



# Early Estimate of Motor Vehicle Traffic Fatalities for the First Quarter of 2019

## Summary

A statistical projection of traffic fatalities for the first quarter of 2019 shows that an estimated 8,110 people died in motor vehicle traffic crashes. This represents a decrease of about 1.1 percent as compared to 8,200 fatalities that were projected to have occurred in the first quarter of 2018, as shown in Table 1. Preliminary data reported by the Federal Highway Administration (FHWA) shows that vehicle miles traveled (VMT) in the first 3 months of 2019 increased by about 3.6 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 quarter of 2019 decreased to 1.09 fatalities per 100

million VMT, down from the projected rate of 1.11 fatalities per 100 million VMT in the first quarter of 2018. The first quarter of 2019 represents the eighth consecutive quarter with year-to-year decreases in fatalities and the fatality rate. The actual counts for 2018 and 2019 and the ensuing percentage change from 2018 to 2019 will be further revised as the annual reporting FARS files for 2018 are available later this year, as well as when the final file for 2018 and the annual reporting file for 2019 are available next year. These estimates will be further refined when the projections for the first 6 months of 2019 are released in late September.

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

Quarter	1st Quarter (Jan–Mar)	2nd Quarter (Apr–Jun)	3rd Quarter (Jul–Sep)	4th Quarter (Oct–Dec)	Total (Full Year)
<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
2008	8,459 [-9.6%]	9,435 [-11.1%]	9,947 [-10.0%]	9,582 [-6.4%]	37,423 [-9.3%]
2009	7,552 [-10.7%]	8,975 [-4.9%]	9,104 [-8.5%]	8,252 [-13.9%]	33,883 [-9.5%]
2010	6,755 [-10.6%]	8,522 [-5.0%]	9,226 [+1.3%]	8,496 [+3.0%]	32,999 [-2.6%]
2011	6,726 [-0.4%]	8,227 [-3.5%]	8,984 [-2.6%]	8,542 [+0.5%]	32,479 [-1.6%]
2012	7,521 [+11.8%]	8,612 [+4.7%]	9,171 [+2.1%]	8,478 [-0.7%]	33,782 [+4.0%]
2013	7,166 [-4.7%]	8,207 [-4.7%]	9,024 [-1.6%]	8,496 [+0.2%]	32,893 [-2.6%]
2014	6,856 [-4.3%]	8,179 [-0.3%]	8,799 [-2.5%]	8,910 [+4.9%]	32,744 [-0.5%]
2015	7,370 [+7.5%]	8,823 [+7.9%]	9,805 [+11.4%]	9,486 [+6.5%]	35,484 [+8.4%]
2016	8,154 [+10.6%]	9,563 [+8.4%]	10,078 [+2.8%]	10,011 [+5.5%]	37,806 [+6.5%]
2017	8,272 [+1.4%]	9,392 [+1.8%]	9,999 [+0.8%]	9,470 [-5.4%]	37,133 [-1.8%]
2018 <sup>f</sup>	8,200 [-0.9%]	9,350 [-0.4%]	9,900 [-1.0%]	9,300 [-1.8%]	36,750 [-1.0%]
2019 <sup>f</sup>	8,110 [-1.1%]	—	—	—	—
<b>Fatality Rate per 100 Million Vehicle Miles Traveled</b>					
2007	1.31	1.35	1.41	1.37	1.36
2008	1.22	1.25	1.33	1.32	1.26
2009	1.09	1.16	1.17	1.12	1.15
2010	0.98	1.09	1.18	1.14	1.11
2011	0.98	1.09	1.18	1.17	1.10
2012	1.08	1.12	1.21	1.16	1.14
2013	1.04	1.07	1.17	1.15	1.10
2014	0.99	1.03	1.11	1.17	1.08
2015	1.03	1.08	1.20	1.21	1.15
2016	1.11	1.16	1.23	1.27	1.19
2017	1.12	1.12	1.20	1.18	1.16
2018 <sup>f</sup>	1.11	1.12	1.18	1.15	1.14
2019 <sup>f</sup>	1.09	—	—	—	—

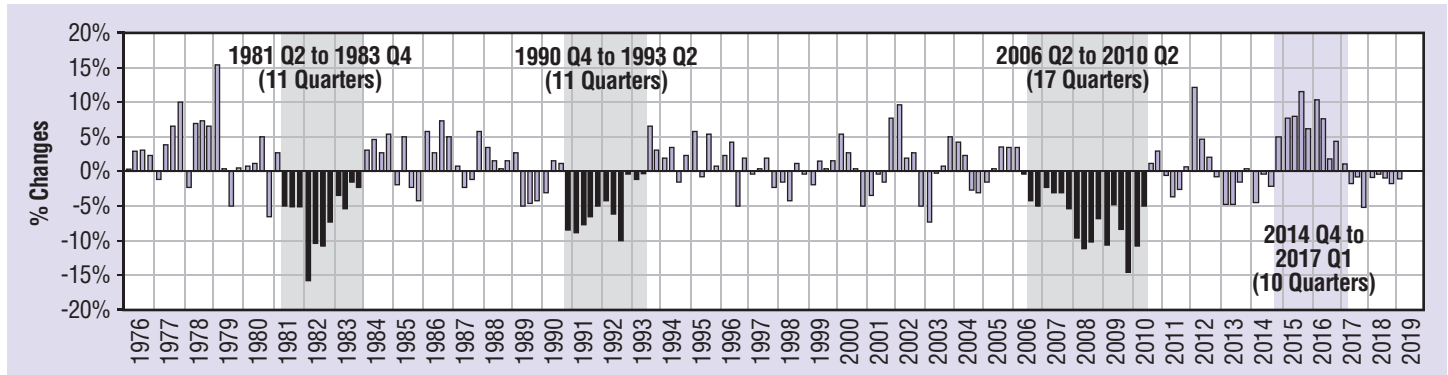
<sup>f</sup>2018 and 2019 Statistical projections and rates based on these projections. VMT: FHWA March 2019 Traffic Volume Trends for 2018 & 2019 VMT.

Source: Fatalities, 2005–2016 FARS Final File, 2017 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 number 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, the 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

The National Highway Traffic Safety Administration is continuing to gather and finalize data on crash fatalities for 2017 and 2018 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 2017 as well as the annual file for 2018 will be available in late fall of 2019 that usually results in the revision of fatality totals and the ensuing rates and percentage changes. NHTSA has reported that the significant increase in fatalities in 2016 was primarily driven by increases in pedestrian, motorcyclist, and pedalcyclist fatalities (*2016 Fatal Motor Vehicle Crashes: Overview*, Report No. DOT HS 812 456).

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 seven out of eight 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 1.8-percent decline seen in the second quarter of 2017. The fatalities and the fatality rates for the second, third and fourth quarters of 2017 are lower than those for the corresponding quarters in 2016. In addition, both fatalities and the fatality rate in four quarters of 2018 are projected to have decreased as compared to four corresponding quarters of 2017. The first quarter of 2019 represents the eighth consecutive quarter with year-to-year decreases in fatalities and the fatality rate.



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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 2016 and FARS Annual Report file in 2017 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 March 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).

Suggested APA format citation for this document:

National Center for Statistics and Analysis. (2019, August). *Early Estimate of Motor Vehicle Traffic Fatalities for the First Quarter of 2019* (Crash•Stats Brief Statistical Summary. Report No. DOT HS 812 783). Washington, DC: National Highway Traffic Safety Administration.

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