



Motor Vehicle Traffic Crashes as a Leading Cause of Death in the United States, 2010 and 2011

Summary

In 2011, for the third year in a row, motor vehicle traffic crashes were not among the top 10 causes of death in the United States. Motor vehicle crashes were the 12th leading cause of death during 2011 as compared to their rank as the 11th leading cause of death in 2010.

When ranked by age, motor vehicle traffic crashes were the number one cause of death in 2011 among people ages 8, 13, 14 and every age 16 through 25. In contrast, motor vehicle traffic crashes were the number one leading cause of death for people ages 13 through 25 in 2010. This continued drop in the rank of motor vehicle traffic crashes as a leading cause of death is attributed to a significant (25%) decline in motor vehicle traffic fatalities over the period 2005 to 2011. Nevertheless, despite this drop, motor vehicle traffic crashes continue to be among the top 10 leading causes of death among the younger age groups.

Assessing by another measure—the years of life lost, i.e., the number of years people would have lived had they not died, motor vehicle traffic crashes ranked 7th in 2011 as compared to 6th in 2010. This reflects the toll of motor vehicle traffic crashes on the younger population.

Background

The National Center for Health Statistics (NCHS), a division of the Centers for Disease Control and Prevention (CDC), publishes detailed tabulations of the leading causes of death in its annual report on mortality. In these tabulations, the fatalities due to motor vehicle traffic crashes are included in the general category of Unintentional Injuries, even though such fatalities comprise a significant proportion of all fatalities, especially among younger population. To highlight the contribution of motor vehicle crashes in causing fatalities, NHTSA considers them as a separate cause of death while ranking the leading causes of death.

This Research Note examines the status of motor vehicle crashes as a leading cause of death in the United States in 2010 and 2011. The objective is to update the relevant statistics reported in an earlier research note (Report No. DOT HS 811 620) that was based on the mortality data for 2008 and 2009. The ranking is based on 68 causes of death adopted by NHTSA's National Center for Statistics and Analysis (NCSA) for the purpose of ranking the leading causes of death.

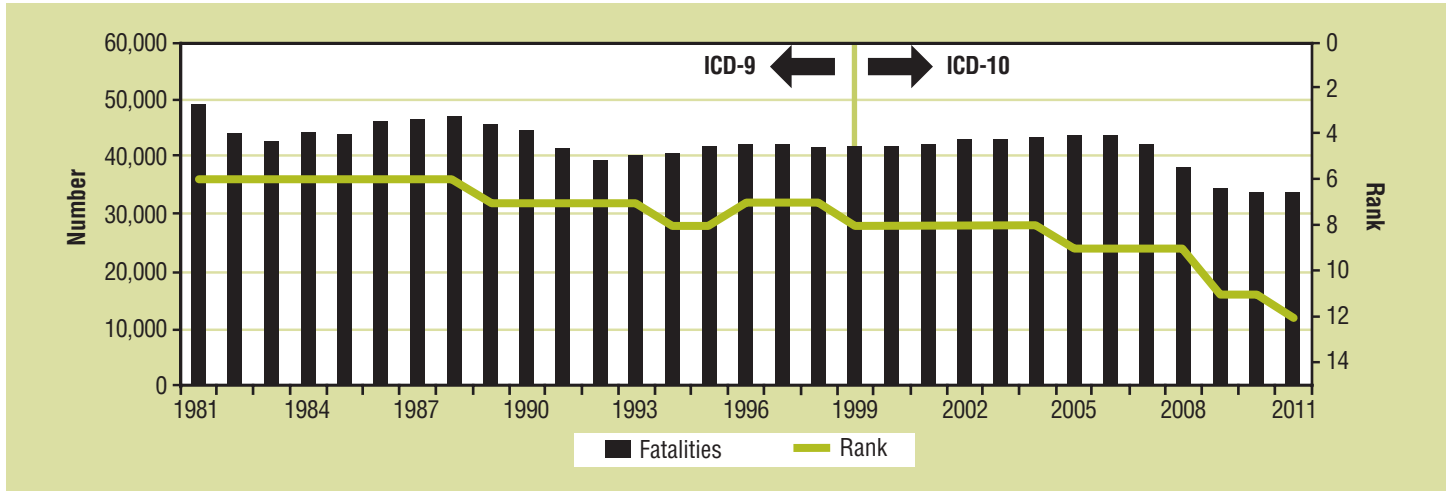
In order to highlight the tremendous toll that motor vehicle traffic crashes take on the younger population, NCSA also included the ranking based on the years of life lost, i.e., the number of years a person would have lived had he/she not died. Accordingly, this study found that while motor vehicle traffic crashes ranked 12th overall as a cause of death in 2011, they were ranked as high as 7th in terms of the years of life lost. Similarly, in 2010, motor vehicle traffic crashes ranked 11th overall as a cause of death and 6th in terms of the years of life lost. These ranks follow the ranking of other major causes of death such as cancer, heart diseases, chronic lower respiratory diseases, stroke, accidental poisoning and suicide.

Trends

Figure 1 shows the trend in the number of fatalities as well as the rank of motor vehicle traffic crashes as a cause of death from 1981 to 2011.

The CDC maintain a data and statistics Web portal called WISQARS (Web-based Injury Statistics Query and Reporting System) that presents the leading causes of fatal injury in the United States going back to 1982. The rank order for some of the earlier years shown in Figure 1 was excerpted from the WISQARS Web site (www.cdc.gov/injury/wisqars/index.html).

Figure 1
Number and Rank of Motor Vehicle Traffic Crashes as a Cause of Death in the United States, 1981–2011*



*Please refer to the *Methodology* section in this note about making year-to-year comparisons of ranking.

Leading Cause of Death by Gender and Age

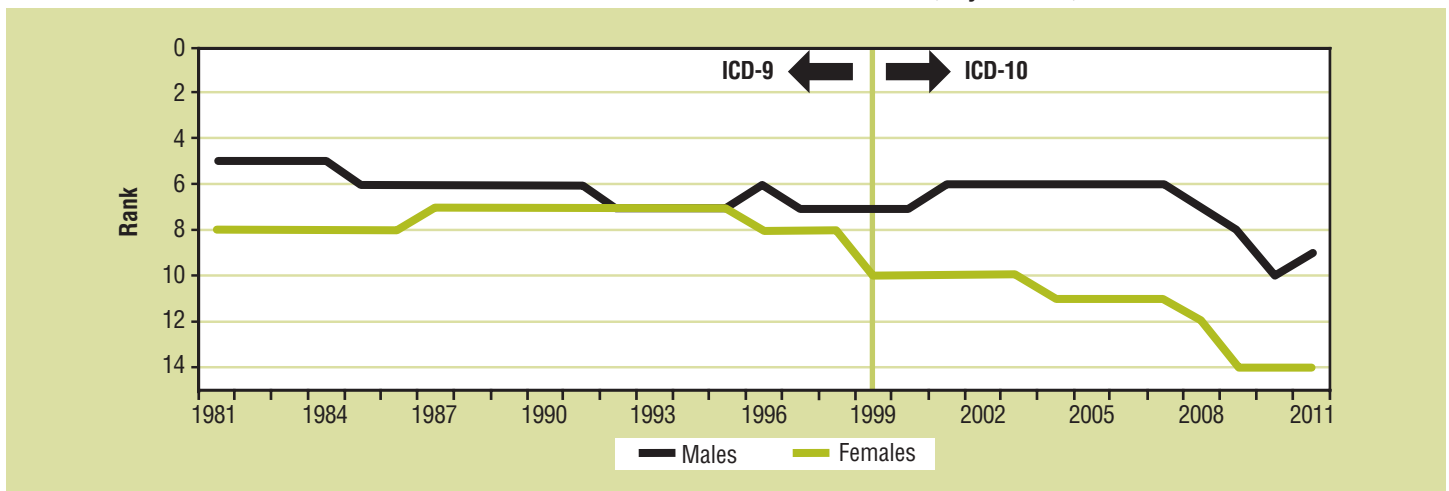
Figure 2 shows the trend of the rank of motor vehicle traffic crashes as a leading cause of death by gender. The rank of motor vehicle traffic crashes as a leading cause of death differed significantly between males and females. In 2011, while ranked 12th overall, motor vehicle traffic crashes were ranked 9th among males and 14th among females as a cause of death. In 2010, while ranked 11th overall, motor vehicle traffic crashes were ranked 10th among males and 14th among females as a cause of death.

When ranked by specific ages, in 2011 motor vehicle traffic crashes were the leading cause of death among males for each age 4, 7, 8, 12, 14, and 16 to 25. Among females, motor

vehicle traffic crashes were the leading cause of death for each age 8 and 13 to 25. The age groups used in the ranking done in this research note reflect categories of interest to NHTSA in terms of child-restraint programs (toddlers, infants, and young children), new drivers (youth and young adults), other adults, and older people.

When ranked by specific ages, in 2010 motor vehicle traffic crashes were the leading cause of death among males for each age 8, 10 15 through 25, and 27. Among females, motor vehicle traffic crashes were the leading cause of death for each age 13 through 26.

Figure 2
Rank of Motor Vehicle Traffic Crashes as a Cause of Death in the United States, By Gender, 1981–2011*



*Please refer to the *Methodology* section in this note about making year-to-year comparisons of ranking.

Methodology

Years of Life Lost: This is the number of years that the person would have lived had he/she not died. The number of years of life lost due to a particular cause is the aggregate of years of life lost for all people who died due to that cause. The expected number of years of the remaining life of a person is calculated using standard tables of life expectancy by age (Revised Life table for the total population: United States, 2009, NCHS).

The NCSA-adopted listing of 68 causes of death is comprehensive in that all underlying causes are represented. Fifty-one of these 68 adopted causes reflect the underlying causes based on **internal** morbid bodily conditions, while 16 NCSA-adopted causes reflect the underlying causes based on **external** factors such as crashes and acts of violence, and the remaining one cause reflects all other diseases. This 68-cause listing is not an arbitrary listing, but is generally in close agreement with a special listing of death causes used by the NCHS to report statistics on the leading causes of death in the United States. The latter differs from the NCSA listing primarily in causal areas related to unintentional injuries (accidental death). While NCHS uses the combined cause of *unintentional injuries* in its reports of leading causes of death, this study separates out the various causes that comprise unintentional injuries like fatalities in motor vehicle traffic crashes, accidental falls, accidental poisoning, motor vehicle non-traffic crashes, etc. Accordingly, the rankings of some causes of death will differ from those

reported by NCHS. The NCSA-adopted cause listing also differs from the NCHS listing in terms of causes of infant mortality. While NCHS, for reasons of public health interest, uses a detailed 130-cause listing, the NCSA list combines those 130 causes into one major cause – conditions originating in the *perinatal period*. Also, the fatality totals for motor vehicle traffic crashes differ marginally from those reported by NHTSA due to definitional differences.

The table on page 4 shows the top 10 leading causes of death by age group in 2010 while the table on page 5 shows the ranking in 2011.

Year-to-Year Comparisons: The coding of mortality data changed significantly in 1999, so comparisons of the number of deaths and death rates from 1998 and before with data from 1999 and after may not be advisable. Also, cause-of-injury groupings were updated in 2003, which may affect some WISQARS mortality reports. Since the 1999, mortality data has been coded using the *International Classification of Disease-10th Revision (ICD-10)*. Mechanism and cause of injury are based on ICD-10 external cause of injury codes.

The trend of rankings presented in Figures 1 and 2 should be viewed in the context of the coding changes and categorizations of causes of death over the times periods outlined above.

Suggested APA format citation:

Liu, Y., Singh, S., & Subramanian, R. (2015, October). Motor vehicle traffic crashes as a leading cause of death in the United States, 2010 and 2011. (Traffic Safety Facts Research Note. Report No. DOT HS 812 203). Washington, DC: National Highway Traffic Safety Administration.

This research note and other general information on highway traffic safety may be accessed by Internet users at: www-nrd.nhtsa.dot.gov/CATS/index.aspx



U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**



Top 10 Leading Causes of Death in the United States in 2010, by Age Group¹

National Highway Traffic Safety Administration's National Center for Statistics and Analysis

RANK	Cause and Number of Deaths											Years of Life Lost ²
	Infants Under 1	Toddlers 1-3	Young Children 4-7	Children 8-15	Youth 16-20	Young Adults 21-24	Other Adults			Elderly 65+	All Ages	
							25-34	35-44	45-64			
1	Perinatal Period 12,008	Congenital Anomalies 453	Malignant Neoplasms 356	MV Traffic Crashes 800	MV Traffic Crashes 3,490	MV Traffic Crashes 3,327	Accidental Poisoning 6,767	Malignant Neoplasms 11,809	Malignant Neoplasms 159,712	Heart Disease 477,339	Heart Disease 597,689	Malignant Neoplasms 24% (9,175,401)
2	Congenital Anomalies 5,107	Accidental Drowning 391	MV Traffic Crashes 286	Malignant Neoplasms 750	Homicide 2,312	Suicide 2,418	Suicide 5,735	Heart Disease 10,594	Heart Disease 104,806	Malignant Neoplasms 396,670	Malignant Neoplasms 574,743	Heart Disease 19% (7,293,961)
3	Heart Disease 329	Homicide 342	Congenital Anomalies 154	Suicide 449	Suicide 2,007	Homicide 2,238	MV Traffic Crashes 5,558	Accidental Poisoning 7,476	CLRD ⁶ 18,694	CLRD ⁶ 118,031	CLRD ⁶ 138,080	CLRD ⁶ 4% (1,660,704)
4	Homicide 311	MV Traffic Crashes 270	Accidental Drowning 136	Homicide 316	Accidental Poisoning 1,107	Accidental Poisoning 2,041	Homicide 4,258	Suicide 6,571	Chronic Liver Disease 18,415	Stroke 109,990	Stroke 129,476	Stroke 4% (1,438,647)
5	Septicemia 215	Malignant Neoplasms 257	Homicide 116	Congenital Anomalies 231	Malignant Neoplasms 690	Malignant Neoplasms 813	Malignant Neoplasms 3,619	MV Traffic Crashes 4,552	Diabetes 17,287	Alzheimer's 82,616	Alzheimer's 83,494	Suicide 4% (1,352,004)
6	Influenza/Pneumonia 192	Heart Disease 143	Exposure to Smoke/Fire 91	Accidental Drowning 202	Heart Disease 421	Heart Disease 564	Heart Disease 3,222	Homicide 2,473	Stroke 16,603	Diabetes 49,191	Diabetes 69,071	MV Traffic Crashes 3% (1,303,208)
7	Stroke 130	Exposure to Smoke/Fire 115	Heart Disease 57	Heart Disease 187	Accidental Drowning 328	Accidental Drowning 286	HIV 741	Chronic Liver Disease 2,423	Suicide 15,183	Influenza/Pneumonia 42,816	Nephritis/Nephrosis 50,476	Accidental Poisoning 3% (1,272,462)
8	Nephritis/Nephrosis 105	MV Nontraffic Crashes⁴ 98	CLRD ⁶ 47	CLRD ⁶ 106	Congenital Anomalies 220	Congenital Anomalies 159	Diabetes 606	Stroke 1,904	Accidental Poisoning 14,113	Nephritis/Nephrosis 41,994	Influenza/Pneumonia 49,871	Diabetes 3% (1,043,475)
9	MV Traffic Crashes 76	Influenza/Pneumonia 79	Benign Neoplasms 41	Exposure to Smoke/Fire 87	MV Nontraffic Crashes⁴ 103	HIV 118	Stroke 517	HIV 1,898	MV Traffic Crashes 9,288	Septicemia 26,310	Suicide 38,364	Perinatal Period 2% (950,296)
10	Malignant Neoplasms 62	Septicemia 56	Stroke 39	MV Nontraffic Crashes⁴ 84	Accidental Falls ⁵ 90	Accidental Falls 117	Chronic Liver Disease 487	Diabetes 1,789	Nephritis/Nephrosis 7,304	Hypertension Renal Disease 22,033	Septicemia 34,812	Homicide 2% (766,164)
ALL³	24,586	3,682	2,061	4,916	13,279	15,208	42,259	70,033	494,009	1,798,282	2,468,435	All Causes 100% (38,018,429)

¹Overall, motor vehicle crashes are the 11th leading cause of death. When ranked by specific ages, they are the leading cause of death for each age 13 through 25.

²Number of years calculated based on remaining life expectancy (2009 data from CDC) at time of death; percentages calculated as a proportion of total years of life lost due to all causes of death.

³Not a total of top 10 causes of death.

⁴A motor vehicle nontraffic crash is any vehicle crash that occurs entirely in any place other than a public highway.

⁵For the age group "youth 16-20", both accidental falls and stroke have the same rank: 10th leading cause of death.

⁶CLRD stands for Chronic Lower Respiratory Disease.

Source: National Center for Health Statistics (NCHS) CDC, Mortality Data 2010.

Note: The cause of death classification is based on the National Center for Statistics and Analysis (NCSA) Revised 68 Cause of Death Listing. This listing differs from the one used by the NCHS for its reports on leading causes of death by separating out unintentional injuries into separate causes of death, i.e., motor vehicle traffic crashes, accidental falls, motor vehicle nontraffic crashes, etc. Accordingly, the rank of some causes of death will differ from those reported by the NCHS. This difference will mostly be observed for minor causes of death in smaller age groupings.



Top 10 Leading Causes of Death in the United States in 2011, by Age Group¹

National Highway Traffic Safety Administration's National Center for Statistics and Analysis

RANK	Cause and Number of Deaths											Years of Life Lost ²
	Infants Under 1	Toddlers 1-3	Young Children 4-7	Children 8-15	Youth 16-20	Young Adults 21-24	Other Adults			Elderly 65+	All Ages	
							25-34	35-44	45-64			
1	Perinatal Period 11,931	Congenital Anomalies 448	Malignant Neoplasms 381	MV Traffic Crashes 785	MV Traffic Crashes 3,424	MV Traffic Crashes 3,300	Accidental Poisoning 7,652	Malignant Neoplasms 11,717	Malignant Neoplasms 161,469	Heart Disease 475,100	Heart Disease 596,577	Malignant Neoplasms 24% (9,188,476)
2	Congenital Anomalies 5,013	Accidental Drowning 380	MV Traffic Crashes 287	Malignant Neoplasms 693	Suicide 2,167	Suicide 2,449	Suicide 6,100	Heart Disease 10,635	Heart Disease 105,842	Malignant Neoplasms 397,107	Malignant Neoplasms 576,691	Heart Disease 19% (7,291,475)
3	Heart Disease 309	Homicide 363	Congenital Anomalies 158	Suicide 492	Homicide 2,154	Accidental Poisoning 2,301	MV Traffic Crashes 5,569	Accidental Poisoning 8,075	CLRD ⁶ 19,678	CLRD ⁶ 121,869	CLRD ⁶ 142,943	CLRD ⁶ 4% (1,714,895)
4	Homicide 290	Malignant Neoplasms 259	Accidental Drowning 151	Homicide 303	Accidental Poisoning 1,109	Homicide 2,300	Homicide 4,185	Suicide 6,599	Chronic Liver Disease 19,613	Stroke 109,323	Stroke 128,932	Stroke 4% (1,429,919)
5	Influenza/Pneumonia 204	MV Traffic Crashes 247	Homicide 129	Congenital Anomalies 281	Malignant Neoplasms 690	Malignant Neoplasms 801	Malignant Neoplasms 3,499	MV Traffic Crashes 4,425	Diabetes 18,700	Alzheimer's 84,032	Alzheimer's 84,974	Accidental Poisoning 4% (1,394,750)
6	Septicemia 178	Heart Disease 138	Exposure to Smoke/Fire 96	Heart Disease 169	Heart Disease 403	Heart Disease 564	Heart Disease 3,301	Homicide 2,519	Stroke 16,910	Diabetes 52,402	Diabetes 73,831	Suicide 4% (1,393,748)
7	Stroke 134	Influenza/Pneumonia 101	Heart Disease 92	Accidental Drowning 163	Accidental Drowning 273	Accidental Drowning 249	Diabetes 686	Chronic Liver Disease 2,449	Accidental Poisoning 15,427	Influenza/Pneumonia 45,363	Influenza/Pneumonia 53,609	MV Traffic Crashes 3% (1,297,257)
8	MV Traffic Crashes 93	Exposure to Smoke/Fire 89	Influenza/Pneumonia 52	CLRD ⁶ 113	Congenital Anomalies 212	Congenital Anomalies 184	HIV 666	Diabetes 1,842	Suicide 15,379	Nephritis/Nephrosis 37,796	Nephritis/Nephrosis 45,591	Diabetes 3% (1,119,576)
9	Nephritis/Nephrosis 76	MV Nontraffic Crashes ⁴ 79	CLRD ⁶ 49	MV Nontraffic Crashes ⁴ 84	Accidental Falls 86	Pregnancy, Child Birth 119	Stroke 530	Stroke 1,718	MV Traffic Crashes 9,424	Septicemia 26,746	Suicide 39,518	Perinatal Period 2% (942,864)
10	Malignant Neoplasms 70	Septicemia 55	MV Nontraffic Crashes ⁴ 37	Influenza/Pneumonia 79	Influenza/Pneumonia ⁵ 81	Influenza/Pneumonia 116	CLRD ⁶ 505	HIV 1,619	Septicemia 7,414	Hypertension Renal Disease 23,272	Accidental Poisoning 36,280	Chronic Liver Disease 2% (761,320)
ALL³	23,985	3,572	2,205	4,885	12,983	15,669	43,748	69,893	506,562	1,831,844	2,515,458	All Causes 100% (38,536,588)

¹Overall, motor vehicle crashes are the 12th leading cause of death. When ranked by specific ages, they are the leading cause of death for each age 8, 13, 14 and 16 through 25.

²Number of years calculated based on remaining life expectancy (2009 data from CDC) at time of death; percentages calculated as a proportion of total years of life lost due to all causes of death.

³Not a total of top 10 causes of death.

⁴A motor vehicle nontraffic crash is any vehicle crash that occurs entirely in any place other than a public traffic way.

⁵For the age group "youth 16-20", influenza/pneumonia and stroke have the same rank: 10th leading cause of death.

⁶CLRD stands for Chronic Lower Respiratory Disease.

Source: National Center for Health Statistics (NCHS) CDC, Mortality Data 2011.

Note: The cause of death classification is based on the National Center for Statistics and Analysis (NCSA) Revised 68 Cause of Death Listing. This listing differs from the one used by the NCHS for its reports on leading causes of death by separating out unintentional injuries into separate causes of death, i.e., motor vehicle traffic crashes, accidental falls, motor vehicle nontraffic crashes, etc. Accordingly, the rank of some causes of death will differ from those reported by the NCHS. This difference will mostly be observed for minor causes of death in smaller age groupings.