



Early Estimate of Motor Vehicle Traffic Fatalities in 2013

Summary

A statistical projection of traffic fatalities shows that an estimated 32,850 people died in motor vehicle traffic crashes in 2013. This represents a decrease of about 2.1 percent as compared to the 33,561 fatalities that were reported to have occurred in 2012, as shown in Table 1. Also, in 2013, fatalities decreased in the first (down 4.7%), second (down 4.5%), and third (down 1.4%) quarters and increased in the fourth (up 1.8 %) quarter, as compared to the corresponding quarters in 2012. Preliminary data reported by the Federal Highway Administration (FHWA) shows that vehicle miles traveled (VMT) in 2013 increased by about 18.1 billion miles, or about a 0.6-percent increase. On a quarterly basis, the 2013 VMT, since decreasing by

0.8 percent in the first quarter, has increased in each subsequent quarter of 2013 (by 0.5%, 1.5% and 1.1% in the second, third, and fourth quarters, respectively). The fatality rate, per 100 million VMT, for 2013 is projected to decrease to 1.11 fatalities per 100 million VMT, down from 1.13 fatalities per 100 million VMT in 2012. Also, the 1.8-percent increase in fatalities in the fourth quarter of 2013 represents the first quarterly increase since the third quarter of 2012. The actual counts for 2012 and 2013 continue to be updated and the number of fatalities as well as the ensuing percentage changes and fatality rates are therefore subject to revision with the release of the final file for 2012 and the annual report and final files for 2013.

Table 1: Fatalities and Fatality Rate by Quarter, Full Year, and the Percentage Change From the Corresponding Quarter or Full Year in the Previous Year

Quarter	1st Quarter (Jan–Mar)	2nd Quarter (Apr–Jun)	3rd Quarter (Jul–Sep)	4th Quarter (Oct–Dec)	Total (Full Year)
Fatalities and Percentage Change in Fatalities for the Corresponding Quarter From the Prior Year					
2005	9,239	11,005	11,897	11,369	43,510
2006	9,558 [+3.5%]	10,942 [-0.6%]	11,395 [-4.2%]	10,813 [-4.9%]	42,708 [-1.8%]
2007	9,354 [-2.1%]	10,611 [-3.0%]	11,056 [-3.0%]	10,238 [-5.3%]	41,259 [-3.4%]
2008	8,459 [-9.6%]	9,435 [-11.1%]	9,947 [-10.0%]	9,582 [-6.4%]	37,423 [-9.3%]
2009	7,552 [-10.7%]	8,975 [-4.9%]	9,104 [-8.5%]	8,252 [-13.9%]	33,883 [-9.5%]
2010	6,755 [-10.6%]	8,522 [-5.0%]	9,226 [+1.3%]	8,496 [+3.0%]	32,999 [-2.6%]
2011	6,726 [-0.4%]	8,227 [-3.5%]	8,984 [-2.6%]	8,542 [+0.5%]	32,479 [-1.6%]
2012†	7,504 [+11.6%]	8,583 [+4.3%]	9,127 [+1.6%]	8,347 [-2.3%]	33,561 [+3.3%]
2013†	7,150 [-4.7%]	8,200 [-4.5%]	9,000 [-1.4%]	8,500 [+1.8%]	32,850 [-2.1%]
Fatality Rate per 100 Million Vehicle Miles of Travel (VMT)					
2005	1.32	1.42	1.54	1.54	1.46
2006	1.35	1.41	1.47	1.44	1.42
2007	1.31	1.35	1.41	1.37	1.36
2008	1.22	1.25	1.33	1.32	1.26
2009	1.09	1.16	1.17	1.12	1.15
2010	0.98	1.09	1.18	1.14	1.11
2011	0.98	1.09	1.18	1.17	1.10
2012†	1.08	1.12	1.20	1.14	1.13
2013†	1.04	1.06	1.17	1.15	1.11

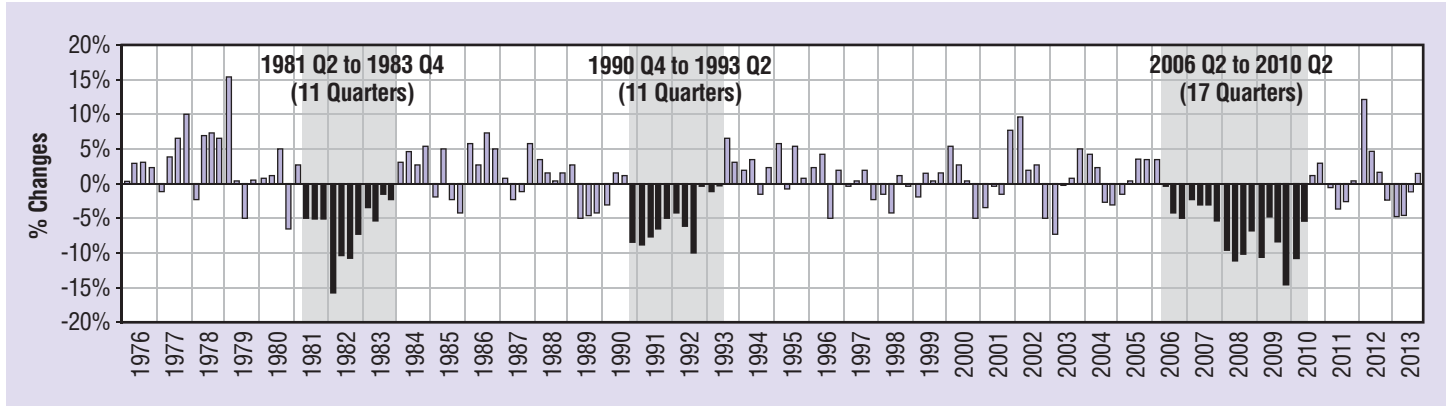
†2013 statistical projections and rates based on these projections.
Source: Fatalities: 2005-2011 FARS Final File, 2012 FARS Annual Report File

*A marginal part of the increase is attributed to 2012 being a leap year.
VMT: FHWA December 2013 Traffic Volume Trends, February 2014

Figure 1 shows the historical trend of the percentage change every quarter from the same quarter in the previous year, going back to 1976. NHTSA has fatality data going back to 1975, and the years during the early 1980s and 1990s are the

only two other periods with such significant consecutive quarters with declines as compared to the corresponding quarters of the previous years. Both of these periods had 11 consecutive quarters of declines.

Figure 1: Percentage Change in Fatalities in Every Quarter as Compared to the Fatalities in the Same Quarter During the Previous Year

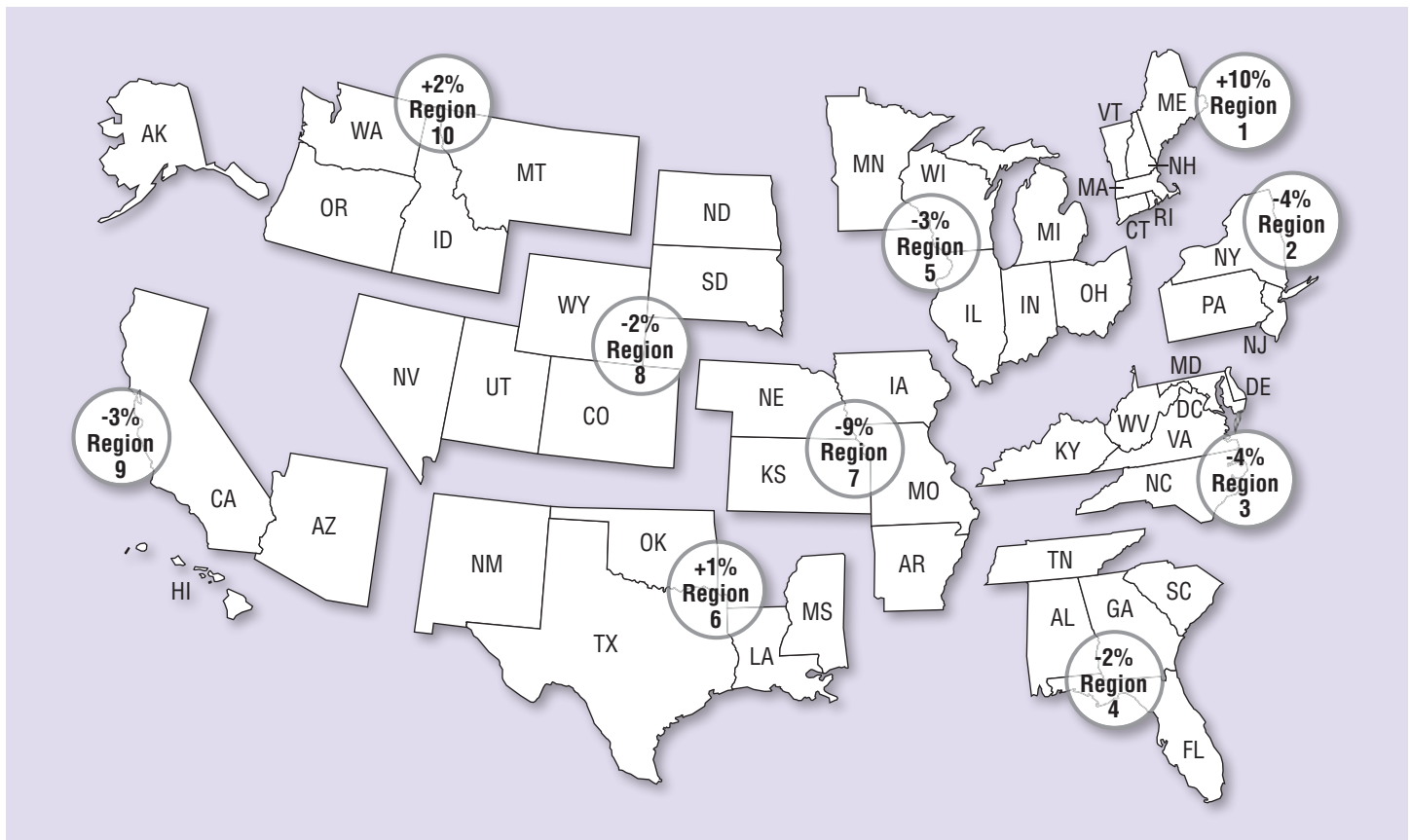


Regional Differences

As discussed in a methodology Research Note (*Statistical Methodology to Make Early Estimates of Motor Vehicle Traffic Fatalities*, Report No. DOT HS 811 123), the statistical procedures employed in these projections were generated for each NHTSA administrative Region and were collated to create the national estimate. This allows for the comparison of

regional estimates in 2013 with the reported 2012 counts, as depicted by the estimated percentage changes in Figure 2. Seven of the 10 NHTSA Regions experienced decreases in 2013 as compared to 2012. The estimated regional year-to-year percentage changes shown in Figure 2 are subject to change when actual fatality counts for 2013 will be reported through FARS in the fall of 2014.

Figure 2: Percentage Change in Estimated Fatalities in 2013 From Reported 2012 Fatality Counts, by NHTSA Region



Discussion

The National Highway Traffic Safety Administration is continuing to gather data on crash fatalities for 2012 and 2013 using information from police accident reports and other sources. It is too soon to speculate on the contributing factors or potential implications of any changes in deaths on our roadways. The final data for 2012 as well as the annual file for 2013 will be available in late fall of 2014 which usually results in the revision of fatality totals and the ensuing rates and percentage changes.

In 2012, since recording a significant increase of 11.6 percent during the first quarter, the magnitude of the increases steadily declined during each subsequent quarter. Fatalities are reported to have increased by about 4.3 percent in the second quarter and by about 1.6 percent in the third quarter of 2012. Subsequently, beginning with the fourth quarter of 2012, fatalities have declined four consecutive quarters until the 1.8 percent increase estimated for the fourth quarter of 2013. The fatality rates per 100 million in 2013 VMT, when compared to the rates for the corresponding quarters in 2012, are lower for the first three quarters of 2013 and higher for the fourth quarter of 2013.

Data

The data used in this analysis comes from several sources: NHTSA's Fatality Analysis Reporting System (FARS), FastFARS (FF), and Monthly Fatality Counts (MFC); and from FHWA's VMT estimates. FARS is a census of fatal traffic crashes in the 50 States, the District of Columbia, and Puerto

Rico. To be included in FARS, a crash must involve a motor vehicle traveling on a trafficway and must result in the death of at least one person (occupant of a vehicle or a nonoccupant) within 30 days of the crash. FARS final files from January 2003 to December 2011 and FARS Annual Report file in 2012 are used. The FF program is designed as an Early Fatality Notification System to capture fatality counts from States more rapidly and in real-time. It aims to provide near-real-time notification of fatality counts from all jurisdictions reporting to FARS. The MFC data provides monthly fatality counts by State through sources that are independent from the FastFARS or FARS systems. MFCs from January 2003 up to January 2014 are used. MFCs are reported mid-month for all prior months of the year.

In order to estimate the traffic fatality counts for each month of 2013, time series cross-section regression was applied to analyze the data with both cross-sectional values (by NHTSA Region) and time series (by month), to model the relationship among FARS, MFC, and FF, the details of which are available in a companion Research Note. The methodology used to generate the estimates for 2013 is the same as the one used by NHTSA to project the increase in the fatalities for the whole of 2012 (*Early Estimates of Motor Vehicle Traffic Fatalities in 2012*, Report No. DOT HS 811 741) as well as projections of fatalities for the first nine months of 2013 (*Early Estimates of Motor Vehicle Traffic Fatalities for the First Nine Months of 2013*, Report No. DOT HS 812 004, available at www-nrd.nhtsa.dot.gov/Pubs/812004.pdf).



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

Suggested APA Format Citation for this document:

National Center for Statistics and Analysis. (2014, May). Early Estimate of Motor Vehicle Traffic Fatalities for 2013. (Crash•Stats Brief Statistical Summary. Report No. DOT HS 812 024). Washington, DC: National Highway Traffic Safety Administration.