

# Traffic Safety Facts

## Crash • Stats

DOT HS 811 054

A Brief Statistical Summary

December 2008

# Early Estimate of Motor Vehicle Traffic Fatalities From January to October 2008

### Summary:

A statistical projection of traffic fatalities for the first ten months of 2008 shows a significant decline of about 10 percent as compared to fatalities from the same period in 2007. Preliminary data from the Federal Highway Administration (FHWA) shows that vehicle miles traveled (VMT) declined by 3.5 percent for the first nine months of the year. As shown in Figures 1 and 2, declines in fatalities have been estimated for each month from January through October of 2008 although the extent of the decline each month has fluctuated. While fatalities declined in both January (-7%) and February (-2.5%), the most significant decline was estimated for March (-18%). Declines from April through July ranged around 10 percent before narrowing significantly in August (-1%), possibly due to a large portion of the Labor Day holiday travel period falling in August this year. While the estimate for October shows a decline of about 8 percent, it is subject to a wider statistical uncertainty as, at the time of this note, data were still being reported on crashes that occurred during October. Also shown in Figure 2 are the corresponding month-to-month declines in VMT in 2008 as compared to 2007, as estimated by FHWA. VMT data for October 2008 has not yet been reported by FHWA.

### Data:

The data used in this analysis are from several sources such as the Fatality Analysis Reporting System (FARS), FastFARS, Monthly Fatality Counts (MFC), and Motor Gasoline Consumption (MGC). 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 a person (occupant of a vehicle or a nonoccupant) within 30 days of the crash. FARS final files from January 2003 to December 2006 and FARS Annual Report file in 2007 are used. The FastFARS program is designed as an Early Fatality Notification System to capture fatality counts from States more

Figure 1: Reported Fatalities in 2007 and Projected Fatalities in 2008, January to October

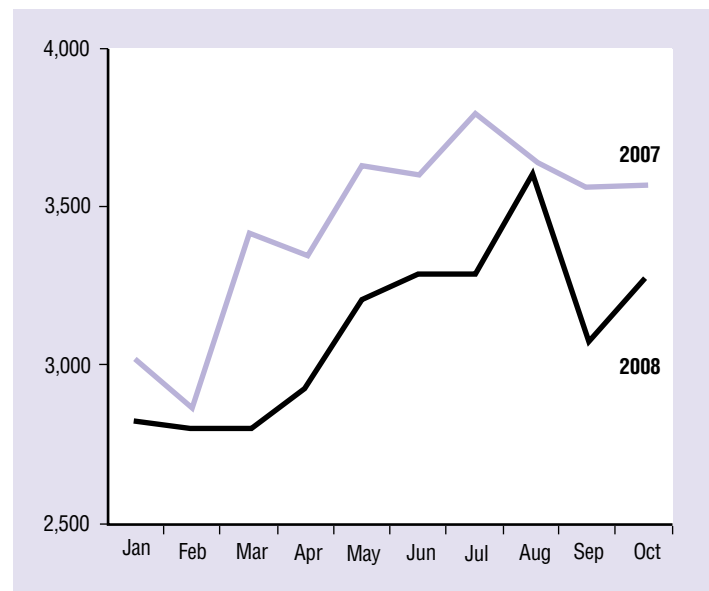
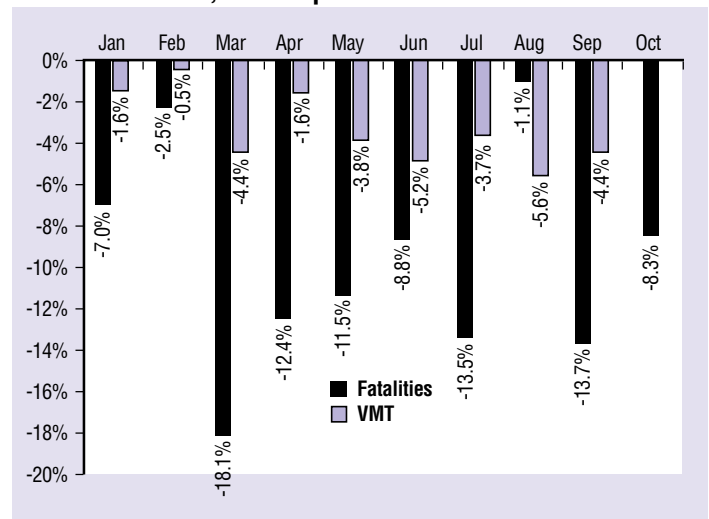


Figure 2: Percentage Change in Projected Traffic Fatalities and VMT in 2008, as Compared to 2007



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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 provide monthly fatality counts by State through sources that are independent from the FastFARS or FARS systems. MFCs from January 2003 up to October 2008 are used. MFCs are reported mid-month for all prior months of the year. The MGC is an estimate of total gasoline that was sold/delivered by the prime supplier (Average Consumption per Day [unit: 1,000 gallons]). This information is provided by the Energy Information Administration for every State and the District of Columbia. The MGCs from January 2003 up to September 2008 are used.

## Methodology:

FastFARS operated in prototype mode in 2006 and 2007 and in production mode in 2008. While the timeliness and accuracy of FastFARS has considerably improved since its in-

Section Regression (TSCSR) was applied to analyze the data with both cross-sectional values (by NHTSA region) and time series. The relationship among FARS, MFC, FastFARS, and MGC was used by including MGC and the adjusted MFC and FastFARS values as predictor variables. In the model, MGC had a statistically insignificant relationship to fatalities and was dropped from the model.

## Results:

The estimates show 31,110 fatalities for the ten-month period from January to October in 2008 as shown in Table 1. August is the month with the highest fatalities (3,612), while March has the lowest fatalities (2,804) during the ten months. When compared to the corresponding months in 2007, the estimates each month reflect a downward trend. While fatalities fell by 2.5 percent in February and 1 percent in August, there were much more significant declines March through July, September, and October. The biggest decline to date in 2008 was

**Table 1: National Estimate of Fatalities and Fatality Rate in 2008 and Its Comparison With Fatality Counts and Rates From FARS in 2007**

Month	Fatalities from FARS in 2007*	Estimate of fatalities in 2008	Difference (08-07) (%)	2007 fatality rate per 100 million VMT	2008 fatality rate per 100 million VMT**
Jan	3,028	2,816	-7.0%	1.31	1.24
Feb	2,876	2,805	-2.5%	1.33	1.30
Mar	3,424	2,804	-18.1%	1.33	1.14
Apr	3,351	2,935	-12.4%	1.34	1.20
May	3,631	3,212	-11.5%	1.37	1.26
June	3,608	3,291	-8.8%	1.38	1.32
July	3,800	3,287	-13.5%	1.44	1.29
Aug	3,653	3,612	-1.1%	1.36	1.42
Sept	3,562	3,075	-13.7%	1.46	1.32
Oct	3,569	3,273	-8.3%	1.38	-
<b>Total</b>	<b>34,502</b>	<b>31,110</b>	<b>-9.8%</b>	<b>1.37</b>	<b>1.28**</b>

\*FARS annual file in 2007 \*\*Based on September 2008 Traffic Volume Trends (TVT) from FHWA

ception in 2006, there still remain under-reporting and other non-response problems in various States. The fatality counts from MFC are updated every month and become stable after a certain time. Similarly, the fatality counts from FastFARS are continuously updated due to real-time notification and stabilize after a certain lag time. However, historically FastFARS and MFC produce marginally different monthly fatality counts from FARS even after they become stable. Also, the difference of FastFARS and MFC from FARS fluctuates over time. To address this issue, NHTSA has developed a statistical procedure that is a combination of adjusting the fatality data reported through FastFARS and MFC and modeling the adjusted data to estimate fatalities. Details of the adjustment procedure and the statistical model will be provided in a companion Research Note. In order to estimate the traffic fatality counts for each month of 2008, Time Series Cross-

an 18-percent decline in March. For the first ten months of 2008 as a whole, fatalities were down an estimated 10 percent from the first ten months of 2007. Also shown in Table 1 are the fatality rates per 100 million VMT, as reported by FHWA. For the first nine months of 2008, the fatality rate was 1.28, as compared to 1.37 for 2007. These rates are subject to change as FHWA revises its VMT estimates and NHTSA revises its estimates of fatalities.

These estimates will continue to be updated monthly as more data is reported to NHTSA and may vary from those provided in this document. The actual monthly traffic fatality counts for 2008 from FARS will be available in the summer of 2009. Also, the confidence intervals around these estimates will be presented in a companion Research Note.