U.S. Department of Transportation

National Highway Traffic Safety Administration

TRAFFIC SAFETY FACTS
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NHTSA
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DOT HS 811 741   A Brief Statistical Summary   May 2013

Early Estimate of Motor Vehicle Traffic Fatalities in 2012

Summary

A statistical projection of traffic fatalities shows that an estimated 34,080 people died in motor vehicle traffic crashes in 2012. This represents an increase of about 5.3 percent as compared to the 32,367 fatalities that occurred in 2011, as shown in Table 1. If these projections are realized, 2012 will be first year with a year-to-year increase in fatalities since 2005. Traffic fatalities have been steadily declining over the previous six years since reaching a near-term peak in 2005, decreasing by about 26 percent from 2005 to 2011. Also, in 2012, fatalities increased in the first (up 12.6%), second (up 5.3%), third (up 3.2%) and fourth (up 1.7 %) quarters, as compared to the respective quarters in 2011. Preliminary data reported by the Federal Highway Administration (FHWA) shows that vehicle miles traveled (VMT) in 2012 increased by about 9.1 billion miles, or about a 0.3-percent increase. On a quarterly basis, the 2012 VMT increased by 1.4 percent and by 0.8 percent in the first and second quar-ter, respectively, and decreased by 0.2 percent and by 0.7 percent in the third and fourth quarters, respectively. The fatality rate, per 100 million VMT, for 2012 is projected to increase to 1.16 fatalities per 100 million VMT, up from 1.10 fatalities per 100 million VMT in 2011. This rate surpasses the rate of 1.15 last reported in 2009.

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
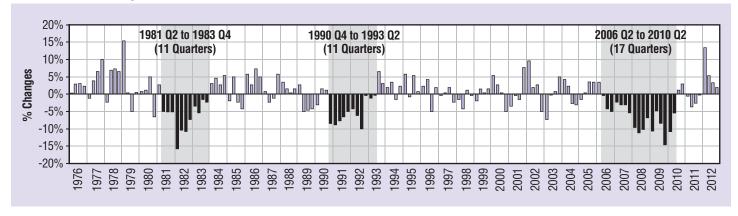
Quarter	1st Quarter (Jan–Mar)	2nd Quarter (Apr–Jun)	3rd Quarter (Jul–Sep)	4th Quarter (Oct–Dec)	Total (Full Year)
Fatalities and Percentage Change in Fatalities for the Corresponding Quarter From the Prior Year					
2005	9,239	11,005	11,897	11,369	43,510
2006	9,558 [+3.5%]	10,942 [-0.6%]	11,395 [-4.2%]	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	6,708 [-0.7%]	8,216 [-3.6%]	8,960 [-2.9%]	8,483 [-0.2%]	32,367 [-1.9%]
2012†	*7,550 [+12.6%]*	*8,650 [+5.3%]*	*9,250 [+3.2%]*	*8,630 [+1.7%]*	*34,080 [+5.3%]*
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	1.08	1.18	1.16	1.10
2012†	*1.09*	*1.13*	*1.22*	*1.19*	*1.16*

†2012 statistical projections and rates based on these projections.
Source: Fatalities: 2005-2010 FARS Final File, 2011 FARS Annual Report File

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

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
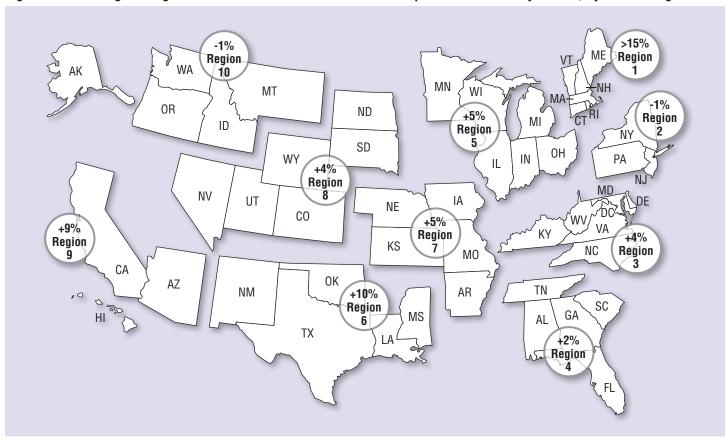

Regional Differences

As discussed in a methodology Research Note (Statistical Methodology to Make Early Estimates of Motor Vehicle Traffic Fatalities, 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 2012 with the reported 2011 counts, as depicted by the estimated percentage changes in Figure 2. Eight of the 10 NHTSA Regions experienced increases in 2012 as compared to 2011. The regional year-to-year percentage declines shown in Figure 2 are estimates and are subject to change when actual fatality counts for 2012 will be reported through FARS in the fall of 2013.

Figure 2: Percentage Change in Estimated Fatalities in 2012 From Reported 2011 Fatality Counts, by NHTSA Region

Discussion

The National Highway Traffic Safety Administration is continuing to gather data on crash fatalities for 2012 using information from police accident reports and other sources. While it is too soon to speculate on the contributing factors or potential implications of any increase in deaths on our roadways, it should be noted that the historic downward trend in traffic fatalities in the past several years means any comparison will be to an unprecedented low baseline figure. This is a pattern which has continued through the reported totals for 2011 (released recently) that show deaths at a 60-year low. In fact, fatalities declined by about 26 percent from 2005 to 2011.

In 2012, since recording a significant increase of 12.6 percent during the first quarter, the magnitude of the increases steadily declined during each subsequent quarter. Fatalities increased by about 5.3 percent in the second quarter, by about 3.2 percent in the third quarter and by about 1.7 percent in the fourth quarter. The estimated fatality rates per 100 million VMT during the first, second, and third quarters of 2012 were 1.09, 1.13, 1.22 and 1.19, respectively.

Data

The data used in this analysis comes from several sources: NHTSA's Fatality Analysis Reporting System (FARS), Fast-FARS (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 2010 and FARS Annual Report file in 2011 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 2013 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 2012, time series cross-section regression was applied to ana-lyze 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 2012 is the same as the one used by NHTSA to project the decline in the fatalities for the whole of 2011 (Early Estimates of Motor Vehicle Traffic Fatalities in 2011, DOT HS 811 604) as well as projections of fatalities for the first nine months of 2012 (Early Estimates of Motor Vehicle Traffic Fatalities in the First Nine Months (January-September) of 2012, DOT HS 811 706).

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Non-Standard Adjustments: A non-standard (outside the scope of usual adjustments documented in the methodology note) was made to account for a big discrepancy between the FastFARS and MFC counts reported for a particular state. The MFC counts were below the FastFARS counts by a large order of magnitude. In order to mitigate the effect of this discrepancy, the ratio of the FastFARS and the MFC counts from prior years at a similar snapshot of time was applied to the FastFARS counts to-date to obtain a revised, inflated MFC count.