



# Early Estimate of Motor Vehicle Traffic Fatalities for The First Three Quarters (January–September) of 2010

## Summary

A statistical projection of traffic fatalities for the first three quarters of 2010 shows that an estimated 24,460 people died in motor vehicle traffic crashes. This represents a decline of about 4.5 percent as compared to the 25,603 fatalities that occurred in the first three quarters of 2009, as shown in Table 1. In the third quarter of 2010, estimated fatalities increased by 2.5 percent from the fatalities during the third quarter of 2009. This represents the first quarterly increase after 17 consecutive quarters of declines in fatalities as compared to the same quarter

from the previous year, as illustrated by the highlighted percentages in Table 1. Preliminary data reported by the Federal Highway Administration (FHWA) shows that vehicle miles traveled (VMT) in the first nine months of 2010 increased by about 11.1 billion miles, or about a 0.5 percent increase. Also shown in Table 1 are the fatality rates per 100 million VMT, by quarter. The fatality rate for the first nine months of 2010 declined to 1.09 fatalities per 100 million VMT, down from 1.14 fatalities per 100 million VMT in the first nine months of 2009.

**Table 1: Fatalities and Fatality Rate by Quarter, First Nine Months and the Percentage Change From the Corresponding Quarter or First Nine Months in the Previous Year**

Quarter	1st Quarter (Jan–Mar)	2nd Quarter (Apr–Jun)	3rd Quarter (Jul–Sep)	4th Quarter (Oct–Dec)	Total (Full Year)	1st 9 Months (Jan–Sep)
<b>Fatalities and Percentage Change in Fatalities for the Corresponding Period from the Prior Year</b>						
2005	9,239	11,005	11,897	11,369	43,510	32,141
2006	9,558 [+3.5%]	10,942 [-0.6%]	11,395 [-4.2%]	10,813 [-4.9%]	42,708 [-1.8%]	31,895 [-0.8%]
2007	9,354 [-2.1%]	10,611 [-3.0%]	11,056 [-3.0%]	10,238 [-5.3%]	41,259 [-3.4%]	31,021 [-2.7%]
2008	8,459 [-9.6%]	9,435 [-11.1%]	9,947 [-10.0%]	9,582 [-6.4%]	37,423 [-9.3%]	27,841 [-10.3%]
2009	7,539 [-10.9%]	8,970 [-4.9%]	9,094 [-8.6%]	8,205 [-14.4%]	33,808 [-9.7%]	25,603 [-8.0%]
2010†	6,690 [-11.3%]	8,450 [-5.8%]	9,320 [+2.5%]	-	-	24,460 [-4.5%]
<b>Fatality Rate per 100 Million Vehicle Miles of Travel (VMT)</b>						
2005	1.32	1.42	1.54	1.54	1.46	1.43
2006	1.35	1.41	1.47	1.44	1.42	1.41
2007	1.31	1.35	1.41	1.37	1.36	1.36
2008	1.22	1.24	1.32	1.31	1.26	1.26
2009	1.09	1.16	1.17	1.11	1.13	1.14
2010†	0.97	1.08	1.19	-	-	1.09

†2010 Statistical projections and rates based on these projections.

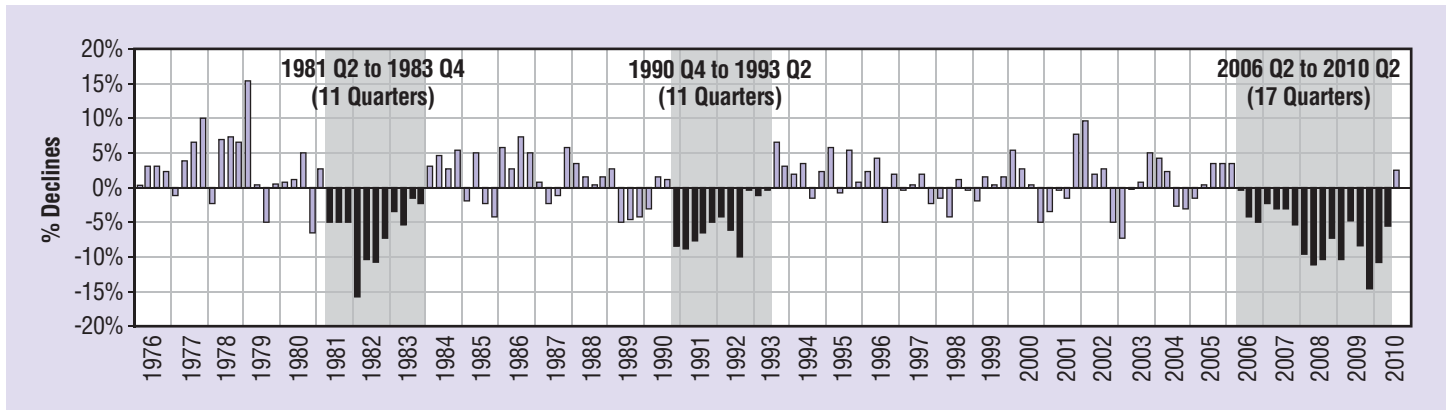
Source: Fatalities: 2005-2008 FARS Final File, 2009 FARS Annual Report File

VMT: FHWA Traffic Volume Trends, September 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**



## 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 fatality 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 2008 and FARS Annual Report file in 2009 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 September

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 2010, 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 three quarters of 2010 is the same as the one used by NHTSA to project the decline in the fatalities for the whole of 2009 as compared to 2008 (*Early Estimate of Motor Vehicle Traffic Fatalities in 2009*, DOT HS 811 291) as well as projections of fatalities for the first half of 2010 (*Early Estimate of Motor Vehicle Traffic Fatalities for the First Half of 2010*, DOT HS 811 403).



U.S. Department  
of Transportation

**National Highway  
Traffic Safety  
Administration**