



Early Estimate of Motor Vehicle Traffic Fatalities for the First Half (Jan–Jun) of 2020

Summary

A statistical projection of traffic fatalities for the first half of 2020 shows that an estimated 16,650 people died in motor vehicle traffic crashes. This represents a decrease of 2 percent as compared to the 16,988 fatalities reported to have occurred in the first half of 2019, as shown in Table 1. Preliminary data reported by the Federal Highway Administration (FHWA) shows that vehicle miles traveled (VMT) in the first 6 months of 2020 decreased by about 264.2 billion miles, or about a 16.6-percent decrease. Also shown in Table 1 are the fatality

rates per 100 million VMT, by quarter. The fatality rate for the first half of 2020 increased to 1.25 fatalities per 100 million VMT, up from the 1.06 fatalities per 100 million VMT in the first half of 2019. The counts for 2019 and 2020 and the ensuing percentage change from 2019 to 2020 will be further revised as the final FARS files for 2019 and the annual reporting file for 2020 are available next year. These estimates will be further refined when the projections for the first 9 months of 2020 are released in late December.

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)	1st Half (Jan–Jun)
Fatalities and Percentage Change in Fatalities for the Corresponding Quarter From the Prior Year						
2008	8,459 [-9.6%]	9,435 [-11.1%]	9,947 [-10.0%]	9,582 [-6.4%]	37,423 [-9.3%]	17,894 [-10.4%]
2009	7,552 [-10.7%]	8,975 [-4.9%]	9,104 [-8.5%]	8,252 [-13.9%]	33,883 [-9.5%]	16,527 [-7.6%]
2010	6,755 [-10.6%]	8,522 [-5.0%]	9,226 [+1.3%]	8,496 [+3.0%]	32,999 [-2.6%]	15,277 [-7.6%]
2011	6,726 [-0.4%]	8,227 [-3.5%]	8,984 [-2.6%]	8,542 [+0.5%]	32,479 [-1.6%]	14,953 [-2.1%]
2012	7,521 [+11.8%]	8,612 [+4.7%]	9,171 [+2.1%]	8,478 [-0.7%]	33,782 [+4.0%]	16,133 [+7.9%]
2013	7,166 [-4.7%]	8,207 [-4.7%]	9,024 [-1.6%]	8,496 [+0.2%]	32,893 [-2.6%]	15,373 [-4.7%]
2014	6,856 [-4.3%]	8,179 [-0.3%]	8,799 [-2.5%]	8,910 [+4.9%]	32,744 [-0.5%]	15,035 [-2.2%]
2015	7,370 [+7.5%]	8,823 [+7.9%]	9,805 [+11.4%]	9,486 [+6.5%]	35,484 [+8.4%]	16,193 [+7.7%]
2016	8,154 [+10.6%]	9,563 [+8.4%]	10,078 [+2.8%]	10,011 [+5.5%]	37,806 [+6.5%]	17,717 [+9.4%]
2017	8,301 [+1.8%]	9,460 [-1.1%]	10,081 [+0.0%]	9,631 [-3.8%]	37,473 [-0.9%]	17,761 [+0.2%]
2018	8,203 [-1.2%]	9,323 [-1.4%]	9,934 [-1.5%]	9,375 [-2.7%]	36,835 [-1.7%]	17,526 [-1.3%]
2019	7,816 [-4.7%]	9,172 [-1.6%]	9,953 [+0.2%]	9,155 [-2.3%]	36,096 [-2.0%]	16,988 [-3.1%]
2020*	7,780 [-0.5%]	8,870 [-3.3%]	—	—	—	16,650 [-2.0%]
Fatality Rate per 100 Million Vehicle Miles Traveled (VMT)						
2008	1.22	1.25	1.33	1.32	1.26	1.23
2009	1.09	1.16	1.17	1.12	1.15	1.13
2010	0.98	1.09	1.18	1.14	1.11	1.04
2011	0.98	1.09	1.18	1.17	1.10	1.04
2012	1.08	1.12	1.21	1.16	1.14	1.10
2013	1.04	1.07	1.17	1.15	1.10	1.05
2014	0.99	1.03	1.11	1.17	1.08	1.01
2015	1.03	1.08	1.20	1.21	1.15	1.06
2016	1.11	1.16	1.23	1.27	1.19	1.14
2017	1.12	1.13	1.21	1.20	1.17	1.13
2018	1.10	1.11	1.18	1.15	1.14	1.11
2019	1.05	1.08	1.16	1.12	1.10	1.06
2020*	1.10	1.42	—	—	—	1.25

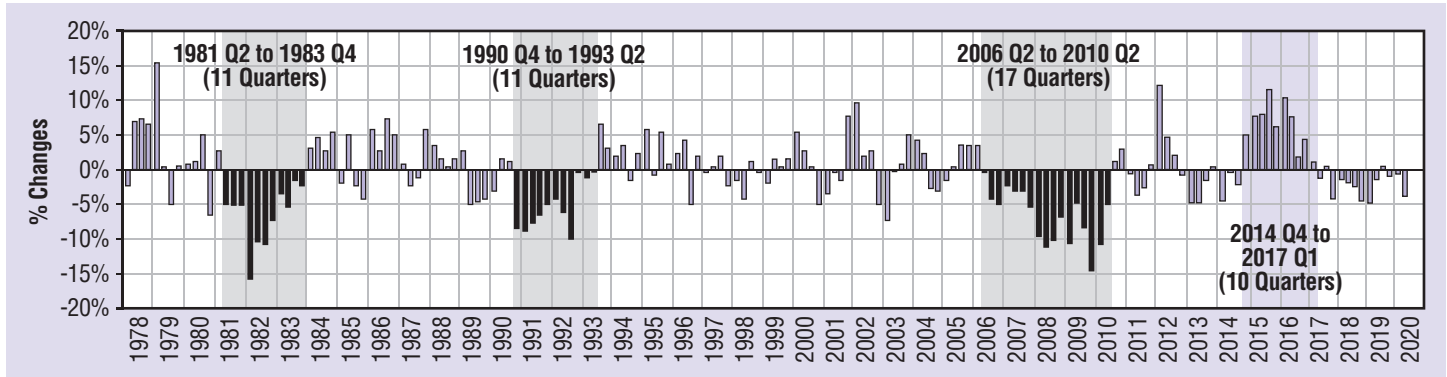
*2020 Statistical projections and rates based on these projections.
VMT: FHWA June 2020 Traffic Volume Trends for 2019 & 2020 VMT.

Source: Fatalities, 2008–2018 FARS Final File, 2019 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 1978 (NHTSA has fatality data since 1975). The shading in the chart depicts the years during which there was a 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



To examine the effect of the COVID-19 pandemic, the quarterly projections of fatalities, fatality rates and VMT are further split into the respective monthly estimates for 2019 and 2020. The stay-at-home orders started in mid-March 2020, followed by the first full month of stay-at-home measures that were in effect during April. During the month of May, some States began to reopen in some way while almost all States reopened in June. Table 2 shows that fatalities are

projected to decrease in April and May, but increase in June. The fatality rate per 100 million VMT shows an increase during April, May and June of 2020 as compared to the corresponding month in 2019. The historical drop in VMT due to the COVID-19 pandemic stay-at-home orders relates to the increase in the fatality rate despite the overall decrease in fatalities during Q2 2020.

Table 2: Fatalities, VMT, Fatality Rate by Month or Quarter in 2020, and the Percentage Change in Fatalities From the Corresponding Month or Quarter in 2019

Year	1st Quarter				2nd Quarter				3rd Quarter				4th Quarter			
	Jan	Feb*	Mar	Total	Apr	May	Jun	Total	Jul	Aug	Sep	Total	Oct	Nov	Dec	Total
Fatalities in 2020 and Percentage Change in Fatalities for the Corresponding Month and Quarter From the 2019																
2019	2,664	2,388	2,764	7,816	2,817	3,166	3,189	9,172	3,294	3,351	3,308	9,953	3,197	3,050	2,908	9,155
2020†	2,650 -0.5%	2,600 8.9%	2,530 -8.5%	7,780 -0.5%	2,250 -20%	3,030 -4.3%	3,590 13%	8,870 -3.3%	—	—	—	—	—	—	—	—
Fatality Rate per 100 Million Vehicle Miles Traveled (VMT)/VMT (in Billion)**																
2019	1.07 248.3	1.05 226.7	1.02 271.5	1.05 746.5	1.00 281.5	1.11 286.1	1.13 281.2	1.08 848.8	1.11 295.7	1.17 287.0	1.22 272.2	1.16 854.9	1.13 284.1	1.17 260.6	1.06 274.2	1.12 818.9
2020†	1.04 253.7	1.12 231.8	1.15 220.1	1.10 705.6	1.34 168.3	1.43 212.6	1.47 244.7	1.42 625.6	—	—	—	—	—	—	—	—

Source: 2019 FARS Annual Report File.

† 2020 Statistical projections and rates based on these projections.

*February 29, 2020, was a leap day.

**VMT: FHWA June 2020 Traffic Volume Trends for 2019 & 2020 VMT.

Discussion

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 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 second quarter of 2019 represents the seventh consecutive quarter with year-to-year decreases in fatalities since the fourth quarter

of 2017. The fourth quarter of 2019 represents the eleventh consecutive quarter with year-to-year decreases in fatality rate since the second quarter of 2017. The fatality rate shows an increased trend from March to June 2020 primarily due to the impact of COVID-19 pandemic stay-at-home measures in place across the Nation.

The National Highway Traffic Safety Administration is continuing to gather and finalize data on crash fatalities for 2019 and 2020 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 file for 2019 as well as the annual report file for 2020 will be available in late fall of 2021, and usually results in the revision of fatality totals and the ensuing rates and percentage changes.

Data and Method

The data used in this analysis comes from several sources: NHTSA's Fatality Analysis Reporting System (FARS), FastFARS (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 (an occupant of a vehicle or a nonoccupant) within 30 days of the crash. FARS final files from January 2003 to December 2018 and the FARS Annual Report

file in 2019 are used. The FF program is designed as an Early Fatality Notification System to capture fatality counts from States more rapidly and 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 June 2020 are used. MFCs are reported mid-month for all prior months of the year. In order to estimate the traffic fatality counts for 2020, 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 Research Note (*Statistical Methodology to Make Early Estimates of Motor Vehicle Traffic Fatalities*, Report No. DOT HS 811 123). The methodology used to generate the estimates for 2020 is the same as the one used by NHTSA to project the decrease in the fatalities for the whole of 2019 (*Early Estimates of Motor Vehicle Traffic Fatalities in 2019*, Report No. DOT HS 812 946).

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For questions regarding the information presented in this document, please contact NCSArequests@dot.gov. Internet users may access this Crash•Stats and other general information on traffic safety at crashstats.nhtsa.dot.gov/#/.



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