



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



# Traffic Safety Facts

## 2022 Data

DOT HS 813 589

July 2024

# Motorcycles

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The following definitions apply to terms in this fact sheet:

- For the purposes of this fact sheet, motorcycles include 2- and 3-wheeled motorcycles, off-road motorcycles, mopeds, motor scooters, minibikes, and pocket bikes.
- The **motorcycle rider** is the person operating the motorcycle; the **passenger** is a person seated on, but not operating, the motorcycle; the **motorcyclist** is a general term referring to either the rider or passenger.
- Drivers or motorcycle riders are considered to be alcohol-impaired when their blood alcohol concentrations (BACs) are .08 grams per deciliter (g/dL) or higher.

## Key Findings

- In 2022 there were 6,218 motorcyclists killed, 15 percent of all traffic fatalities.
- The number of motorcyclist fatalities in 2022 increased by 1 percent from 2021, from 6,143 to 6,218.
- An estimated 82,687 motorcyclists were injured in 2022, a 3-percent decrease from 84,898 motorcyclists injured in 2021.
- Per vehicle miles traveled in 2022, the fatality rate for motorcyclists (26.16) was almost 22 times the passenger car occupant fatality rate (1.20).
- Thirty-five percent of motorcycle riders involved in fatal crashes in 2022 were riding without valid motorcycle licenses.
- In 2022 motorcycle riders involved in fatal crashes had higher percentages of alcohol impairment than drivers of any other motor vehicle type (28% for motorcycles, 25% for passenger cars, 21% for light trucks, and 3% for large trucks).
- Forty-two percent of motorcycle riders who died in single-vehicle crashes in 2022 were alcohol-impaired.
- Motorcycle riders killed in traffic crashes at night were almost three times more frequently found to be alcohol-impaired than those killed during the day (42% and 16%) in 2022.
- In States without universal helmet laws, based on known helmet use, 54 percent of motorcyclists killed in 2022 were not wearing helmets, as compared to 11 percent in States with universal helmet laws.

This fact sheet contains information on fatal motor vehicle traffic crashes based on data from the Fatality Analysis Reporting System (FARS) and non-fatal motor vehicle traffic crashes from the National Automotive Sampling System (NASS) General Estimates System (GES) and Crash Report Sampling System (CRSS). Results from FARS, such as fatal crashes and fatalities, are actual counts, while results from NASS GES and CRSS, such as non-fatal crashes and people injured, are estimates. Refer to the end of this publication for more information on FARS, NASS GES, and CRSS.

Due to a vehicle classification change, the 2020 and later-year vehicle type classifications are not comparable to 2019 and earlier-year vehicle type classifications. This change affects any analysis with a vehicle component to it. Refer to the end of this publication for more information on Product Information Catalog and Vehicle Listing (vPIC).

**Important Change for Motorized Bicycles:** Prior to 2022, motorized bicycles were collected as motor vehicles and classified as motorcycles in FARS and CRSS, and their operators and passengers were captured as motorists. Beginning in 2022, FARS and CRSS are no longer collecting motorized bicycles as motor vehicles. Consequently, operators and passengers of motorized bicycles will be captured as pedalcyclists when involved in a motor vehicle traffic crash. Any traffic crash involving only motorized bicycle(s) will no longer be captured in FARS or CRSS. In 2021, there were 43 traffic fatalities on motorized bicycles reported to FARS, accounting for 0.7 percent of all motorcyclist fatalities.

A motor vehicle traffic crash is defined as an incident that involved one or more motor vehicles in-transport that originated on or had a harmful event (injury or damage) on a public trafficway, such as a road or highway. Crashes that occurred on private property not regularly used by the public for transport, including some parts of parking lots and driveways, are excluded. The terms “motor vehicle traffic crash” and “traffic crash” are used interchangeably in this document.

## Overview

In 2022:

- There were 6,218 motorcyclists killed in motor vehicle traffic crashes – higher than the 6,143 motorcyclists killed in 2021.
- Motorcyclists accounted for 15 percent of all traffic fatalities and 19 percent of all motor vehicle occupant (driver and passenger) fatalities.
- Of the 6,218 motorcyclists killed in traffic crashes, 95 percent (5,934) were riders and 5 percent (284) were passengers.
- There were an estimated 82,687 motorcyclists injured in traffic crashes, a 3-percent decrease from 84,898 motorcyclists injured in 2021.

Table 1 presents information about motorcyclists killed and injured from 2013 to 2022. From 2021 to 2022 motorcyclist fatalities increased by 1 percent. The number of registered motorcycles and motorcycle vehicle miles traveled (VMT) are also presented in Table 1, along with the respective fatality and injury rates.

**Table 1. Motorcyclists Killed and Injured in Traffic Crashes, and Fatality and Injury Rates, 2013-2022**

Year	Killed	Registered Vehicles	Fatality Rate per 100,000 Registered Vehicles	VMT (millions)	Fatality Rate per 100 Million VMT
2013	4,692	8,404,687	55.83	20,366	23.04
2014	4,594	8,417,718	54.58	19,970	23.00
2015	5,029	8,600,936	58.47	19,606	25.65
2016	5,337	8,679,380	61.49	20,445	26.10
2017	5,226	8,664,108	60.32	20,149	25.94
2018	5,038	8,659,741	58.18	20,076	25.09
2019	5,044	8,596,314	58.68	19,688	25.62
2020	5,620	8,347,435	67.33	17,947	31.31
2021	6,143	9,795,491	62.71	19,642	31.27
2022	6,218*	9,567,664	64.99	23,765	26.16
Year	Injured	Registered Vehicles	Injury Rate per 100,000 Registered Vehicles	VMT (millions)	Injury Rate per 100 Million VMT
2013	88,760	8,404,687	1,056	20,366	436
2014	91,987	8,417,718	1,093	19,970	461
2015	88,738	8,600,936	1,032	19,606	453
2016†	104,442	8,679,380	1,203	20,445	511
2017†	88,592	8,664,108	1,023	20,149	440
2018†	81,859	8,659,741	945	20,076	408
2019†	83,814	8,596,314	975	19,688	426
2020†	80,662	8,347,435	966	17,947	449
2021†	84,898	9,795,491	867	19,642	432
2022†	82,687*	9,567,664	864	23,765	348

Sources: FARS 2013-2021 Final File, 2022 Annual Report File (ARF); NASS GES 2013-2015; CRSS 2016-2022; VMT and Registered Vehicles – Federal Highway Administration (FHWA)

\*Starting in 2022, motorcyclists exclude people on motorized bicycles.

†CRSS estimates and NASS GES estimates are not comparable due to different sample designs. Refer to end of document for more information about CRSS.

Notes: Due to a vehicle classification change, the 2020 and later year data are not comparable to 2019 and earlier years. Refer to the FARS and CRSS boxes for revisions to 2020 data.

Motorcycles made up 3.4 percent of all registered vehicles in the United States in 2022 and accounted for only 0.7 percent of all VMT. Per 100,000 registered vehicles in 2022, the fatality rate for motorcyclists (64.99) was 5 times the fatality rate for passenger car occupants (12.13) and nearly 9 times the fatality rate for light-truck occupants (7.31), as shown in Table 2. The injury rate for motorcyclists (864) was lower than the injury rate for passenger car occupants (927), but higher than the injury rate of light-truck occupants (535).

Per 100 million VMT in 2022, the fatality rate for motorcyclists (26.16) was almost 22 times the passenger car occupant fatality rate (1.20) and 36 times the fatality rate for light-truck occupants (0.72). The motorcyclist injury rate (348) was almost 4 times the injury rate of passenger car occupants (91) and nearly 7 times the injury rate of light-truck occupants (53).

**Table 2. Occupant\* Fatality and Injury Rates in Traffic Crashes, by Vehicle Type, 2021 and 2022**

Rate		Vehicle Type					
		Motorcycles		Passenger Cars		Light Trucks	
		Fatality Rate	Injury Rate	Fatality Rate	Injury Rate	Fatality Rate	Injury Rate
2021	Per 100,000 Registered Vehicles	62.71	867	12.62	1,027	7.55	578
	Per 100 Million VMT	31.27	432	1.27	103	0.76	58
2022	Per 100,000 Registered Vehicles	64.99	864	12.13	927	7.31	535
	Per 100 Million VMT	26.16	348	1.20	91	0.72	53

Sources: FARS 2021 Final File, 2022 ARF; CRSS 2021-2022; Registered Motorcycles and Motorcycle VMT– FHWA; Registered Passenger Cars and Light Trucks – Polk data from S&P Global Mobility, Copyright © R.L. Polk & Co.; Passenger Car and Light-Truck VMT – FHWA, revised by NHTSA

\*Includes both riders/drivers and passengers.

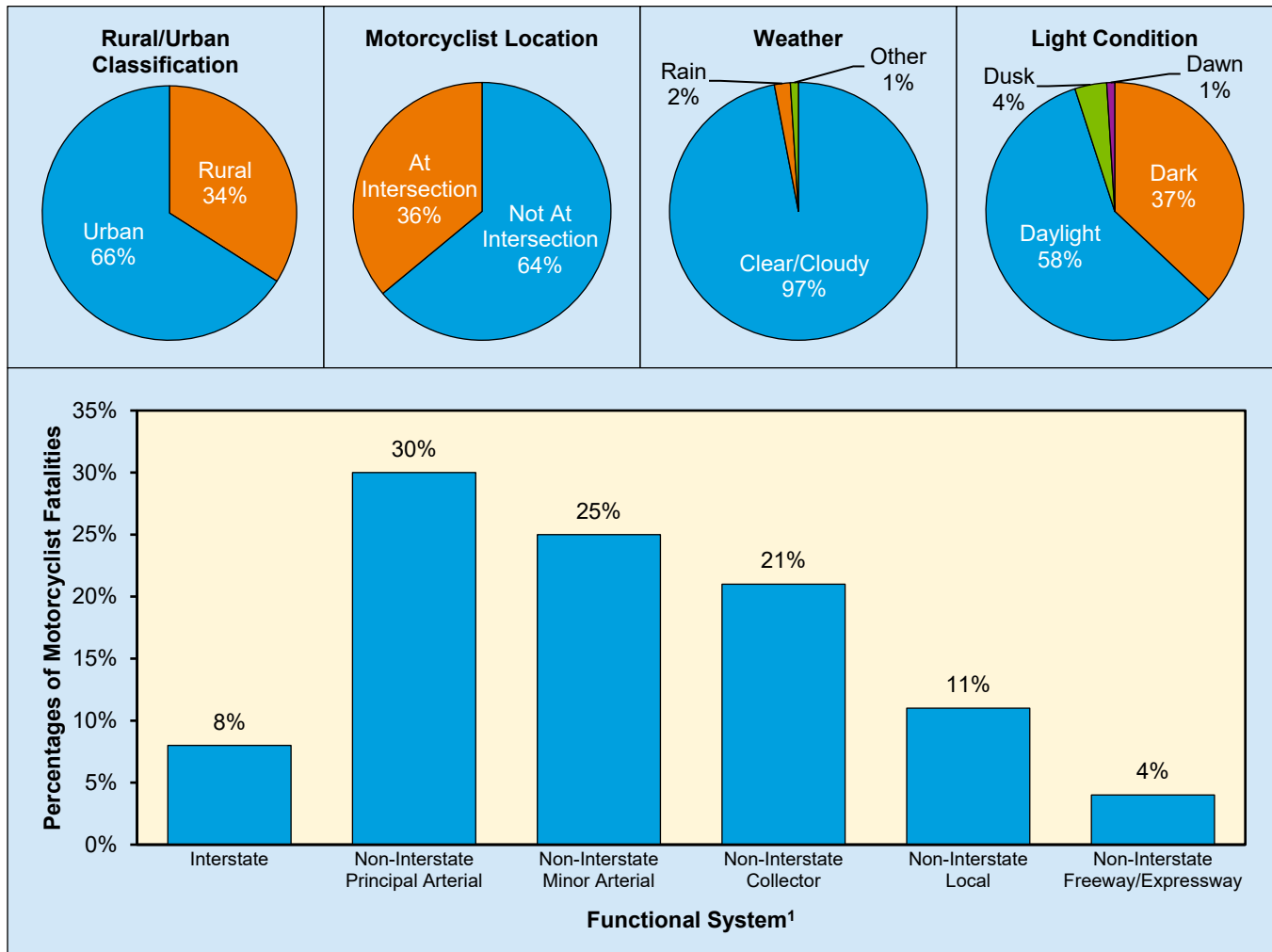
Note: Starting in 2022, motorcyclists exclude people on motorized bicycles.

## Crash Characteristics

Figure 1 displays information about the environment surrounding the motorcyclist fatalities in 2022 including rural/urban classification, motorcyclist location, light condition, weather, and functional system. In 2022 (based on known values):

- 66 percent of the motorcycle fatalities occurred in urban areas compared to 34 percent in rural areas;
- 64 percent occurred at locations that were not intersections compared to 36 percent at intersections;
- 97 percent occurred in clear/cloudy conditions compared to 2 percent in rain conditions and 1 percent in snow/sleet, fog, or other conditions;
- 58 percent occurred during daylight compared to 37 percent in the dark, 4 percent during dusk, and 1 percent during dawn; and
- 92 percent occurred on non-interstate roads compared to 8 percent on interstates.

**Figure 1. Motorcyclist Fatalities in Traffic Crashes in Relation to Rural/Urban Classification, Motorcyclist Location, Weather, Light Condition, and Functional System,<sup>1</sup> 2022**



Source: FARS 2022 ARF

Notes: Unknowns were removed before calculating percentages. Percentages may not add up to 100 percent due to independent rounding.

### Crash Involvement

The most harmful events in 2022 for 3,687 (58%) of the 6,359 motorcycles involved in fatal crashes were collisions with motor vehicles in transport.

In two-vehicle crashes, 77 percent of the motorcycles involved in fatal crashes were struck in the front. Only 6 percent were struck in the rear.

Motorcycles were more frequently involved in fatal collisions with fixed objects than other vehicle types. Twenty-four percent of motorcycles involved in fatal traffic crashes in 2022 collided with fixed objects, compared to 16 percent for passenger cars, 13 percent for light trucks, and 5 percent for large trucks.

<sup>1</sup> Definitions for the different functional systems can be found at [www.fhwa.dot.gov/planning/processes/statewide/related/highway\\_functional\\_classifications/fcauab.pdf](http://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/fcauab.pdf)

In 2022 there were 3,268 fatal two-vehicle crashes each involving a motorcycle and another type of vehicle. In 44 percent (1,436) of these crashes, the other vehicles were turning left while the motorcycles were going straight, passing, or overtaking other vehicles. Both vehicles were going straight in 616 crashes (19%).

## Motorcyclists

### Age

From 2021 to 2022 motorcyclist fatalities among the 21-to-24 age group increased by 16 percent, from 493 to 572. Motorcyclist fatalities in the 60-to-64 age group increased 7 percent from 435 in 2021 to 466 in 2022. The average age of motorcycle riders killed in traffic crashes was 42 in 2022.

Weekday is defined as Monday 6 a.m. to Friday 5:59 p.m. and weekend is defined as Friday 6 p.m. to Monday 5:59 a.m. Table 3 shows that 49 percent of motorcyclists were killed in traffic crashes during the weekend in 2021 versus 46 percent in 2022. Additionally, motorcyclist fatalities on weekdays have increased by 6 percent from 3,146 in 2021 to 3,345 in 2022.

**Table 3. Motorcyclist Fatalities in Traffic Crashes, by Age Group and Day of Week, 2021 and 2022**

Age Group	2021			2022		
	Weekday	Weekend	Total*	Weekday	Weekend	Total*
<15	10	13	23	6	12	18
15-20	198	137	335	217	133	350
21-24	279	213	493	336	234	572
25-29	402	321	723	404	324	728
30-34	386	352	738	412	338	750
35-39	279	311	591	301	296	598
40-44	250	285	538	282	264	546
45-49	271	277	548	251	252	503
50-54	260	299	560	272	288	560
55-59	259	284	544	249	237	486
60-64	220	214	435	242	223	466
65+	332	274	606	371	259	633
<b>Total*</b>	<b>3,146</b>	<b>2,989</b>	<b>6,143</b>	<b>3,345</b>	<b>2,866</b>	<b>6,218</b>

Source: FARS 2021 Final File, 2022 ARF

Weekday — Monday 6 a.m. to Friday 5:59 p.m. (4.5 days)

Weekend — Friday 6 p.m. to Monday 5:59 a.m. (2.5 days)

\*Includes unknown age and unknown day of week.

Note: Starting in 2022, motorcyclists exclude people on motorized bicycles.

### Motorcycle Engine Size

Table 4 presents motorcyclist fatalities by the engine size (displacement) of the motorcycles from 2020 to 2022. Of the motorcyclists killed in traffic crashes in 2022, there were 35 percent riding on motorcycles with engine sizes of 501 to 1,000 cubic centimeters (cc), followed by 26 percent on motorcycles with engine sizes of 1,501 cc or higher, 22 percent on motorcycles with engine sizes of 1,001 to 1,500 cc, and 11 percent on motorcycles with engine sizes up to 500 cc.

The number of motorcyclist fatalities on motorcycles with engine sizes up to 500 cc increased by 12 percent (from 612 to 687) between 2021 to 2022, while the motorcyclist fatalities on motorcycles with engine sizes from 501 to 1,000 cc increased by 4 percent (from 2,112 to 2,193). Motorcyclist fatalities on motorcycles with engine sizes from 1,001 to 1,500 cc decreased by 1 percent (from 1,367 to 1,354), while the number of motorcyclists killed on motorcycles with engine sizes 1,501 cc or higher decreased by 1 percent (from 1,619 to 1,605).

**Table 4. Motorcyclist Fatalities in Traffic Crashes, by Engine Size\* (cc), 2020-2022**

Year	Engine Size (cc)										Total	
	Up to 500		501–1,000		1,001–1,500		1,501 & Higher		Unknown			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
2020	502	9%	1,947	35%	1,263	22%	1,427	25%	481	9%	5,620	100%
2021	612	10%	2,112	34%	1,367	22%	1,619	26%	433	7%	6,143	100%
2022	687	11%	2,193	35%	1,354	22%	1,605	26%	379	6%	6,218	100%

Source: FARS 2020-2021 Final File, 2022 ARF

\*Based on data from NHTSA's Product Information Catalog and Vehicle Listing (vPIC).

Notes: Starting in 2022, motorcyclists exclude people on motorized bicycles. Other motorcycle characteristics beside engine size (displacement) influence power and speed capability. NHTSA has not determined that there is a causal relationship between displacement and fatality risk.

### Speeding

NHTSA considers a traffic crash to be speeding-related if the driver was charged with a speeding-related offense or if an investigating police officer indicated that racing, driving too fast for conditions, or exceeding the posted speed limit was a contributing factor in the crash. Thirty-five percent of all motorcycle riders involved in fatal crashes in 2022 were speeding, compared to 22 percent for passenger car drivers, 15 percent for light-truck drivers, and 6 percent for large-truck drivers. As shown in Table 5, motorcycle riders 21 to 24 years old involved in fatal crashes had the highest speeding involvement at 51 percent.

**Table 5. Motorcycle Riders Involved in Fatal Traffic Crashes, by Age Group and Speeding Involvement, 2022**

Age Group	Speeding Involvement				Total	
	Speeding		Not Speeding			
	Number	Percent	Number	Percent	Number	Percent
<15	4	27%	11	73%	15	100%
15-20	167	47%	191	53%	358	100%
21-24	298	51%	285	49%	583	100%
25-29	344	46%	404	54%	748	100%
30-34	322	42%	439	58%	761	100%
35-39	255	42%	354	58%	609	100%
40-44	200	36%	351	64%	551	100%
45-49	180	35%	341	65%	521	100%
50-54	153	27%	422	73%	575	100%
55-59	124	25%	374	75%	498	100%
60-64	87	18%	384	82%	471	100%
65+	93	14%	556	86%	649	100%
<b>Total*</b>	<b>2,228</b>	<b>35%</b>	<b>4,121</b>	<b>65%</b>	<b>6,349</b>	<b>100%</b>

Source: FARS 2022 ARF

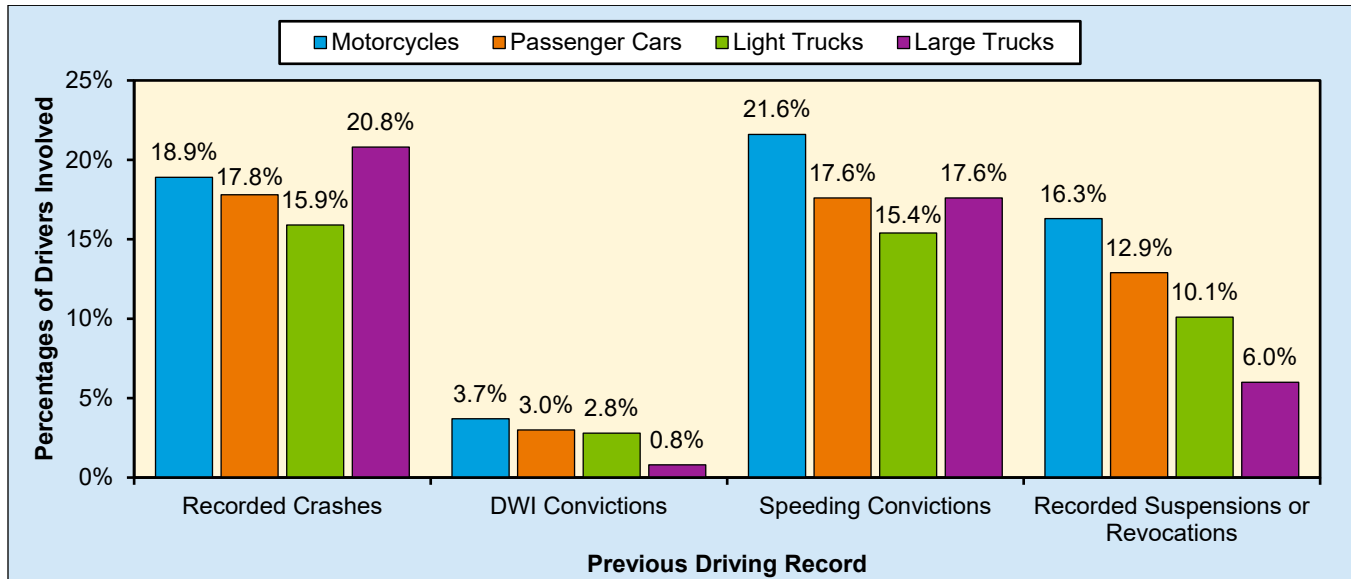
\*Includes unknown age.

### Licensing and Previous Driving Records

Thirty-five percent of motorcycle riders involved in fatal traffic crashes in 2022 were riding without valid motorcycle licenses at the time of the crashes, while only 16 percent of passenger vehicle (passenger cars and light trucks) drivers in fatal crashes did not have valid licenses. A valid motorcycle license includes a rider having a valid driver license (non-CDL license status) with a motorcycle endorsement or a motorcycle-only license.

As shown in Figure 2, motorcycle riders involved in fatal traffic crashes had the highest percentages of drivers with previous driving records as compared to other vehicle drivers, with the exception of large truck drivers with previous recorded crashes. Motorcycle riders involved in fatal traffic crashes were 1.3 times more likely than passenger car drivers to have previous license suspensions or revocations (16.3% and 12.9%, respectively). Note that FARS records drivers' previous driving records that occurred within 5 years from the crash date.

**Figure 2. Percentages of Previous 5-Year Driving Records of Drivers Involved in Fatal Traffic Crashes, by Vehicle Type, 2022**



Source: FARS 2022 ARF

Note: Excludes all drivers with previous records that were unknown.

### Alcohol

In 2022 there were 5,934 motorcycle riders killed in traffic crashes compared to 5,839 in 2021. Of the 5,934 in 2022, there were 1,705 (29%) who were alcohol-impaired (BAC of .08 g/dL or higher). In 2021 there were 1,678 (29%) motorcycle riders who were alcohol-impaired. There were 422 (7%) motorcycle riders killed in 2022 who had lower alcohol levels (BACs of .01 to .07 g/dL).

Motorcycle riders involved (killed or survived) in fatal crashes in 2022 had higher percentages of alcohol impairment than any other type of motor vehicle driver (28% for motorcycle riders, 25% for passenger car drivers, 21% for light-truck drivers, and 3% for large-truck drivers).

In 2022 the highest percentages of alcohol-impaired motorcycle rider fatalities were in the 45-to-49 age group (37%) followed by the 40-to-44 age group (36%) and 35-to-39 age group (35%), when compared to other age groups.

Forty-two percent of the 2,254 motorcycle riders who died in single-vehicle crashes in 2022 were alcohol-impaired as compared to 20 percent of the 3,680 motorcycle riders who died in multi-vehicle crashes, as shown in Table 6. Forty-six percent of those killed in single-vehicle crashes on weekends in 2021 and 2022 were alcohol-impaired.



**Table 6. Alcohol-Impaired Motorcycle Riders Killed in Traffic Crashes, by Crash Type and Day of Week, 2021 and 2022**

Crash Type and Day of Week		2021			2022		
		Total Motorcycle Riders Killed	Alcohol-Impaired		Total Motorcycle Riders Killed	Alcohol-Impaired	
			Number	Percent		Number	Percent
Single-Vehicle	Weekday	1,001	386	39%	1,065	408	38%
	Weekend	1,235	568	46%	1,183	546	46%
	<b>Total*</b>	<b>2,241</b>	<b>958</b>	<b>43%</b>	<b>2,254</b>	<b>956</b>	<b>42%</b>
Multi-Vehicle	Weekday	2,022	328	16%	2,161	341	16%
	Weekend	1,574	391	25%	1,518	407	27%
	<b>Total*</b>	<b>3,598</b>	<b>720</b>	<b>20%</b>	<b>3,680</b>	<b>749</b>	<b>20%</b>
Total	Weekday	3,023	715	24%	3,226	749	23%
	Weekend	2,809	960	34%	2,701	953	35%
	<b>Total*</b>	<b>5,839</b>	<b>1,678</b>	<b>29%</b>	<b>5,934</b>	<b>1,705</b>	<b>29%</b>

Source: FARS 2021 Final File, 2022 ARF

Weekday — Monday 6 a.m. to Friday 5:59 p.m. (4.5 days)

Weekend — Friday 6 p.m. to Monday 5:59 a.m. (2.5 days)

\*Includes riders involved in fatal crashes when day of week was unknown.

Notes: Starting in 2022, motorcyclists exclude people on motorized bicycles. Percentages are computed based on unrounded estimates. NHTSA estimates BACs when alcohol test results are unknown.

Motorcycle riders killed in traffic crashes at night were almost three times more frequently alcohol-impaired than those killed during the day (42% and 16%).

The reported helmet use rate for alcohol-impaired motorcycle riders killed in traffic crashes in 2022 was 54 percent as compared to 68 percent for those with no alcohol (BAC=.00 g/dL).

## Helmet Use and Effectiveness

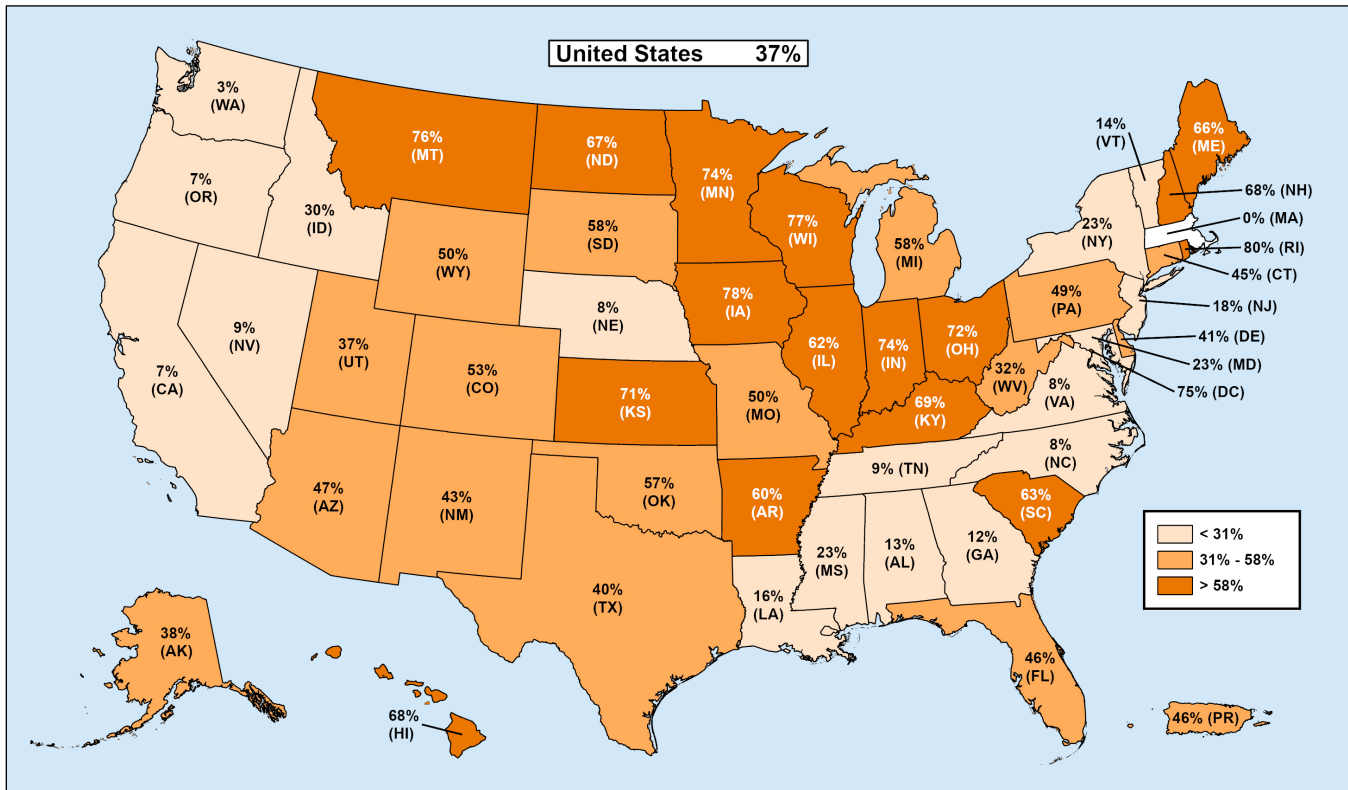
All motorcycle helmets sold in the United States are required to meet Federal Motor Vehicle Safety Standard 218, the performance standard that establishes the minimum level of protection for helmets designed for use by motorcyclists. According to results from the National Occupant Protection Use Survey, the overall rate of DOT-compliant motorcycle helmet use in the United States was 66.5 percent in 2022. Helmet use continued to be significantly higher in States that required all motorcyclists to be helmeted than in other States.<sup>2</sup>

<sup>2</sup> National Center for Statistics and Analysis. (2023, August). *Motorcycle helmet use in 2022 – Overall results* (Traffic Safety Fact Research Note. Report No. DOT HS 813 505). National Highway Traffic Safety Administration. <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813505>

## State

Reported helmet use rates for motorcyclists killed in 2022 were 63 percent for riders and 44 percent for passengers, compared with 61 percent and 47 percent, respectively, in 2021. Figure 3 presents the percentage of motorcyclists killed who were not helmeted by each State in 2022, based on known helmet use.

**Figure 3. Percentages of Known Unhelmeted\* Motorcyclists Killed in Traffic Crashes, 2022**



Source: FARS 2022 ARF

\*Based on known helmet use.

In 2022 only 18 States, the District of Columbia, and Puerto Rico required helmet use for all motorcyclists. Excluding the District of Columbia and Puerto Rico, the known helmet use percentages in fatal traffic crashes ranged from 68 percent (West Virginia) to 100 percent (Massachusetts) for these 18 States.

In 29 States helmet use was required for only a subset of motorcyclists (typically, motorcyclists under age 18), and 3 States (Illinois, Iowa, and New Hampshire) did not require helmet use for motorcyclists of any age. The known helmet use percentages in fatal crashes ranged from 20 percent (Rhode Island) to 70 percent (Idaho) for these 32 States.

The most current information on helmet use laws is available on the Governors Highway Safety Association (GHSA) website at [www.ghsa.org/state-laws/issues/motorcyclists](http://www.ghsa.org/state-laws/issues/motorcyclists). In States without universal helmet laws, 54 percent of motorcyclists killed in 2022 were not wearing helmets, as compared to 11 percent in States with universal helmet laws. According to NOPUS, in 2022 DOT-compliant motorcycle helmet use in States requiring all to use helmets was 81.5 percent compared to 56.2 percent in other States.

Table 7 shows that 37 percent of the 6,218 motorcyclists killed nationwide in traffic crashes in 2022 were not helmeted, based on known helmet use. The State-level unhelmeted percentages ranged from a high of 80 percent (Rhode Island) to a low of 0 percent (Massachusetts), based on known use.

Table 8 presents the percentage of motorcycle riders killed who were alcohol-impaired, by State where the crashes occurred in 2022. The percentages of alcohol-impaired motorcycle riders killed ranged from a low of 0 percent (Alaska) to a high of 58 percent (Rhode Island), compared to the national average of 29 percent.

**Table 7. Motorcyclist Fatalities in Traffic Crashes, by State and Helmet Use, 2022**

State	Helmet Use						Total		Percent Based on Known Helmet Use	
	Helmeted		Unhelmeted		Unknown					
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Helmeted	Unhelmeted
Alabama	84	87%	12	12%	1	1%	97	100%	88%	13%
Alaska	5	63%	3	38%	0	0%	8	100%	63%	38%
Arizona	110	47%	98	42%	24	10%	232	100%	53%	47%
Arkansas	37	40%	55	59%	1	1%	93	100%	40%	60%
California	567	89%	41	6%	26	4%	634	100%	93%	7%
Colorado	69	46%	78	52%	2	1%	149	100%	47%	53%
Connecticut	36	54%	30	45%	1	1%	67	100%	55%	45%
Delaware	13	59%	9	41%	0	0%	22	100%	59%	41%
District of Columbia	1	25%	3	75%	0	0%	4	100%	25%	75%
Florida	354	53%	306	46%	8	1%	668	100%	54%	46%
Georgia	191	86%	27	12%	3	1%	221	100%	88%	12%
Hawaii	10	30%	21	64%	2	6%	33	100%	32%	68%
Idaho	19	70%	8	30%	0	0%	27	100%	70%	30%
Illinois	55	37%	91	61%	2	1%	148	100%	38%	62%
Indiana	31	25%	86	68%	9	7%	126	100%	26%	74%
Iowa	11	22%	39	78%	0	0%	50	100%	22%	78%
Kansas	15	28%	36	68%	2	4%	53	100%	29%	71%
Kentucky	33	31%	72	69%	0	0%	105	100%	31%	69%
Louisiana	75	82%	14	15%	2	2%	91	100%	84%	16%
Maine	11	34%	21	66%	0	0%	32	100%	34%	66%
Maryland	57	74%	17	22%	3	4%	77	100%	77%	23%
Massachusetts	56	98%	0	0%	1	2%	57	100%	100%	0%
Michigan	69	39%	95	53%	15	8%	179	100%	42%	58%
Minnesota	21	26%	59	72%	2	2%	82	100%	26%	74%
Mississippi	34	65%	10	19%	8	15%	52	100%	77%	23%
Missouri	78	50%	77	49%	2	1%	157	100%	50%	50%
Montana	9	24%	28	76%	0	0%	37	100%	24%	76%
Nebraska	22	76%	2	7%	5	17%	29	100%	92%	8%
Nevada	77	88%	8	9%	3	3%	88	100%	91%	9%
New Hampshire	10	31%	21	66%	1	3%	32	100%	32%	68%
New Jersey	75	79%	16	17%	4	4%	95	100%	82%	18%
New Mexico	27	50%	20	37%	7	13%	54	100%	57%	43%
New York	138	75%	41	22%	6	3%	185	100%	77%	23%
North Carolina	198	90%	18	8%	4	2%	220	100%	92%	8%
North Dakota	7	33%	14	67%	0	0%	21	100%	33%	67%
Ohio	58	27%	152	70%	6	3%	216	100%	28%	72%
Oklahoma	32	34%	43	46%	18	19%	93	100%	43%	57%
Oregon	88	90%	7	7%	3	3%	98	100%	93%	7%
Pennsylvania	108	50%	102	47%	7	3%	217	100%	51%	49%
Rhode Island	2	20%	8	80%	0	0%	10	100%	20%	80%
South Carolina	63	37%	107	63%	0	0%	170	100%	37%	63%
South Dakota	5	38%	7	54%	1	8%	13	100%	42%	58%
Tennessee	136	89%	13	8%	4	3%	153	100%	91%	9%
Texas	328	58%	215	38%	21	4%	564	100%	60%	40%
Utah	31	62%	18	36%	1	2%	50	100%	63%	37%
Vermont	12	86%	2	14%	0	0%	14	100%	86%	14%
Virginia	108	92%	10	8%	0	0%	118	100%	92%	8%
Washington	119	89%	4	3%	10	8%	133	100%	97%	3%
West Virginia	28	67%	13	31%	1	2%	42	100%	68%	32%
Wisconsin	18	22%	61	74%	3	4%	82	100%	23%	77%
Wyoming	6	30%	6	30%	8	40%	20	100%	50%	50%
<b>U.S. Total</b>	<b>3,747</b>	<b>60%</b>	<b>2,244</b>	<b>36%</b>	<b>227</b>	<b>4%</b>	<b>6,218</b>	<b>100%</b>	<b>63%</b>	<b>37%</b>
Puerto Rico	31	54%	26	46%	0	0%	57	100%	54%	46%

Source: FARS 2022 ARF

Notes: Shading indicates requiring helmet use for all motorcyclists. Percentages may not add up to 100 percent due to independent rounding.

**Table 8. Motorcycle Rider Fatalities in Traffic Crashes, by State and Their BACs, 2022**

State	Total Fatalities	Motorcycle Rider Fatalities, by Their BACs					
		BAC=.01+ g/dL		Alcohol-Impaired			
		Number	Percent	BAC=.08+ g/dL		BAC=.15+ g/dL	
				Number	Percent	Number	Percent
Alabama	87	29	34%	24	28%	16	19%
Alaska	8	0	0%	0	0%	0	0%
Arizona	221	72	33%	60	27%	37	17%
Arkansas	91	23	25%	17	18%	12	14%
California	620	238	38%	202	33%	116	19%
Colorado	140	57	40%	45	32%	30	21%
Connecticut	65	21	33%	17	25%	9	13%
Delaware	20	11	56%	9	45%	5	25%
District of Columbia	4	3	70%	2	43%	1	25%
Florida	639	212	33%	171	27%	103	16%
Georgia	214	69	32%	52	24%	32	15%
Hawaii	31	10	34%	8	26%	6	19%
Idaho	24	8	32%	5	22%	4	16%
Illinois	138	58	42%	44	32%	24	18%
Indiana	118	44	37%	38	32%	25	21%
Iowa	45	18	39%	14	32%	9	21%
Kansas	50	21	43%	15	29%	10	20%
Kentucky	101	28	28%	25	24%	18	18%
Louisiana	87	32	37%	22	26%	17	19%
Maine	30	13	43%	11	36%	7	24%
Maryland	76	26	35%	22	29%	16	21%
Massachusetts	56	24	43%	16	29%	12	21%
Michigan	168	50	30%	42	25%	26	16%
Minnesota	78	32	42%	23	30%	14	18%
Mississippi	48	9	19%	8	17%	5	9%
Missouri	147	52	35%	38	26%	20	13%
Montana	36	13	37%	11	30%	10	26%
Nebraska	28	6	20%	4	15%	3	10%
Nevada	87	26	30%	22	25%	16	19%
New Hampshire	31	14	45%	13	42%	11	36%
New Jersey	92	34	37%	26	28%	16	17%
New Mexico	54	18	34%	14	25%	11	20%
New York	176	59	33%	43	24%	25	14%
North Carolina	215	73	34%	56	26%	30	14%
North Dakota	20	9	43%	7	37%	2	12%
Ohio	198	83	42%	69	35%	43	22%
Oklahoma	89	25	28%	22	25%	16	18%
Oregon	96	40	42%	35	37%	25	26%
Pennsylvania	207	74	36%	63	31%	37	18%
Rhode Island	10	8	81%	6	58%	5	47%
South Carolina	162	65	40%	56	34%	35	21%
South Dakota	10	3	30%	1	13%	1	14%
Tennessee	144	50	35%	37	26%	18	12%
Texas	537	224	42%	180	34%	104	19%
Utah	46	14	31%	12	26%	7	16%
Vermont	12	3	25%	3	25%	1	8%
Virginia	114	36	32%	27	24%	21	18%
Washington	128	40	32%	31	24%	14	11%
West Virginia	40	13	33%	10	25%	6	15%
Wisconsin	79	31	39%	22	28%	11	14%
Wyoming	17	6	35%	6	34%	5	28%
<b>U.S. Total</b>	<b>5,934</b>	<b>2,126</b>	<b>36%</b>	<b>1,705</b>	<b>29%</b>	<b>1,041</b>	<b>18%</b>
Puerto Rico	53	23	43%	16	30%	10	19%

Source: FARS 2022 ARF

Notes: Percentages are computed based on unrounded estimates. NHTSA estimates BACs when alcohol test results are unknown.

## Important Safety Reminders

### *For Motorcyclists:*

- Wearing a helmet is the single most effective way to protect yourself from a head injury. Use a motorcycle helmet for every ride, and ensure your passengers also use a helmet.
- Make sure your helmet has a valid U.S. Department of Transportation (DOT) label; the label means the helmet meets the Federal Motor Vehicle Safety Standards – this is also known as the FMVSS 218 standard. Novelty helmets without this label may not meet the same standard and will not provide the best protection needed in a crash.



- Check the fit of your helmet to ensure optimal protection.
- Wear protective gear like a sturdy jacket, pants, boots, and gloves; safety gear provide protection in case of falls or crashes, and improves comfort during the ride.
- Make yourself visible by using high-visibility colors and retro-reflective materials to maximize the ability of drivers to see you.
- Motorcycle riding requires full attention, skill, and coordination. Avoid combining riding with drinking alcohol or using other impairing drugs.

### *For Drivers:*

- Always be on the lookout for motorcyclists.
- A motorcycle's smaller size means it can be hidden in your vehicle's blind spot.
- A motorcycle's size and narrow profile can make it difficult to judge its distance and speed. Take extra care when judging when to turn or merge.
- Keep a safe distance from the motorcycle in front of you; motorcyclists can slow their motorcycles by downshifting instead of using their brakes. This means the brake lights won't come on.
- Remember that motorcyclists sometimes change positions in their lane to avoid debris on the road.

— NHTSA's Research and Program Development

## Fatality Analysis Reporting System

FARS contains data on every fatal motor vehicle traffic crash within the 50 States, the District of Columbia, and Puerto Rico. To be included in FARS, a traffic crash must involve a motor vehicle traveling on a trafficway customarily open to the public and must result in the death of a vehicle occupant or a nonoccupant within 30 days of the crash. The Annual Report File (ARF) is the FARS data file associated with the most recent available year, which is subject to change when it is finalized the following year to the final version known as the Final File. The additional time between the ARF and the Final File provides the opportunity for submission of important variable data requiring outside sources, which may lead to changes in the final counts. More information on FARS can be found at [www.nhtsa.gov/crash-data-systems/fatality-analysis-reporting-system](http://www.nhtsa.gov/crash-data-systems/fatality-analysis-reporting-system).

The updated final counts for the previous data year will be reflected with the release of the recent year's ARF. For example, along with the release of the 2022 ARF, the 2021 Final File was released to replace the 2021 ARF. The final fatality count in motor vehicle traffic crashes for 2021 was 43,230, which was updated from 42,939 in the 2021 ARF. The number of motorcycle fatalities from the 2021 Final File was 6,143, which was updated from 5,932 from the 2021 ARF.

The number of motorcyclist fatalities in 2020 was updated from 5,506 to 5,620 due to vehicle type classification revisions.

## Crash Report Sampling System

NHTSA's National Center for Statistics and Analysis (NCSA) redesigned the nationally representative sample of police-reported traffic crashes, which estimates the number of police-reported injury and property-damage-only crashes in the United States. CRSS replaced the National Automotive Sampling System (NASS) General Estimates System (GES) in 2016. More information on CRSS can be found at [www.nhtsa.gov/crash-data-systems/crash-report-sampling-system-crss](http://www.nhtsa.gov/crash-data-systems/crash-report-sampling-system-crss).

The number of motorcyclists injured in 2020 was updated from 78,944 to 80,662 due to vehicle type classification revisions.

## Product Information Catalog and Vehicle Listing (vPIC) Vehicle Classification

Historically, vehicle type classifications (e.g., passenger cars, light trucks, large trucks, motorcycles, buses) from FARS, NASS GES, and CRSS used for analysis and data reporting were based on analyst-coded vehicle body type. NHTSA did not have manufacturer authoritative data to assist in vehicle body type coding. NCSA has developed a Product Information Catalog and Vehicle Listing (vPIC) dataset that is being used to decode VINs (Vehicle Identification Numbers) and extract vehicle information. Details of vehicles (make, model, body class, etc.) involved in crashes are obtained from vPIC via VIN-linkage. The VIN-derived information from vPIC uses the manufacturer's classification of body class, which allows for more accurate vehicle type analysis.

The vPIC-based analysis data are available beginning with 2020 FARS and CRSS data files. Vehicle-related analysis for 2020 and later years are based on vPIC vehicle classification. As a result, the 2020 and later-year vehicle type classifications are not comparable to 2019 and earlier-year vehicle type classifications. This change affects any analysis with a vehicle component to it. More information on vPIC can be found at <https://vpic.nhtsa.dot.gov/>.

The suggested APA format citation for this document is:

National Center for Statistics and Analysis. (2024, July). *Motorcycles: 2022 data* (Traffic Safety Facts. Report No. DOT HS 813 589). National Highway Traffic Safety Administration.

## For More Information:

Motor vehicle traffic crash data are available from the National Center for Statistics and Analysis (NCSA), NSA-230. NCSA can be contacted at [NCSARequests@dot.gov](mailto:NCSARequests@dot.gov) or 800-934-8517. NCSA programs can be found at [www.nhtsa.gov/data](http://www.nhtsa.gov/data). To report a motor vehicle safety-related problem or to inquire about safety information, contact the Vehicle Safety Hotline at 888-327-4236 or [www.nhtsa.gov/report-a-safety-problem](http://www.nhtsa.gov/report-a-safety-problem).

The following data tools and resources can be found at <https://cdan.dot.gov/>.

- Fatal Motor Vehicle Traffic Crash Data Visualizations
- Motor Vehicle Traffic Crash Databook
- Fatality and Injury Reporting System Tool (FIRST)
- State Traffic Safety Information (STSI)
- Traffic Safety Facts Annual Report Tables
- FARS Data Tables (FARS Encyclopedia)
- Crash Viewer
- Product Information Catalog and Vehicle Listing (vPIC)
- FARS, NASS GES, CRSS, NASS Crashworthiness Data System (CDS), and Crash Investigation Sampling System (CISS) data can be downloaded for further analysis.

Other fact sheets available from NCSA:

- Alcohol-Impaired Driving
- Bicyclists and Other Cyclists
- Children
- Large Trucks
- Occupant Protection in Passenger Vehicles
- Older Population
- Passenger Vehicles
- Pedestrians
- Race and Ethnicity
- Rural/Urban Traffic Fatalities
- School-Transportation-Related Traffic Crashes
- Speeding
- State Alcohol-Impaired-Driving Estimates
- State Traffic Data
- Summary of Motor Vehicle Traffic Crashes
- Young Drivers

Detailed data on motor vehicle traffic crashes are published annually in *Traffic Safety Facts: A Compilation of Motor Vehicle Traffic Crash Data*. The fact sheets and Traffic Safety Facts annual report can be found at <https://crashstats.nhtsa.dot.gov/>.



U.S. Department  
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