



# Early Estimate of Motor Vehicle Traffic Fatalities for the First 9 Months (Jan–Sep) of 2019

## Summary

A statistical projection of traffic fatalities for the first 9 months of 2019 shows that an estimated 26,730 people died in motor vehicle traffic crashes. This represents a decrease of about 2.2 percent as compared to 27,335 fatalities reported to have occurred in the first 9 months of 2018, as shown in Table 1. The third quarter of 2019 represents the eighth consecutive year-to-year quarterly decline in fatalities since the fourth quarter of 2017, as shown in Table 1. Preliminary data reported by the Federal Highway Administration (FHWA) shows that vehicle miles traveled (VMT) in the first 9 months of 2019 increased

by about 24 billion miles, or about a 1.0-percent increase. Also shown in Table 1 are the fatality rates per 100 million VMT, by quarter. The fatality rate for the first 9 months of 2019 decreased to 1.10 fatalities per 100 million VMT, down from the 1.13 fatalities per 100 million VMT in the first 9 months of 2018. The actual counts for 2018 and 2019 and the ensuing percentage change from 2018 to 2019 will be further revised as the final FARS files for 2018 are available next year. These estimates may be further refined when the projections for the whole of 2019 are released in late March 2020.

**Table 1: Fatalities and Fatality Rate by Quarter, First 9 Months, and the Percentage Change From the Corresponding Quarter or First 9 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 Nine Months (Jan–Sep)
<b>Fatalities and Percentage Change in Fatalities for the Corresponding Quarter From the Prior Year</b>						
2007	9,354	10,611	11,056	10,238	41,259	31,021
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	7,552 [-10.7%]	8,975 [-4.9%]	9,104 [-8.5%]	8,252 [-13.9%]	33,883 [-9.5%]	25,631 [-7.9%]
2010	6,755 [-10.6%]	8,522 [-5.0%]	9,226 [-1.3%]	8,496 [+3.0%]	32,999 [-2.6%]	24,503 [-4.4%]
2011	6,726 [-0.4%]	8,227 [-3.5%]	8,984 [-2.6%]	8,542 [+0.5%]	32,479 [-1.6%]	23,937 [-2.3%]
2012	7,521 [+11.8%]	8,612 [+4.7%]	9,171 [+2.1%]	8,478 [-0.7%]	33,782 [+4.0%]	25,304 [+5.7%]
2013	7,166 [-4.7%]	8,207 [-4.7%]	9,024 [-1.6%]	8,496 [+0.2%]	32,893 [-2.6%]	24,397 [-3.6%]
2014	6,856 [-4.3%]	8,179 [-0.3%]	8,799 [-2.5%]	8,910 [+4.9%]	32,744 [-0.5%]	23,834 [-2.3%]
2015	7,370 [+7.5%]	8,823 [+7.9%]	9,805 [+11.4%]	9,486 [+6.5%]	35,484 [+8.4%]	25,998 [+9.1%]
2016	8,154 [+10.6%]	9,563 [+8.4%]	10,078 [+2.8%]	10,011 [+5.5%]	37,806 [+6.5%]	27,795 [+6.9%]
2017	8,301 [+1.8%]	9,460 [-1.1%]	10,081 [+0.0%]	9,631 [-3.8%]	37,473 [-0.9%]	27,842 [-0.5%]
2018	8,189 [-1.3%]	9,290 [-1.8%]	9,856 [-2.2%]	9,225 [-4.2%]	36,560 [-2.4%]	27,335 [-2.0%]
2019 <sup>f</sup>	7,830 [-4.4%]	9,150 [-1.5%]	9,750 [-1.1%]	—	—	26,730 [-2.2%]
<b>Fatality Rate per 100 Million Vehicle Miles Traveled</b>						
2007	1.31	1.35	1.41	1.37	1.36	1.36
2008	1.22	1.25	1.33	1.32	1.26	1.26
2009	1.09	1.16	1.17	1.12	1.15	1.14
2010	0.98	1.09	1.18	1.14	1.11	1.09
2011	0.98	1.09	1.18	1.17	1.10	1.09
2012	1.08	1.12	1.21	1.16	1.14	1.14
2013	1.04	1.07	1.17	1.15	1.10	1.09
2014	0.99	1.03	1.11	1.17	1.08	1.05
2015	1.03	1.08	1.20	1.21	1.15	1.11
2016	1.11	1.16	1.23	1.27	1.19	1.17
2017	1.12	1.13	1.21	1.20	1.17	1.16
2018	1.11	1.11	1.18	1.14	1.13	1.13
2019 <sup>f</sup>	1.06	1.08	1.15	—	—	1.10

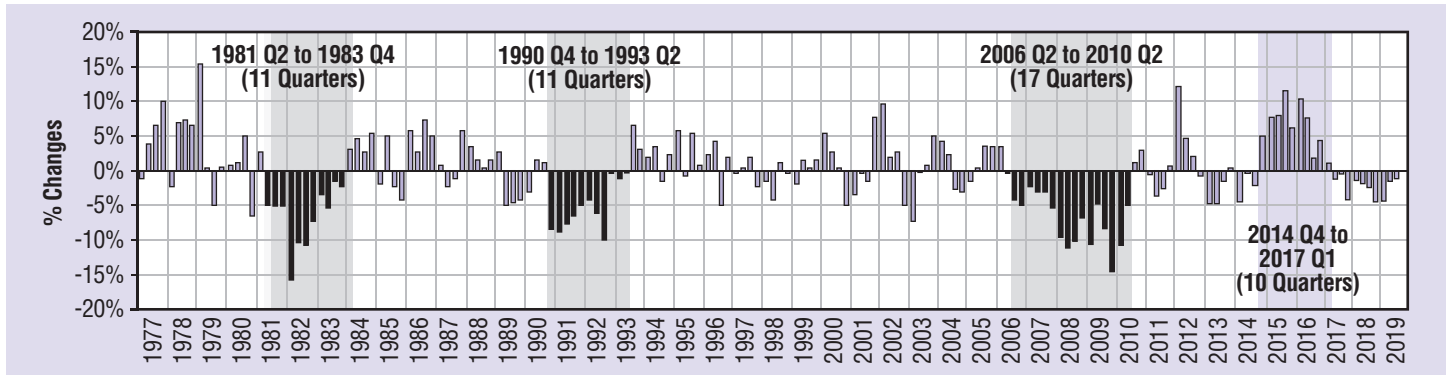
<sup>f</sup>2019 Statistical projections and rates based on these projections. VMT: FHWA September 2019 Traffic Volume Trends for 2018 & 2019 VMT.

Source: Fatalities, 2007–2017 FARS Final File, 2018 FARS Annual Report File.

Figure 1 shows the historical trend of the percentage change every quarter from the same quarter in the previous year, going back to 1977. NHTSA has fatality data going back to 1975, and the shading in the chart depicts the years during which there were significant numbers of consecutive quarters with increases/declines as compared to the corresponding quarters of the previous years. The declines during the early

1980s and 1990s lasted 11 consecutive quarters, while the most recent decline occurred over 17 consecutive quarters ending in the second quarter of 2010. Also, more recently, a significant increase in fatalities occurred over 10 consecutive quarters ending after the first quarter of 2017.

**Figure 1: Percentage Change in Fatalities in Every Quarter as Compared to the Fatalities in the Same Quarter During the Previous Year**



## Discussion

NHTSA is continuing to gather and finalize data on crash fatalities for 2018 and 2019 using information from police crash reports and other sources. It is too soon to speculate on the contributing factors or potential implications of any changes in deaths on our roadways. The final data for 2018 as well as the annual file for 2019 will be available in late fall of 2020, which usually results in the revision of fatality totals and the ensuing rates and percentage changes. NHTSA has reported that the fatalities increased in 2018 compared to 2017 in the following categories: large-truck occupants, pedestrians, and pedalcyclist fatalities (*2018 Fatal Motor Vehicle Crashes: Overview*, Report No. DOT HS 812 826).

From 2012 to 2014, since recording a significant increase of 11.8 percent during the first quarter of 2012, the magnitude of the increases steadily declined during each subsequent quarter. Fatalities are reported to have increased by about 4.7 percent in the second quarter and by about 2.1 percent in the third quarter of 2012. Subsequently, beginning with the fourth quarter of 2012, fatalities have declined in 7 out of 8 quarters (2013 Q4 was a slight increase) until the 4.9-percent increase reported for the fourth quarter of 2014. Fatalities increased 10 consecutive quarters beginning with the fourth quarter of 2014, until the 1.1-percent decline seen in the second quarter of 2017. The fatalities and the fatality rates for the fourth quarter of 2017 are lower than those for the corresponding quarter in 2016. In addition, both fatalities and the fatality rate in 4 quarters of 2018 are reported to have decreased as compared to four corresponding quarters of 2017. The third quarter of 2019 represents the eighth consecutive quarter with year-to-year decreases in fatalities and the fatality rate since the fourth quarter of 2017.



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## 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 2017 and FARS Annual Report file in 2018 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 October 2019 are used. MFCs are reported mid-month for all prior months of the year. In order to estimate the traffic fatality counts for 2019, time series cross-section regression 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 2019 is the same as the one used by NHTSA to project the decrease in the fatalities for the whole of 2018 (*Early Estimates of Motor Vehicle Traffic Fatalities in 2018*, Report No. DOT HS 812 749).

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