



Independence Day 2017 Holiday Period Traffic Fatality Estimate

The 2017 Independence Day holiday period begins at 6:00 p.m., Friday, June 30, and ends at 11:59 p.m., Tuesday, July 4. Our estimate of traffic fatalities for this 4.25-day holiday period is **582** deaths with a 90% confidence interval (C.I.) of **514** to **657** deaths. Nonfatal medically consulted injuries, i.e. injuries serious enough that a medical professional was consulted, are estimated at 66,900 with a range of 59,100 to 75,600. The Independence Day Holiday period may vary from 1.25 to 4.25 days in length, depending on which day of the week the holiday falls. The estimated fatality total for 2017 is about 5% lower than the average actual number of fatalities (613) that occurred during the previous six 4.25-day Independence Day holiday periods. However, Independence Day holidays consisting of 4.25 days are relatively rare, thus making comparisons difficult. Only six 4.25-day holidays have occurred since 1995, with the last one taking place in 2013. An evaluation of recent Independence Day holiday period estimates is presented in Table 1.

Table 1. Evaluation of Recent Independence Day Holiday Period Estimates

Year	Number of Days	Estimate	90% Confidence Interval	Actual
2010	3.25	361	310-420	365
2011	3.25	374	320-436	405
2012	1.25	173	135-219	157
2013	4.25	540	477-610	461*
2014	3.25	385	328-450	347
2015	3.25	409	351-475	366

*=outside of 90% confidence interval.

Studies have shown that seat belts, when used, are 45% effective in preventing fatalities among front-seat passenger car occupants. Although the reduction in the risk of fatal injury from wearing seat belts is higher for light-truck occupants at 50%, the lower figure for passenger car occupants is used in the calculations here as the more conservative measure. The most recent data from the Fatality Analysis Reporting System (FARS) indicate that seat belt use by fatally injured passenger vehicle (passenger cars, pickup trucks, vans, and SUVs) occupants was 47.4%. Based on this information it is estimated that **226** person's lives may be saved this Independence Day holiday period because they will wear their safety belts and an additional **138** lives could be saved if all wore safety belts.

The average number of traffic fatalities during the six most recent 3.25-day Independence Day holiday periods was 16.9% *higher* than similar non-holiday periods (613 vs. 524 deaths). The difference is statistically significant at the .05 level.

The terms used in the above discussion were chosen carefully to reflect the level of accuracy of the quantities involved. *Estimate* is used because the fatality figures are calculated approximately, as opposed to the precision of calculation inferred by the use of the word *predict*. *May* is used to indicate the figures express a contingency, whereas *will* is used to express something that may be expected or is supposed to occur.

Details of the estimating methodology and a discussion of holiday deaths compared to non-holiday periods are included in the attached paper.

If you would like your name deleted from the distribution list for the holiday estimates, please let me know via return e-mail.