491              | 135,310,480         | 9.23           | 9,782               | 102,376,147         | 9.55           | 22,273                   | 237,686,627         | 9.37           |
| 2011 | 12,014              | 126,974,845         | 9.46           | 9,302               | 118,694,258         | 7.84           | 21,316                   | 245,669,103         | 8.68           |
| 2012 | 12,271              | 127,091,286         | 9.66           | 9,396               | 118,677,080         | 7.92           | 21,667                   | 245,768,366         | 8.82           |

Note: Due to an enhancement in Polk's 2011 and 2012 passenger vehicle registration data processes, results for these years are not strictly comparable to prior years.

\*Fatality Rate Per 100,000 Registered Vehicles; \*\*Includes other/unknown light truck vehicle types

Sources: Fatalities – Fatality Analysis Reporting System (FARS); Registered Vehicles – R.L. Polk, 2003-2010 Old NVPP and 2011–2012 New NVPP.

Table 2

**Light-Truck Occupant Fatalities, Registered Vehicles, and Fatality Rates\*, by Vehicle Type, 2003–2012**

| Year | SUVs                |                     |                | Pickup Trucks       |                     |                | Vans                |                     |                |
|------|---------------------|---------------------|----------------|---------------------|---------------------|----------------|---------------------|---------------------|----------------|
|      | Occupant Fatalities | Registered Vehicles | Fatality Rate* | Occupant Fatalities | Registered Vehicles | Fatality Rate* | Occupant Fatalities | Registered Vehicles | Fatality Rate* |
| 2003 | 4,483               | 28,357,698          | 15.81          | 5,957               | 37,116,234          | 16.05          | 2,080               | 18,615,310          | 11.17          |
| 2004 | 4,760               | 31,416,857          | 15.15          | 5,838               | 38,362,205          | 15.22          | 2,046               | 18,982,049          | 10.78          |
| 2005 | 4,831               | 34,698,739          | 13.92          | 6,067               | 39,699,056          | 15.28          | 2,112               | 19,453,034          | 10.86          |
| 2006 | 4,928               | 37,170,302          | 13.26          | 5,993               | 40,478,837          | 14.81          | 1,815               | 19,539,179          | 9.29           |
| 2007 | 4,834               | 39,463,148          | 12.25          | 5,847               | 41,121,470          | 14.22          | 1,764               | 19,406,561          | 9.09           |
| 2008 | 4,214               | 40,529,579          | 10.40          | 5,097               | 40,782,963          | 12.50          | 1,492               | 18,784,452          | 7.94           |
| 2009 | 4,104               | 41,383,289          | 9.92           | 4,801               | 41,676,351          | 11.52          | 1,396               | 18,222,255          | 7.66           |
| 2010 | 3,942               | 42,378,757          | 9.30           | 4,486               | 41,596,353          | 10.78          | 1,346               | 17,732,967          | 7.59           |
| 2011 | 3,884               | 50,161,564          | 7.74           | 4,270               | 48,912,291          | 8.73           | 1,128               | 19,584,184          | 5.76           |
| 2012 | 3,875               | 51,300,136          | 7.55           | 4,332               | 48,465,433          | 8.94           | 1,167               | 18,878,709          | 6.18           |

Note: Due to an enhancement in Polk's 2011 and 2012 passenger vehicle registration data processes, results for these years are not strictly comparable to prior years.

\*Fatality Rate Per 100,000 Registered Vehicles;

Sources: Fatalities – Fatality Analysis Reporting System (FARS); Registered Vehicles – R.L. Polk, 2003-2010 Old NVPP and 2011–2012 New NVPP.

**Injured and Injury Rates**

The proportion of injured passenger vehicle occupants (Table 3) who were occupants of light trucks increased to 36 percent in 2012, from 34 percent in 2003, while the proportion of injured passenger car occupants declined from 66 percent to 64 percent over these same years.

From 2011 to 2012, occupants injured per 100,000 registered vehicles have increased for both passenger vehicle types (increased for passenger cars from 976 in 2011 to 1,045 in 2012 and for light trucks from 614 in 2011 to 642 in 2012). Among light truck types SUVs had a larger increase in injury rates from 2011 to 2012 (Table 4).

Since 2003, injury rates for occupants injured per 100,000 registered vehicles showed a steady decline for passenger cars until 2009. Injury rates declined for passenger cars from 1,334 in 2003 to 887 in 2009. However, injury rates for passenger cars increased in 2010 to 926. For light trucks, injury rates declined steadily from 1,045 in 2003 to 716 in 2010. Occupant injury rates (Table 4) for all light truck types decreased steadily from 2003 to 2010, except for SUVs, where rates decreased from 2003 to 2009, but increased in 2010. Pickup trucks had the largest decline in injury rates from 2003 to 2010.

Table 3

**Passenger Vehicle Occupants Injured, Registered Vehicles, and Injury Rates\*, by Vehicle Type, 2003–2012**

| Year | Passenger Cars    |                     |              | Light Trucks**    |                     |              | Total Passenger Vehicles |                     |              |
|------|-------------------|---------------------|--------------|-------------------|---------------------|--------------|--------------------------|---------------------|--------------|
|      | Occupants Injured | Registered Vehicles | Injury Rate* | Occupants Injured | Registered Vehicles | Injury Rate* | Occupants Injured        | Registered Vehicles | Injury Rate* |
| 2003 | 1,756,000         | 131,665,783         | 1,334        | 889,000           | 85,063,823          | 1,045        | 2,646,000                | 216,729,606         | 1,221        |
| 2004 | 1,643,000         | 133,414,552         | 1,231        | 900,000           | 89,799,406          | 1,002        | 2,543,000                | 223,213,958         | 1,139        |
| 2005 | 1,573,000         | 135,324,121         | 1,163        | 872,000           | 94,787,880          | 920          | 2,446,000                | 230,112,001         | 1,063        |
| 2006 | 1,475,000         | 137,031,279         | 1,076        | 857,000           | 98,064,117          | 874          | 2,331,000                | 235,095,396         | 992          |
| 2007 | 1,379,000         | 137,929,951         | 1,000        | 841,000           | 100,817,496         | 835          | 2,221,000                | 238,747,447         | 930          |
| 2008 | 1,304,000         | 139,028,041         | 938          | 768,000           | 100,862,944         | 762          | 2,072,000                | 239,890,985         | 864          |
| 2009 | 1,216,000         | 137,203,972         | 887          | 759,000           | 102,008,600         | 744          | 1,976,000                | 239,212,572         | 826          |
| 2010 | 1,253,000         | 135,310,480         | 926          | 733,000           | 102,376,147         | 716          | 1,986,000                | 237,686,627         | 835          |
| 2011 | 1,240,000         | 126,974,845         | 976          | 728,000           | 118,694,258         | 614          | 1,968,000                | 245,669,103         | 801          |
| 2012 | 1,328,000         | 127,091,286         | 1,045        | 762,000           | 118,677,080         | 642          | 2,091,000                | 245,768,366         | 851          |

Note: Due to an enhancement in Polk's 2011 and 2012 passenger vehicle registration data processes, results for these years are not strictly comparable to prior years.

\*Injury Rate Per 100,000 Registered Vehicles; \*\*Includes other/unknown light truck vehicle types

Sources: Injured – General Estimates System (GES); Registered Vehicles – R.L. Polk, 2003-2010 Old NVPP and 2011-2012 New NVPP.

Table 4

**Light-Truck Occupants Injured, Registered Vehicles, and Injury Rates\*, by Vehicle Type, 2003–2012**

| Year | SUVs              |                     |              | Pickup Trucks     |                     |              | Vans              |                     |              |
|------|-------------------|---------------------|--------------|-------------------|---------------------|--------------|-------------------|---------------------|--------------|
|      | Occupants Injured | Registered Vehicles | Injury Rate* | Occupants Injured | Registered Vehicles | Injury Rate* | Occupants Injured | Registered Vehicles | Injury Rate* |
| 2003 | 338,000           | 28,357,698          | 1,190        | 333,000           | 37,116,234          | 898          | 203,000           | 18,615,310          | 1,090        |
| 2004 | 364,000           | 31,416,857          | 1,159        | 309,000           | 38,362,205          | 806          | 211,000           | 18,982,049          | 1,110        |
| 2005 | 363,000           | 34,698,739          | 1,047        | 308,000           | 39,699,056          | 775          | 183,000           | 19,453,034          | 942          |
| 2006 | 387,000           | 37,170,302          | 1,042        | 276,000           | 40,478,837          | 682          | 179,000           | 19,539,179          | 919          |
| 2007 | 380,000           | 39,463,148          | 962          | 271,000           | 41,121,470          | 660          | 175,000           | 19,406,561          | 904          |
| 2008 | 361,000           | 40,529,579          | 891          | 250,000           | 40,782,963          | 612          | 145,000           | 18,784,452          | 770          |
| 2009 | 341,000           | 41,383,289          | 823          | 238,000           | 41,676,351          | 570          | 139,000           | 18,222,255          | 766          |
| 2010 | 360,000           | 42,378,757          | 851          | 218,000           | 41,596,353          | 524          | 135,000           | 17,732,967          | 761          |
| 2011 | 353,000           | 50,161,564          | 703          | 237,000           | 48,912,291          | 484          | 138,000           | 19,584,184          | 705          |
| 2012 | 386,000           | 51,300,136          | 753          | 241,000           | 48,465,433          | 497          | 135,000           | 18,878,709          | 713          |

Note: Due to an enhancement in Polk's 2011 and 2012 passenger vehicle registration data processes, results for these years are not strictly comparable to prior years.

\*Injury Rate Per 100,000 Registered Vehicles

Sources: Injured – General Estimates System (GES); Registered Vehicles – R.L. Polk, 2003-2010 Old NVPP and 2011–2012 New NVPP.

*Seat belt use for occupants of passenger vehicles was 86 percent in 2012, according to NOPUS.*

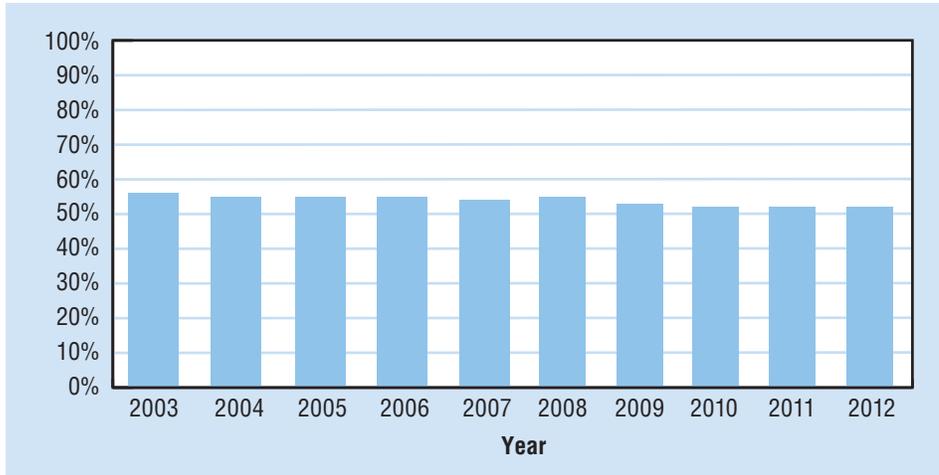
## Restraint Use

According to the National Occupant Protection Use Survey (NOPUS), which provides the only probability-based nationally representative observed data on seat belt use in the United States, seat belt use for passenger vehicles in 2012 was 86 percent; 87 percent for passenger cars, 89 percent for vans and SUVs, and 77 percent for pickup trucks.

In fatal crashes in 2012, there were 21,667 passenger vehicle occupants killed. Rural areas accounted for 61 percent of these occupant fatalities. For these passenger vehicle occupant fatalities occurring in rural areas, 54 percent were unrestrained, compared to 48 percent in urban areas. Nearly two-thirds (65%) of rural pickup truck occupants killed were unrestrained—the highest percentage of any passenger vehicle occupants killed among both rural and urban areas.

Figure 3 shows the gradual decline of the proportion of passenger vehicle occupants killed who were unrestrained, from 56 percent in 2003 to 52 percent in 2012. Passenger car occupant fatalities had the lowest percentage (45%) of unrestrained occupant fatalities in 2012, while pickup truck occupant fatalities, as in previous years, had the highest percent (65%) of unrestrained occupant deaths (Table 5).

Figure 3  
**Percent of Unrestrained Passenger Vehicle Occupant Fatalities, 2003–2012**



Source: Fatality Analysis Reporting System (FARS).

Table 5  
**Percent of Unrestrained\* Passenger Vehicle Occupant Fatalities, by Vehicle Type, 2003–2012**

| Year | Passenger Vehicle Type |              |         |      |         | Total Passenger Vehicles** |
|------|------------------------|--------------|---------|------|---------|----------------------------|
|      | Passenger Cars         | Light Trucks |         |      | Total** |                            |
|      |                        | SUVs         | Pickups | Vans |         |                            |
| 2003 | 50                     | 65           | 71      | 57   | 67      | 56                         |
| 2004 | 49                     | 62           | 69      | 55   | 64      | 55                         |
| 2005 | 49                     | 63           | 69      | 54   | 64      | 55                         |
| 2006 | 49                     | 63           | 69      | 51   | 64      | 55                         |
| 2007 | 47                     | 62           | 68      | 52   | 63      | 54                         |
| 2008 | 48                     | 62           | 68      | 52   | 63      | 55                         |
| 2009 | 46                     | 60           | 67      | 48   | 62      | 53                         |
| 2010 | 44                     | 59           | 65      | 49   | 61      | 52                         |
| 2011 | 45                     | 58           | 65      | 48   | 60      | 52                         |
| 2012 | 45                     | 59           | 65      | 43   | 60      | 52                         |

\*Based on known restraint use

\*\*Includes occupants of other/unknown light truck vehicle types.

Source: Fatality Analysis Reporting System (FARS).

In fatal crashes in 2012, 79 percent of passenger vehicle occupants who were totally ejected from vehicles were killed. Ejection from the vehicle is one of the most injurious events that can happen to a person in a crash. In passenger cars, 18 percent of fatally injured occupants were ejected (totally or partially) from the vehicle, while 34 percent of those killed in light trucks were ejected (Table 6).

*In fatal crashes in 2012, 79 percent of passenger vehicle occupants who were totally ejected were killed.*

Table 6

### Passenger Vehicle Occupants in Fatal Crashes, by Vehicle Type and Ejection Status, 2012

| Vehicle Type           |          | Ejection Status |         |                                |         |                 |         | Total  |         |
|------------------------|----------|-----------------|---------|--------------------------------|---------|-----------------|---------|--------|---------|
|                        |          | Not Ejected     |         | Ejected (Totally or Partially) |         | Others*/Unknown |         |        |         |
|                        |          | Number          | Percent | Number                         | Percent | Number          | Percent | Number | Percent |
| Passenger Cars         | Killed   | 9,938           | 81.0%   | 2,253                          | 18.4%   | 80              | 0.7%    | 12,271 | 100%    |
|                        | Survived | 15,476          | 96.5%   | 453                            | 2.8%    | 112             | 0.7%    | 16,041 | 100%    |
|                        | Total    | 25,414          | 89.8%   | 2,706                          | 9.6%    | 192             | 0.7%    | 28,312 | 100%    |
| Light Trucks – All**   | Killed   | 6,140           | 65.3%   | 3,191                          | 34.0%   | 65              | 0.7%    | 9,396  | 100%    |
|                        | Survived | 18,275          | 94.7%   | 855                            | 4.4%    | 172             | 0.9%    | 19,302 | 100%    |
|                        | Total    | 24,415          | 85.1%   | 4,046                          | 14.1%   | 237             | 0.8%    | 28,698 | 100%    |
| All Passenger Vehicles | Killed   | 16,078          | 74.2%   | 5,444                          | 25.1%   | 145             | 0.7%    | 21,667 | 100%    |
|                        | Survived | 33,751          | 95.5%   | 1,308                          | 3.7%    | 284             | 0.8%    | 35,343 | 100%    |
|                        | Total    | 49,829          | 87.4%   | 6,752                          | 11.8%   | 429             | 0.8%    | 57,010 | 100%    |

\*Includes ejected- unknown degree, not applicable, not reported.

\*\*Includes SUVs, vans, pickup trucks, and other/unknown light truck vehicle types.

Source: Fatality Analysis Reporting System (FARS).

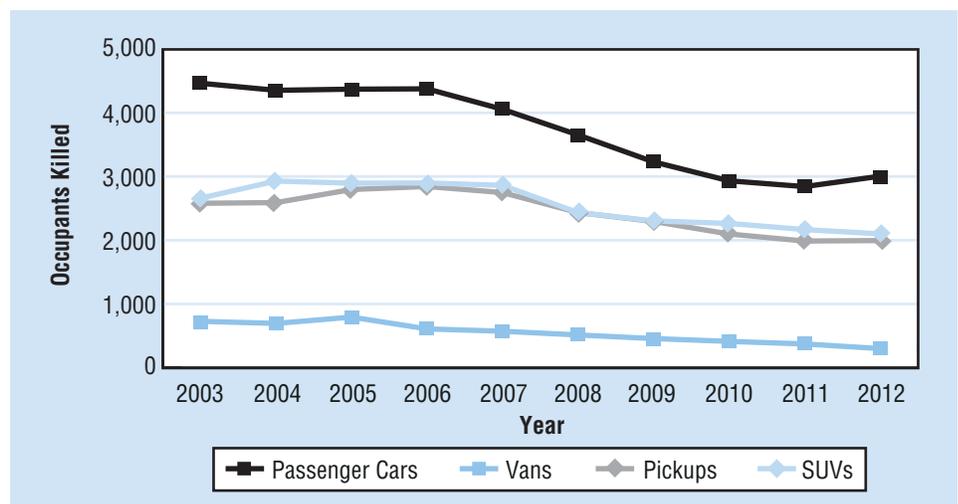
Seat belts are effective in preventing total ejections. Lap/shoulder seat belts, when used, reduce the risk of fatal injury to front-seat passenger car occupants by 45 percent and the risk of moderate-to-critical injury by 50 percent. For light-truck occupants, seat belts reduce the risk of fatal injury by 60 percent and moderate-to-critical injury by 65 percent. In 2012 alone, seat belts saved an estimated 12,174 lives of passenger vehicle occupants.

## Rollover

The rollover crash is one of the most deadly forms of crashes among passenger vehicles, accounting for more than one-third (35%) of all occupant fatalities in 2012. Among fatally injured passenger vehicle occupants in 2012, the proportion of fatalities in rollover crashes was highest for SUVs (56%), followed by pickup trucks (46%), vans (28%), and passenger cars (25%).

Figure 4

### Passenger Vehicle Occupants Killed in Rollover Crashes, by Vehicle Type, 2003–2012



Source: Fatality Analysis Reporting System (FARS).

In 2012, although occupant fatalities in rollover crashes increased for passenger cars and pickup trucks, overall each passenger vehicle category showed a decreasing trend in the number of occupant fatalities occurring in rollover crashes between 2003 and 2012, as seen in Figure 4. The number of pickup truck occupant fatalities declined by 22 percent over the past decade, while those in SUVs decreased by 19 percent. Fatalities in vans, already the lowest number, declined by 55 percent, and in passenger cars, declined by 33 percent over these years. The data used in Figure 4 are shown in Table 7.

Table 7

### Passenger Vehicle Occupant Fatalities in Rollovers, by Vehicle Type, 2003–2012

| Year | Passenger Vehicle Type |              |         |      |        | Total Passenger Vehicles* |
|------|------------------------|--------------|---------|------|--------|---------------------------|
|      | Passenger Cars         | Light Trucks |         |      |        |                           |
|      |                        | SUVs         | Pickups | Vans | Total* |                           |
| 2003 | 4,464                  | 2,661        | 2,580   | 728  | 5,978  | 10,442                    |
| 2004 | 4,353                  | 2,929        | 2,597   | 695  | 6,237  | 10,590                    |
| 2005 | 4,371                  | 2,895        | 2,796   | 794  | 6,499  | 10,870                    |
| 2006 | 4,376                  | 2,899        | 2,844   | 609  | 6,366  | 10,742                    |
| 2007 | 4,055                  | 2,861        | 2,748   | 572  | 6,185  | 10,240                    |
| 2008 | 3,653                  | 2,435        | 2,435   | 514  | 5,390  | 9,043                     |
| 2009 | 3,230                  | 2,303        | 2,295   | 457  | 5,061  | 8,291                     |
| 2010 | 2,933                  | 2,264        | 2,098   | 413  | 4,777  | 7,710                     |
| 2011 | 2,849                  | 2,172        | 1,993   | 375  | 4,551  | 7,400                     |
| 2012 | 3,009                  | 2,157        | 2,004   | 327  | 4,491  | 7,500                     |

\*Includes occupants of other/unknown light truck vehicle types  
Source: Fatality Analysis Reporting System (FARS).

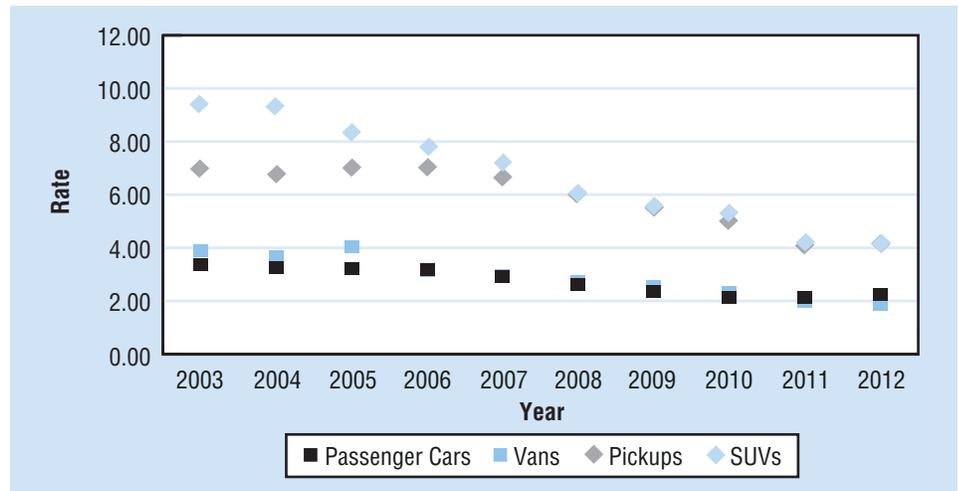
In 2012, among passenger vehicles involved in rural fatal crashes, SUVs experienced the highest rollover percentage (40%) compared to 34 percent for pickup trucks, 22 percent for passenger cars, and 21 percent for vans. The rollover percentages for passenger vehicles in urban areas were much lower: 21 percent for SUVs, 15 percent for pickup trucks, 9 percent for passenger cars, and 8 percent for vans.

From 2011 to 2012, passenger vehicle occupant fatality rates per 100,000 registered vehicles in rollover crashes increased for passenger cars and declined for light trucks. Among light trucks, fatality rates in rollover crashes decreased for SUVs and vans, but increased for pickups.

Passenger vehicle occupant fatality rates per 100,000 registered vehicles in rollover crashes declined for all body types from 2003 to 2010 (Figure 5). The lowest occupant fatality rates in rollover crashes in 2010 were 2.17 for passenger cars, and 2.33 for vans, compared to the highest rates of 5.34 for SUVs and 5.04 for pickups.

*Rollover rates for passenger vehicles involved in fatal crashes were much lower in urban areas than in rural areas.*

Figure 5  
**Passenger Vehicle Occupant Fatality Rates in Rollover Crashes per 100,000 Registered Vehicles, by Vehicle Type, 2003–2012**



Note: Due to an enhancement in Polk's 2011 and 2012 passenger vehicle registration data processes, results for these years are not strictly comparable to prior years.

Sources: Fatalities – Fatality Analysis Reporting System (FARS); Registered Vehicles – R.L. Polk, 2003-2010 Old NVPP and 2011-2012 New NVPP.

From 2011 to 2012, the occupant fatality rate in rollover crashes for vans decreased by 9 percent and SUVs by 3 percent. However, the occupant fatality rate in rollover crashes increased for pickup trucks by 1.5 percent and for passenger cars by 6 percent.

Table 8 presents the data displayed in Figure 5, showing the decline in occupant fatality rates in rollover crashes for all passenger vehicle categories from 2003 to 2010. From 2003 to 2010, the occupant fatality rate in rollover crashes for SUVs has decreased by 43 percent, followed by 40 percent for vans, 36 percent for passenger cars and 27 percent for pickup trucks.

Table 8  
**Passenger Vehicle Occupant Fatality Rates\* in Rollovers, by Vehicle Type, 2003–2012**

| Year | Passenger Vehicle Type |      |         |      |         | Total Passenger Vehicles** |
|------|------------------------|------|---------|------|---------|----------------------------|
|      | Passenger Cars         | SUVs | Pickups | Vans | Total** |                            |
| 2003 | 3.39                   | 9.38 | 6.95    | 3.91 | 7.03    | 4.82                       |
| 2004 | 3.26                   | 9.32 | 6.77    | 3.66 | 6.95    | 4.74                       |
| 2005 | 3.23                   | 8.34 | 7.04    | 4.08 | 6.86    | 4.72                       |
| 2006 | 3.19                   | 7.80 | 7.03    | 3.12 | 6.49    | 4.57                       |
| 2007 | 2.94                   | 7.25 | 6.68    | 2.95 | 6.13    | 4.29                       |
| 2008 | 2.63                   | 6.01 | 5.97    | 2.74 | 5.34    | 3.77                       |
| 2009 | 2.35                   | 5.57 | 5.51    | 2.51 | 4.96    | 3.47                       |
| 2010 | 2.17                   | 5.34 | 5.04    | 2.33 | 4.67    | 3.24                       |
| 2011 | 2.24                   | 4.33 | 4.07    | 1.91 | 3.83    | 3.01                       |
| 2012 | 2.37                   | 4.20 | 4.13    | 1.73 | 3.78    | 3.05                       |

Note: Due to an enhancement in Polk's 2011 and 2012 passenger vehicle registration data processes, results for these years are not strictly comparable to prior years.

\*Fatality Rate Per 100,000 Registered Vehicles; \*\* Includes other/unknown light truck vehicle types.

Sources: Fatalities – Fatality Analysis Reporting System (FARS); Registered Vehicles – R.L. Polk, 2003-2010 Old NVPP and 2011–2012 New NVPP.

## Two-Vehicle Crashes Between Passenger Cars and LTVs

The number of occupants killed in two-vehicle crashes between one passenger car and one LTV (pickup truck, van, or SUV) increased for passenger cars and declined for LTVs from 2011 to 2012 (Table 9). The number of fatally injured occupants in passenger cars increased by 1 percent, and those in light trucks decreased by 8 percent.

Table 9

### Occupants Killed in Two-Vehicle Crashes Involving a Passenger Car and an LTV, 2011 and 2012

|                         | Year  |       | % Change |
|-------------------------|-------|-------|----------|
|                         | 2011  | 2012  |          |
| Killed in Passenger Car | 2,560 | 2,592 | +1.3%    |
| Killed in LTV           | 719   | 660   | -8.2%    |

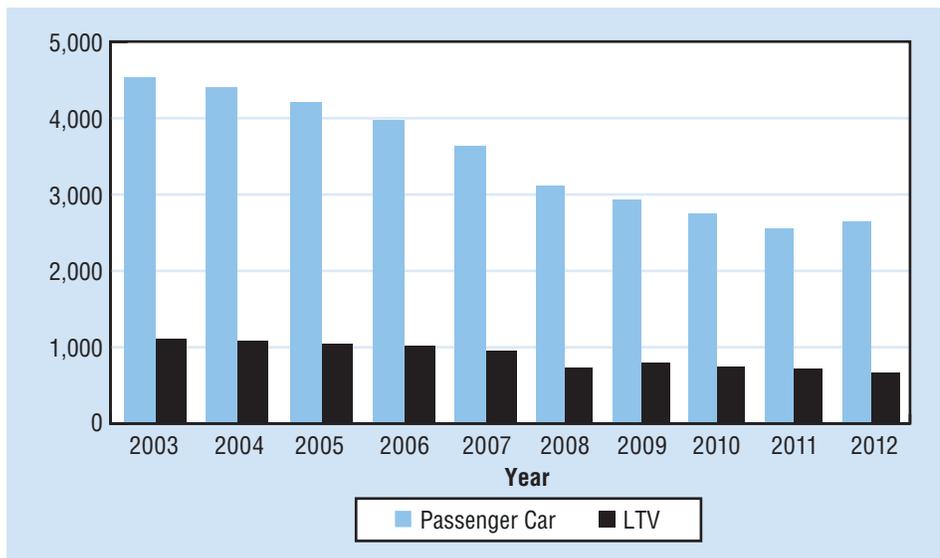
LTV = Pickup Truck, Van, or SUV

Source: Fatality Analysis Reporting System (FARS).

Figure 6 graphically shows the number of occupant fatalities in each vehicle type in two-vehicle crashes involving one car and one LTV, for the years 2003 through 2012. In these crashes there were about four times as many passenger car occupant fatalities as LTV occupant fatalities.

Figure 6

### Occupants Killed in Two-Vehicle Crashes Involving a Passenger Car and an LTV, 2003–2012



Source: Fatality Analysis Reporting System (FARS).

In 2012, in head-on collisions, nearly four times as many passenger car occupants as light-truck occupants were killed (Table 10). The number of occupant fatalities increased for passenger cars and light trucks from 2011 to 2012. In addition, when the front of the passenger car struck the side of the LTV, occupant fatalities declined for both passenger cars and LTVs in the crash. When the front of the LTV struck the side of the passenger car, occupant fatalities increased for passenger cars and decreased for light trucks in the crash. The largest number of occupant fatalities in these crashes was those in passenger cars struck in the side by the front of an LTV. When LTVs were struck in the side by a passenger car, 1.7 times as many LTV occupants were killed as passenger car occupants. When passenger cars were struck in the side by LTVs, 22 times as many passenger car occupants were killed as LTV occupants.

*In head-on collisions between a passenger car and a light truck, nearly four times as many passenger car occupants as light-truck occupants were killed.*

Table 10

### Occupants Killed in Two-Vehicle Crashes Involving a Passenger Car and an LTV, by Collision Type, 2011 and 2012

|                                        | Year  |       | % Change |
|----------------------------------------|-------|-------|----------|
|                                        | 2011  | 2012  |          |
| <b>Head-On Collisions</b>              |       |       |          |
| Killed in Passenger Car                | 1,005 | 1,067 | +6.2%    |
| Killed in LTV                          | 272   | 288   | +5.9%    |
| <b>Passenger Car Front to LTV Side</b> |       |       |          |
| Killed in Passenger Car                | 104   | 94    | -9.6%    |
| Killed in LTV                          | 171   | 160   | -6.4%    |
| <b>LTV Front to Passenger Car Side</b> |       |       |          |
| Killed in Passenger Car                | 1,121 | 1,171 | +4.5%    |
| Killed in LTV                          | 66    | 53    | -19.7%   |

LTV = Pickup Truck, Van, or SUV

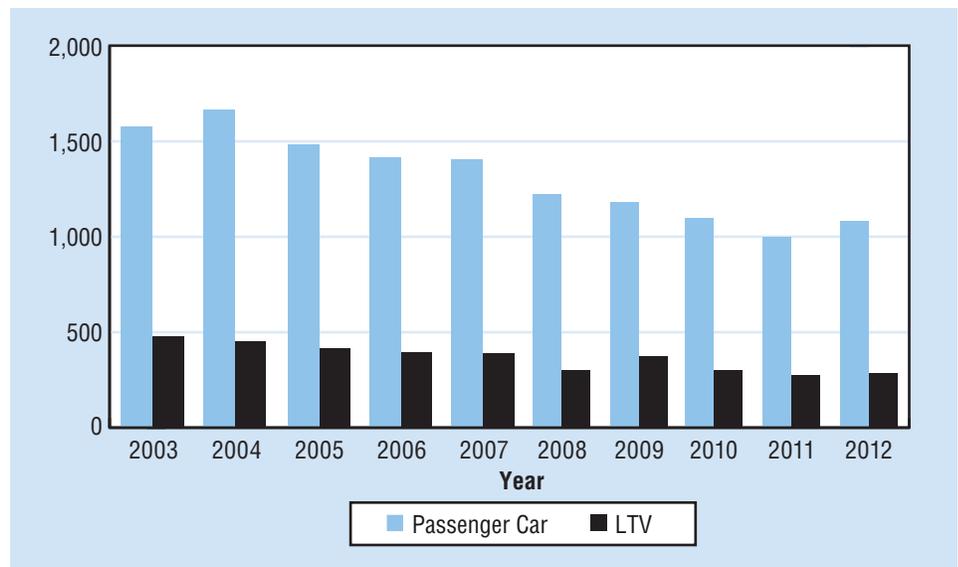
Source: Fatality Analysis Reporting System (FARS).

*When a passenger car and a light truck are involved in a side-impact crash, the vehicle struck in the side is more likely to have an occupant fatality.*

Figures 7, 8, and 9 graphically show each of the above types of crashes from 2003 through 2012. When a passenger car and a light truck hit each other head-on, a fatality in the passenger car is 3.7 times more likely than one in the LTV. Note also that when one vehicle is struck in the side by the front of the other vehicle, the vehicle struck in the side is more likely to have an occupant fatality. This is far more likely when a light truck strikes the side of a passenger car, as shown in Figure 9.

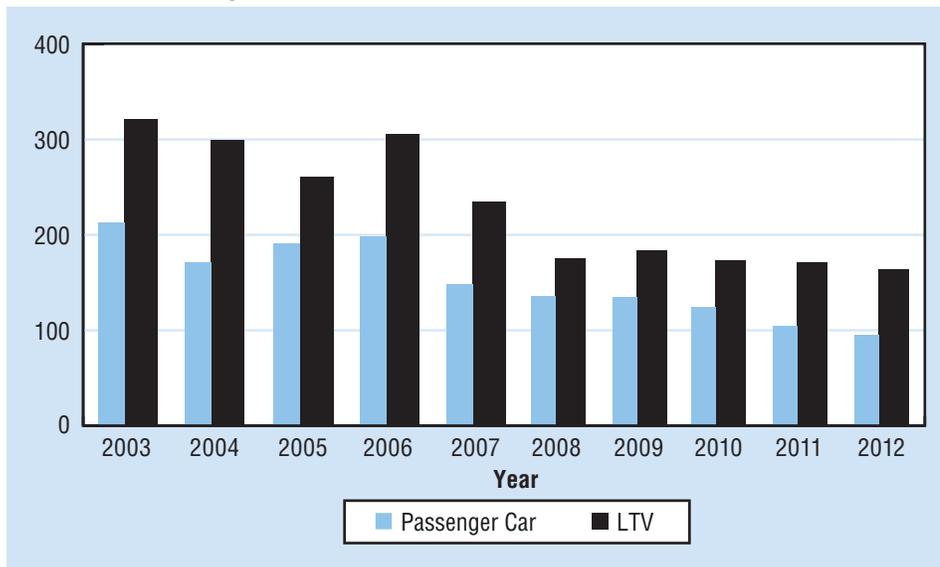
Figure 7

### Occupants Killed in Two-Vehicle Head-On Collisions Involving a Passenger Car And an LTV, 2003–2012



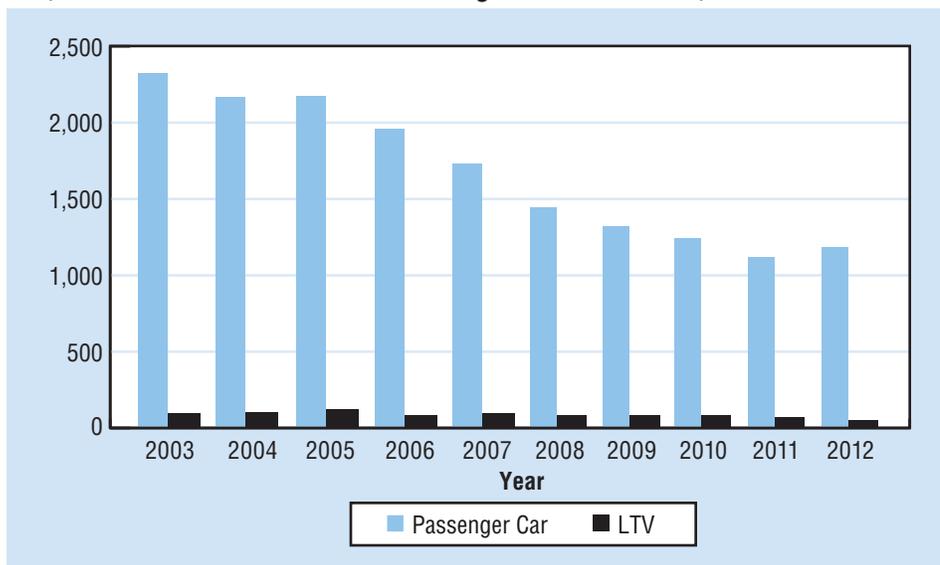
Source: Fatality Analysis Reporting System (FARS).

Figure 8  
**Occupants Killed in Two-Vehicle Crashes Involving a Passenger Car and an LTV, When Passenger Car Front Hit LTV in the Side, 2003–2012**



Source: Fatality Analysis Reporting System (FARS).

Figure 9  
**Occupants Killed in Two-Vehicle Crashes Involving a Passenger Car and an LTV, When the LTV Front Hit the Passenger Car in the Side, 2003–2012**



Source: Fatality Analysis Reporting System (FARS).

## Alcohol

A driver is considered to be alcohol-impaired when the driver's blood alcohol concentration (BAC) is .08 grams per deciliter (g/dL) or higher. From 2003 to 2012, the percent of alcohol-impaired passenger vehicle drivers involved in fatal crashes changed slightly among each of the vehicle types. Pickup truck drivers continue to have the highest percentage of alcohol impairment compared to other passenger vehicle drivers (Table 11). The percentage of alcohol-impaired van drivers involved in fatal crashes is substantially below that of other passenger vehicle drivers.

*Pickup truck drivers have the highest percentage of alcohol impairment compared to drivers of other passenger vehicles.*

Table 11

**Percent of Alcohol-Impaired (BAC = .08+ g/dL) Passenger Vehicle Drivers in Fatal Crashes, by Vehicle Type, 2003–2012**

| Year | Passenger Vehicle Type |    |              |    |         |    |      |    |        |    | All Passenger Vehicles* |    |
|------|------------------------|----|--------------|----|---------|----|------|----|--------|----|-------------------------|----|
|      | Passenger Cars         |    | Light Trucks |    |         |    |      |    |        |    |                         |    |
|      |                        |    | SUVs         |    | Pickups |    | Vans |    | Total* |    | #                       | %  |
| #    | %                      | #  | %            | #  | %       | #  | %    | #  | %      | #  |                         |    |
| 2003 | 5,813                  | 22 | 1,551        | 21 | 2,722   | 25 | 497  | 13 | 4,776  | 22 | 10,588                  | 22 |
| 2004 | 5,852                  | 23 | 1,743        | 22 | 2,586   | 24 | 466  | 13 | 4,808  | 21 | 10,660                  | 22 |
| 2005 | 5,898                  | 24 | 1,695        | 21 | 2,706   | 25 | 530  | 14 | 4,940  | 22 | 10,838                  | 23 |
| 2006 | 5,466                  | 23 | 1,986        | 24 | 2,873   | 27 | 488  | 14 | 5,358  | 24 | 10,824                  | 23 |
| 2007 | 5,144                  | 23 | 1,895        | 23 | 2,725   | 27 | 457  | 14 | 5,083  | 23 | 10,227                  | 23 |
| 2008 | 4,679                  | 23 | 1,651        | 23 | 2,316   | 26 | 337  | 12 | 4,311  | 23 | 8,991                   | 23 |
| 2009 | 4,186                  | 23 | 1,583        | 23 | 2,258   | 27 | 291  | 12 | 4,136  | 23 | 8,322                   | 23 |
| 2010 | 4,164                  | 24 | 1,423        | 21 | 2,041   | 25 | 286  | 12 | 3,752  | 22 | 7,916                   | 23 |
| 2011 | 4,103                  | 24 | 1,410        | 21 | 1,877   | 24 | 256  | 12 | 3,551  | 21 | 7,654                   | 22 |
| 2012 | 4,104                  | 23 | 1,483        | 21 | 1,946   | 25 | 267  | 12 | 3,704  | 22 | 7,808                   | 22 |

\*Includes drivers of other/unknown light truck vehicle types.

Source: Fatality Analysis Reporting System (FARS).

## State Data

Table 12 presents the number of passenger vehicle occupant fatalities in 2012, by vehicle type, for each State, the District of Columbia, and Puerto Rico. Among the passenger vehicle occupants killed in motor vehicle traffic crashes in 2012, 57 percent were occupants of passenger cars and 43 percent were occupants of light trucks.

Table 12

**Passenger Vehicle Occupant Fatalities, by State and Vehicle Type, 2012**

| State            | Passenger Vehicle Type |            |              |            |              |            |              |           |              |            | All Passenger Vehicle* Fatalities |
|------------------|------------------------|------------|--------------|------------|--------------|------------|--------------|-----------|--------------|------------|-----------------------------------|
|                  | Passenger Cars         |            | Light Trucks |            |              |            |              |           |              |            |                                   |
|                  |                        |            | Pickups      |            | SUVs         |            | Vans         |           | Total*       |            |                                   |
| #                | %                      | #          | %            | #          | %            | #          | %            | #         | %            | #          |                                   |
| Alabama          | 370                    | 57%        | 140          | 22%        | 112          | 17%        | 26           | 4%        | 278          | 43%        | 648                               |
| Alaska           | 23                     | 59%        | 8            | 21%        | 6            | 15%        | 2            | 5%        | 16           | 41%        | 39                                |
| Arizona          | 220                    | 47%        | 101          | 21%        | 126          | 27%        | 24           | 5%        | 251          | 53%        | 471                               |
| Arkansas         | 211                    | 53%        | 102          | 26%        | 75           | 19%        | 9            | 2%        | 187          | 47%        | 398                               |
| California       | 1,008                  | 64%        | 237          | 15%        | 261          | 17%        | 70           | 4%        | 568          | 36%        | 1,576                             |
| Colorado         | 148                    | 52%        | 58           | 20%        | 71           | 25%        | 10           | 3%        | 139          | 48%        | 287                               |
| Connecticut      | 113                    | 74%        | 14           | 9%         | 21           | 14%        | 5            | 3%        | 40           | 26%        | 153                               |
| Delaware         | 43                     | 70%        | 9            | 15%        | 8            | 13%        | 1            | 2%        | 18           | 30%        | 61                                |
| Dist of Columbia | 1                      | 25%        | 1            | 25%        | -            | -          | 2            | 50%       | 3            | 75%        | 4                                 |
| Florida          | 757                    | 60%        | 192          | 15%        | 231          | 18%        | 74           | 6%        | 498          | 40%        | 1,255                             |
| Georgia          | 453                    | 55%        | 178          | 21%        | 159          | 19%        | 38           | 5%        | 376          | 45%        | 829                               |
| Hawaii           | 23                     | 42%        | 16           | 29%        | 11           | 20%        | 5            | 9%        | 32           | 58%        | 55                                |
| Idaho            | 57                     | 42%        | 40           | 30%        | 33           | 24%        | 5            | 4%        | 78           | 58%        | 135                               |
| Illinois         | 368                    | 61%        | 87           | 14%        | 102          | 17%        | 50           | 8%        | 240          | 39%        | 608                               |
| Indiana          | 308                    | 60%        | 83           | 16%        | 78           | 15%        | 47           | 9%        | 208          | 40%        | 516                               |
| Iowa             | 131                    | 51%        | 51           | 20%        | 52           | 20%        | 22           | 9%        | 125          | 49%        | 256                               |
| Kansas           | 141                    | 48%        | 75           | 25%        | 60           | 20%        | 19           | 6%        | 154          | 52%        | 295                               |
| Kentucky         | 281                    | 52%        | 147          | 27%        | 79           | 15%        | 33           | 6%        | 260          | 48%        | 541                               |
| Louisiana        | 235                    | 51%        | 135          | 29%        | 78           | 17%        | 12           | 3%        | 226          | 49%        | 461                               |
| Maine            | 82                     | 66%        | 25           | 20%        | 11           | 9%         | 6            | 5%        | 42           | 34%        | 124                               |
| Maryland         | 223                    | 71%        | 38           | 12%        | 46           | 15%        | 8            | 3%        | 92           | 29%        | 315                               |
| Massachusetts    | 145                    | 72%        | 24           | 12%        | 28           | 14%        | 4            | 2%        | 57           | 28%        | 202                               |
| Michigan         | 388                    | 62%        | 93           | 15%        | 94           | 15%        | 46           | 7%        | 234          | 38%        | 622                               |
| Minnesota        | 158                    | 59%        | 48           | 18%        | 35           | 13%        | 29           | 11%       | 112          | 41%        | 270                               |
| Mississippi      | 225                    | 49%        | 132          | 29%        | 87           | 19%        | 19           | 4%        | 238          | 51%        | 463                               |
| Missouri         | 344                    | 57%        | 134          | 22%        | 85           | 14%        | 37           | 6%        | 256          | 43%        | 600                               |
| Montana          | 63                     | 40%        | 54           | 34%        | 35           | 22%        | 4            | 3%        | 94           | 60%        | 157                               |
| Nebraska         | 81                     | 50%        | 42           | 26%        | 24           | 15%        | 14           | 9%        | 80           | 50%        | 161                               |
| Nevada           | 89                     | 61%        | 18           | 12%        | 34           | 23%        | 6            | 4%        | 58           | 39%        | 147                               |
| New Hampshire    | 42                     | 60%        | 13           | 19%        | 14           | 20%        | 1            | 1%        | 28           | 40%        | 70                                |
| New Jersey       | 217                    | 69%        | 24           | 8%         | 58           | 18%        | 16           | 5%        | 98           | 31%        | 315                               |
| New Mexico       | 95                     | 43%        | 67           | 31%        | 45           | 21%        | 11           | 5%        | 124          | 57%        | 219                               |
| New York         | 400                    | 64%        | 67           | 11%        | 106          | 17%        | 49           | 8%        | 223          | 36%        | 623                               |
| North Carolina   | 508                    | 61%        | 129          | 16%        | 147          | 18%        | 42           | 5%        | 319          | 39%        | 827                               |
| North Dakota     | 42                     | 32%        | 53           | 40%        | 24           | 18%        | 12           | 9%        | 89           | 68%        | 131                               |
| Ohio             | 492                    | 62%        | 130          | 16%        | 108          | 14%        | 58           | 7%        | 298          | 38%        | 790                               |
| Oklahoma         | 214                    | 42%        | 169          | 33%        | 95           | 19%        | 27           | 5%        | 294          | 58%        | 508                               |
| Oregon           | 101                    | 51%        | 46           | 23%        | 42           | 21%        | 7            | 4%        | 97           | 49%        | 198                               |
| Pennsylvania     | 575                    | 66%        | 107          | 12%        | 151          | 17%        | 43           | 5%        | 301          | 34%        | 876                               |
| Rhode Island     | 27                     | 55%        | 8            | 16%        | 11           | 22%        | 3            | 6%        | 22           | 45%        | 49                                |
| South Carolina   | 312                    | 55%        | 111          | 20%        | 116          | 20%        | 29           | 5%        | 256          | 45%        | 568                               |
| South Dakota     | 44                     | 45%        | 22           | 22%        | 25           | 26%        | 7            | 7%        | 54           | 55%        | 98                                |
| Tennessee        | 426                    | 56%        | 188          | 25%        | 117          | 15%        | 27           | 4%        | 334          | 44%        | 760                               |
| Texas            | 1,044                  | 47%        | 603          | 27%        | 460          | 21%        | 117          | 5%        | 1,180        | 53%        | 2,224                             |
| Utah             | 82                     | 57%        | 23           | 16%        | 37           | 26%        | 3            | 2%        | 63           | 43%        | 145                               |
| Vermont          | 33                     | 63%        | 9            | 17%        | 8            | 15%        | 2            | 4%        | 19           | 37%        | 52                                |
| Virginia         | 333                    | 61%        | 98           | 18%        | 91           | 17%        | 27           | 5%        | 216          | 39%        | 549                               |
| Washington       | 157                    | 60%        | 53           | 20%        | 41           | 16%        | 12           | 5%        | 106          | 40%        | 263                               |
| West Virginia    | 141                    | 58%        | 47           | 19%        | 41           | 17%        | 13           | 5%        | 101          | 42%        | 242                               |
| Wisconsin        | 261                    | 63%        | 53           | 13%        | 72           | 17%        | 30           | 7%        | 156          | 37%        | 417                               |
| Wyoming          | 36                     | 38%        | 30           | 32%        | 24           | 26%        | 4            | 4%        | 58           | 62%        | 94                                |
| <b>National</b>  | <b>12,271</b>          | <b>57%</b> | <b>4,332</b> | <b>20%</b> | <b>3,875</b> | <b>18%</b> | <b>1,167</b> | <b>5%</b> | <b>9,396</b> | <b>43%</b> | <b>21,667</b>                     |
| Puerto Rico      | 132                    | 80%        | 5            | 3%         | 24           | 15%        | 3            | 2%        | 32           | 20%        | 164                               |

\*Includes occupants of other/unknown light truck vehicle types. Source: Fatality Analysis Reporting System (FARS).

## Appendix A

Polk recently improved the data quality of NVPP, which resulted in a complete rewrite of the data. They (1) enhanced their business rules for vehicles on the road, (2) have more consistent reporting/processing across States, and (3) upgraded their basis for vehicle coding. A comparison between Polk's older and newer version of the National Vehicle Population Profile (NVPP) registration data for 2011 shows that Polk's enhancements have resulted in over a 3-percent increase in passenger vehicle registration counts from what was previously reported. When looking at passenger cars and light trucks separately, the passenger car count decreased by 5.6 percent and the light truck count increased by 14.6 percent between the Old NVPP and New NVPP for 2011 (see passenger car and light truck figures in registered vehicle table below).

This fact sheet uses 2012 data, as well as 2011 data updated from the data presented in the *2011 Passenger Vehicle Traffic Safety Facts*, for passenger car and light truck registrations based on Polk's New NVPP. From 2003 to 2010, passenger vehicle registrations increased 10 percent. LTVs experienced a 20-percent increase in registrations, while passenger cars had an increase of 3 percent (Figure 1 on Page 1). Among the light-truck categories, pickup truck registrations increased 12 percent and van registrations decreased 5 percent; SUV registrations increased by 49 percent.

| Registered Vehicles |                        |                |              |            |            |            |
|---------------------|------------------------|----------------|--------------|------------|------------|------------|
| Year                | All Passenger Vehicles | Passenger Cars | Light Trucks |            |            |            |
|                     |                        |                | All*         | SUVs       | Pickups    | Vans       |
| 2009 (Old NVPP)     | 239,212,572            | 137,203,972    | 102,008,600  | 41,383,289 | 41,676,351 | 18,222,255 |
| 2010 (Old NVPP)     | 237,686,627            | 135,310,480    | 102,376,147  | 42,378,757 | 41,596,353 | 17,732,967 |
| 2011 (Old NVPP)     | 238,138,184            | 134,543,655    | 103,594,529  | 43,891,547 | 41,778,775 | 17,308,359 |
| 2011 (New NVPP)     | 245,669,103            | 126,974,845    | 118,694,258  | 50,161,564 | 48,912,291 | 19,584,184 |
| 2012 (New NVPP)     | 245,768,366            | 127,091,286    | 118,677,080  | 51,300,136 | 48,465,433 | 18,878,709 |

Registered Vehicles – R.L. Polk using NCSA vehicle classification.

\*Includes Other/Unknown Light Truck Registrations.

### For more information:

Information on traffic fatalities is available from the National Center for Statistics and Analysis (NCSA), NVS-424, 1200 New Jersey Avenue SE., Washington, DC 20590. NCSA can be contacted at 800-934-8517 or via the following e-mail address: [ncsaweb@dot.gov](mailto:ncsaweb@dot.gov). General information on highway traffic safety can be accessed by Internet users at [www.nhtsa.gov/NCSA](http://www.nhtsa.gov/NCSA). To report a safety-related problem or to inquire about motor vehicle safety information, contact the Vehicle Safety Hotline at 888-327-4236.

Other fact sheets available from the National Center for Statistics and Analysis are *Alcohol-Impaired Driving, Bicyclists and Other Cyclists, Children, Large Trucks, Motorcycles, Occupant Protection, Older Population, Overview, Pedestrians, Race and Ethnicity, Rural/Urban Comparisons, School Transportation-Related Crashes, Speeding, State Alcohol Estimates, State Traffic Data, and Young Drivers*. 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*. The fact sheets and annual Traffic Safety Facts report can be accessed online at [www-nrd.nhtsa.dot.gov/CATS/index.aspx](http://www-nrd.nhtsa.dot.gov/CATS/index.aspx).



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