Memorial Day 2017 Holiday Period Traffic Fatality Estimate

The 2017 Memorial Day holiday period begins at 6:00 p.m., Friday, May 26, and ends at 11:59 p.m., Monday, May 29. Our estimate of traffic fatalities for this 3.25-day holiday period is **409** deaths with a 90% confidence interval (C.I.) of **357** to **467** deaths. Nonfatal medically consulted injuries, i.e. injuries serious enough that a medical professional was consulted, are estimated at 47,000 with a range of 41,000 to 53,700. The Memorial Day holiday period is always 3.25 days in length. The estimated fatality total for 2017 is 12% higher than the average actual number of fatalities (364) that occurred during the previous six Memorial Day holiday periods for which data are available. An evaluation of recent Memorial Day holiday period estimates is presented in Table 1.

**Table 1. Evaluation of Recent Memorial Day Holiday Period Estimates**

| Year | Estimate | 90% Confidence Interval | Actual |
|------|----------|-------------------------|--------|
| 2010 | 353 | 319-391 | 389 |
| 2011 | 406 | 351-468 | 389 |
| 2012 | 420 | 361-489 | 367 |
| 2013 | 407 | 358-461 | 334* |
| 2014 | 382 | 327-445 | 337 |
| 2015 | 383 | 329-442 | 367 |

*=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 car and light truck occupants was 47.4%. Based on this information it is estimated that **159** person's lives may be saved this Memorial Day holiday period because they will wear their safety belts and an additional **97** lives could be saved if all wore safety belts.

The average number of traffic fatalities during the six most recent Memorial Day holiday periods was 9.9% *higher* than similar non-holiday periods (364 vs. 331 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.

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