Crash•Stats

A Brief Statistical Summary

National Highway Traffic Safety Administration

DOT HS 811 291 **March 2010**

Early Estimate of Motor Vehicle Traffic Fatalities in 2009

Summary: A statistical projection of traffic fatalities in 2009 shows that an estimated 33,963 people died in motor vehicle traffic crashes. This represents a decline of about 8.9 percent as compared to the 37,261 fatalities that occurred in 2008, as shown in Table 1. If these projections are realized, fatalities will be lowest on record (since 1954). Also, in 2009, fatalities declined by about 10.7 percent in the first quarter, declined by about 4.8 percent in the second quarter, declined by about 7.5 percent in the third quarter and declined by about 12.7 percent in the fourth quarter of 2009, as compared to the respective quarters in 2008. The fourth quarter of 2009 will be the 15th consecutive quarter of declines in fatalities as compared to the same quarter from the previous year, as illustrated by the highlighted percentages in Table 1. Traffic fatalities have been steadily declining since reaching a near-term peak in 2005, decreasing by about 22 percent from 2005 to 2009. Preliminary data reported by the Federal Highway Administration (FHWA) shows that vehicle miles traveled (VMT) in 2009 increased by about 6.6 billion miles, or about a 0.2 percent increase. On a quarterly basis, the VMT dropped by 1.6 percent during the first quarter and increased by 0.6 percent in the second quarter, increased by 1.7 percent in the third quarter and by 0.1 percent in the fourth quarter. Also shown in Table 1 are the fatality rates per 100 million VMT, by quarter and for the first three quarters. The fatality rate for 2009 declined to the lowest on record, to 1.16 fatalities per 100 million VMT, down from 1.25 fatalities per 100 million VMT in 2008.

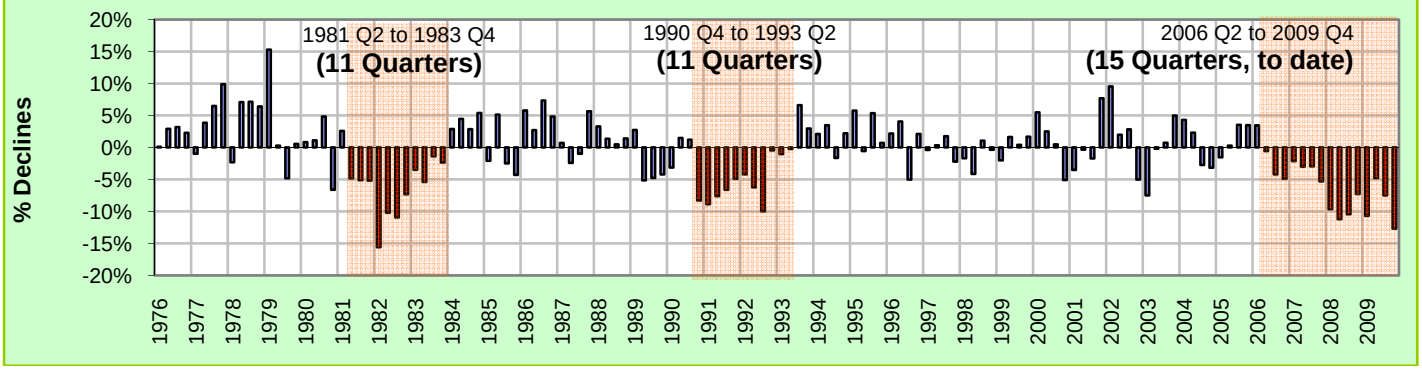
Table 1: Fatalities and Fatality Rate by Quarter and the Percentage Change From the Corresponding Quarter in the Previous Year

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 [-0.8%]
2007	9,354 [-2.1%]	10,611 [-3.0%]	11,056 [-3.0%]	10,238 [-5.3%]	41,259 [-2.7%]
2008	8,451 [-9.7%]	9,420 [-11.2%]	9,900 [-10.5%]	9,490 [-7.3%]	37,261 [-10.5%]
2009†	7,550 [-10.7%]	8,972 [-4.8%]	9,155 [-7.5%]	8,286 [-12.7%]	33,963 [-8.9%]
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	1.24	1.32	1.31	1.25
2009†	1.10	1.18	1.20	1.14	1.16

†2009 Statistical projections and rates based on these projections.
Source: Fatalities: 2005-2007 FARS Final File, 2008 FARS Annual Report File VMT: FHWA Traffic Volume Trends, January 2010

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



Results by Month: As shown in Figures 2 and 3, declines in fatalities have been estimated for all months in 2009, although the extent of the decline each month has fluctuated. While fatalities declined significantly in January (-7.7%), March (-7.9%), August (-10.5%), October (-12.4%), November (-10.1%) and December (-15.6%), the largest percentage decline during the year was estimated for February (-16.4%). This decline should be interpreted in the light of 2008 being a leap year and 95 fatalities occurred during the extra day in February 2008. Comparatively, the monthly declines during 2009 narrowed in April (-2.1%) and May (-4.8%), June (-7.2%), July (-6.0%) and September (-5.7%) as compared to the other months. The August and September changes should be interpreted in the light of a significant portion of the 2008 Labor Day holiday travel period falling in August while the 2009 Labor Day holiday travel period fell well into the first week of September. The monthly fatality rates were lower in all the months of 2009 as compared to the rates in 2008. Also shown in Figure 2 are the corresponding month-to-month changes in VMT from 2008 to 2009 as well as the changes from 2007 to 2008, as estimated by FHWA. The VMT increased during five months (April, June, July, August and September) in 2009 as compared to the same month in 2008. NHTSA will continue to report these estimates on a quarterly basis. Also, these estimates will be updated as more data is reported to NHTSA and therefore the final numbers may vary from those provided in this document.

Figure 2: Reported Fatalities in 2007 and 2008 and Projected Fatalities in 2009, by Month

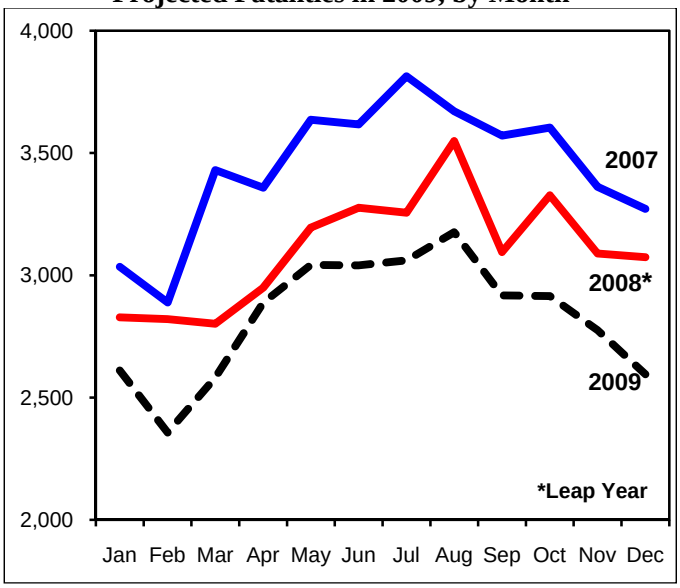
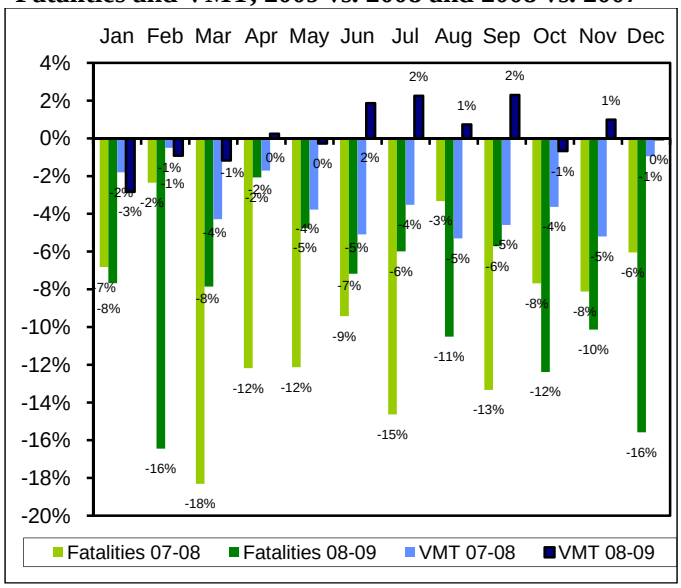


Figure 3: Percentage Change in Projected Traffic Fatalities and VMT, 2009 vs. 2008 and 2008 vs. 2007



Data: The data used in this analysis comes from several sources, such as the Fatality Analysis Reporting System (FARS), FastFARS (FF), and Monthly Fatality Counts (MFC). 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 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 2007 and FARS Annual Report file in 2008 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 by electronically transmitting the data. 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 2010 are used. MFCs are reported mid-month for all prior months of the year. The VMT data was reported by FHWA.

In order to estimate the traffic fatality counts for each month of 2009, time series cross-section regression (TSCSR) 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 the first quarter is the same as the one used by NHTSA to project the decline in the fatalities for the whole of 2008 as compared to 2007 (*Early Estimates of Motor Vehicle Traffic Fatalities in 2008*, DOT HS 811 124) as well as projections of fatalities for the 1st quarter of 2009 (*Early Estimates of Motor Vehicle Traffic Fatalities in the 1st Half of 2009*, DOT HS 811 207) and the 1st half of 2009 (*Early Estimates of Motor Vehicle Traffic Fatalities in the 1st Quarter of 2009*, DOT HS 811 173).