Early Estimate of Motor Vehicle Traffic Fatalities For the First Quarter (January–March) of 2009

Summary:

A statistical projection of traffic fatalities for the first quarter of 2009 shows that an estimated 7,689 people died in motor vehicle traffic crashes. This represents a decline of about 9 percent as compared to the 8,451 fatalities that occurred in the first quarter of 2008, as shown in Table 1. This will be the 12th 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 declining steadily since reaching a near-term peak in 2005. Preliminary data reported by the Federal Highway Administration (FHWA) shows that vehicle miles traveled (VMT) in the first three months of 2009 dropped by about 11.7 billion miles, or about a 1.7-percent decline. Also shown in Table 1 are the fatality rates per 100 million VMT, by quarter. 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).

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
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	8,451 [-9.7%]	9,420 [-11.2%]	9,900 [-10.5%]	9,490 [-7.3%]	37,261 [-9.7%]
2009†	7,689 [-9.0%]	-	-	-	-
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	1.27
2009†	1.12	-	-	-	-

†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, April 2009

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 eleven consecutive quarters of declines.
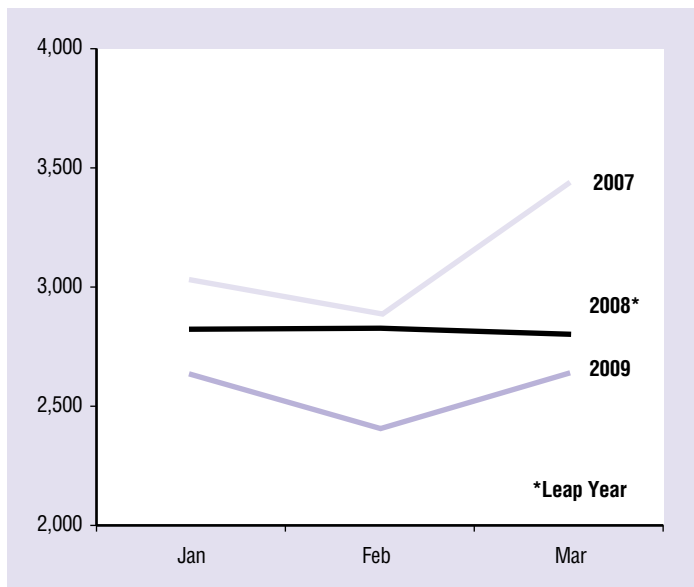
Figure 1: Percentage Change in Fatalities in Every Quarter as Compared to the Fatalities in the Same Quarter During the Previous Year
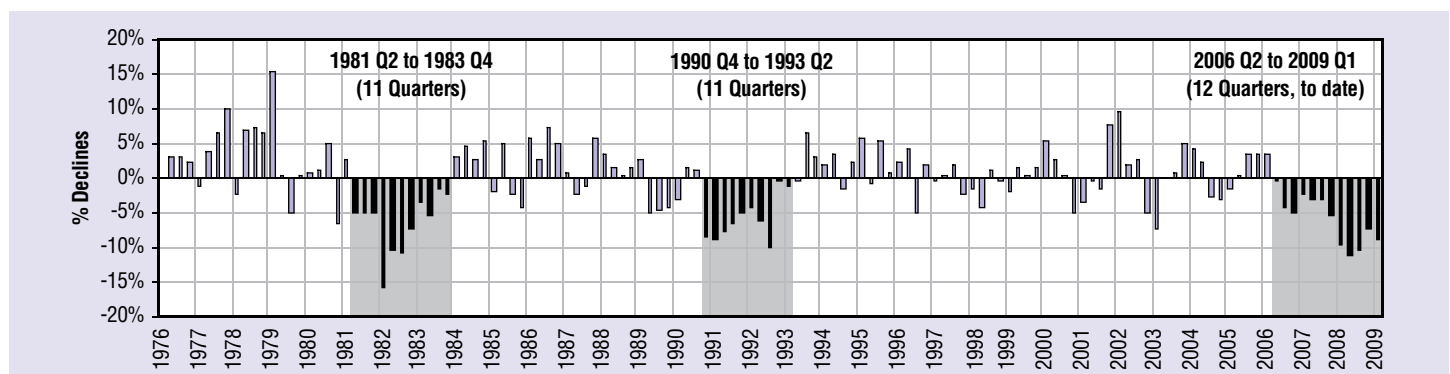
Results by Month:

As shown in Figures 2 and 3, declines in fatalities have been estimated for all three months in the first quarter of 2009, although the extent of the decline each month has fluctuated. While fatalities declined in both January (-7%) and March (-6%), the most significant decline was estimated for February (-15%). These declines should be interpreted in the light of 2008 being a leap year. NHTSA earlier reported declines in 2008 for January (-7%), February (-2%) and March (-18%), as compared to the fatalities in the respective months in 2007 (see Early Estimates of Motor Vehicle Traffic Fatalities in 2008, DOT HS 811 124). The decline in January 2009 mirrors the decline in January 2008. However, the declines in February and March of 2009 are significantly different from the corresponding monthly declines estimated in 2008. In 2008, fatalities in March declined by 18 percent as compared to a 6-percent decline in 2009. In February 2009, fatalities declined by 15 percent as compared to a 2-percent decline in 2008, a small part of which can be explained by the fatalities (95) that occurred during the extra day in February 2008. The monthly fatality rates were lower in all three months of 2009 as compared to the rates in 2008. Also shown in Figure 2 are the corresponding month-to-month changes in vehicle miles of travel (VMT) from 2008 to 2009 as well as the changes from 2007 to 2008, as estimated by FHWA. 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, January to March

Figure 3: Percentage Change in Projected Traffic Fatalities And VMT, 2009 versus 2008 and 2008 versus 2007
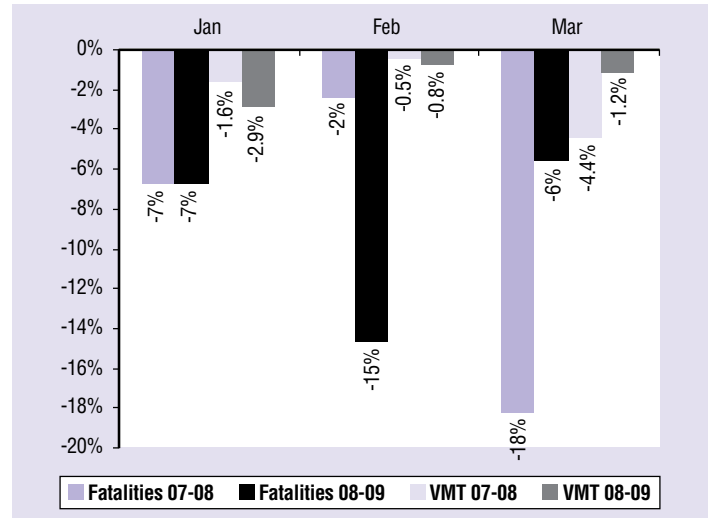
Data:

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 March 2009 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.