

UC Berkeley

Fact Sheet

Title

2020 SafeTREC Traffic Safety Facts: Motorcycle Safety

Permalink

<https://escholarship.org/uc/item/7qw0s9jp>

Authors

Chen, Katherine L.

Tsai, Bor-Wen

Fortin, Garrett

et al.

Publication Date

2020-04-01

TRAFFIC SAFETY FACTS

Motorcycle Safety

—Katherine L. Chen, Bor-Wen Tsai, Garrett Fortin, and Jill F. Cooper—

INTRODUCTION

Crashes involving motorcycles are a major traffic safety concern in the United States. Since motorcycle riders are susceptible to injury during crashes, they comprise a disproportionate share of all injured and killed vehicle occupants. In 2017, motorcycle riders were 27 times more likely than passenger car occupants to be fatally injured in a traffic crash, per vehicle miles traveled. The primary countermeasures used to address this problem have included motorcycle helmet laws and other helmet-oriented programs, rider training and licensing programs, vehicle enhancements including anti-lock braking technology, rider conspicuity programs, campaigns to increase other road users' awareness of motorcycles, and campaigns to reduce impaired riding.

CALIFORNIA FACTS

NATIONAL DATA

- In 2018, there were 4,985 motorcyclists killed on public roadways in the United States. This number reflects an 8.5 percent increase from 2014, when 4,594 motorcyclists were killed.
- In 2017, motorcycle riders had the highest alcohol use of all alcohol-impaired drivers involved in fatal crashes – 27 percent of riders who died were alcohol-impaired, compared with 21 percent of drivers of passenger cars.
- Over one-quarter, 29 percent, of motorcyclists involved in fatal crashes in 2017 were not properly licensed.

CALIFORNIA DATA

- Motorcycling is popular in California; the state recorded the second most motorcycle fatalities in the nation in 2018. From 2014 to 2018, the state has seen a 6.5 percent decrease in motorcycle fatalities from 522 to 488.
- Of all motorcyclist fatalities in 2018, 6.1 percent (or 30) of motorcycle riders were not wearing helmets. This is an improvement from the 7.8 percent unhelmeted fatality rate in 2017.

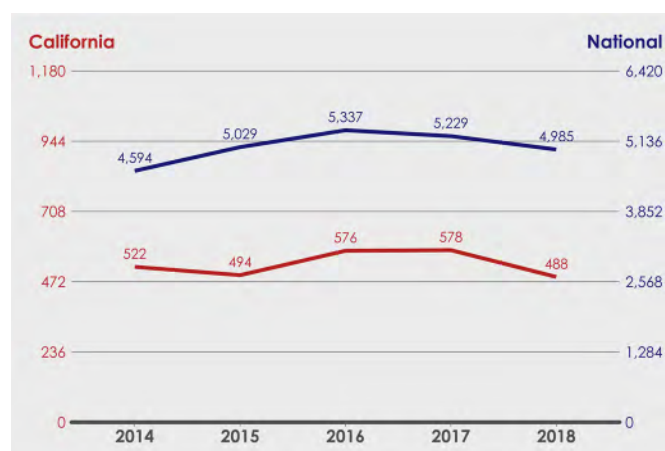
State-level Analysis

The figures in this section refer to drivers and passengers of motorcycles fatally injured in a crash in California in 2018. These numbers are the products of UCB SafeTREC analysis.

Fatal and Serious Injury Motorcycle Crashes by County

- Los Angeles, San Diego, Orange, Riverside, and San Bernardino counties in Southern California, along with Sacramento, Alameda, and Santa Clara counties in Northern California, have the highest number of fatal and serious injuries among motorcyclists.

Motorcycle Fatality Trends, Nationwide and California, 2014-2018



Source: FARS 2014-2017, FARS ARF 2018

- The rural counties of Alpine and Sierra have the highest rates of fatal and serious injuries per 100K population by county.

Primary Crash Factors of Motorcycle Fatal and Serious Injury Crashes

- Unsafe speed (29.8 percent), followed by improper turning (20.2 percent), and right-of-way violations by automobiles (17.5 percent) were the most frequent primary crash factors for fatal and serious injury motorcyclist crashes.

Crash Types for Motorcycle Fatal and Serious Injury Crashes

- Broadside crashes were the most frequent crash type at 24.6 percent of motorcycle crashes, followed by overturned crashes, at 19.9 percent, and hit object, at 16.2 percent.

CALIFORNIA DATA

(continued)

Time and Day of Motorcycle Fatal and Serious Injuries

- The number of fatally and seriously injured riders is markedly higher between 3pm and 6pm, comprising 26.2 percent of the fatal and serious motorcycle injuries that occurred in 2018.
- Motorcyclist fatalities and serious injuries were elevated during the day on Saturdays and Sunday between noon and 6pm, accounting for 17.4 percent of fatal and serious injuries in 2018. Overall, fatal and serious injuries were highest on Saturday and Sunday, followed by Friday; these three days accounted for 52.4 percent of motorcycle fatalities and serious injuries.

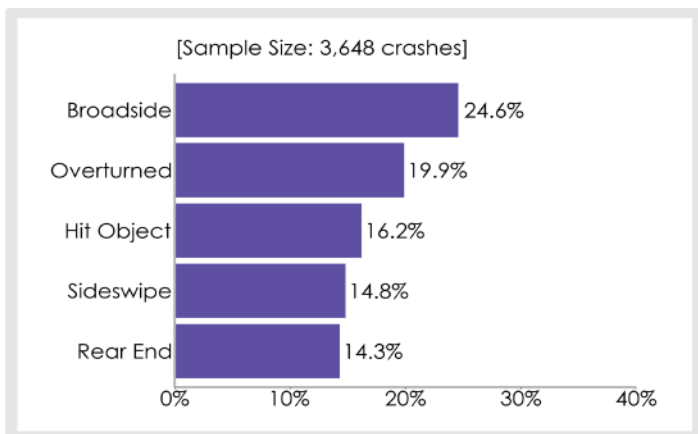
Motorcycle Fatal and Serious Injury Victim Demographics

- The vast majority (90.9 percent) of fatal and serious motorcycle crash victims were males. The age category with the greatest number of victims, men or women, is ages 25 to 34, comprising 28.5 percent of all victims.
- Race was not reported for 65.4 percent of the motorcycle fatalities. Of the 183 fatalities with a known race, 85.8 percent (or 157) were white.

Crash Location for Motorcycle Crash Victims

- Nearly two-thirds (60.2 percent) of motorcycle fatal and serious injuries occurred in urban areas compared to 39.8 percent on rural roads. Only about 16.3 percent of travel took place on rural roads.
- Over one-third (38.3 percent) of all motorcycle fatalities occurred on non-interstate principal arterials. The next most common locations for motorcycle fatalities were non-interstate minor arterials (19.3 percent) and non-interstate collectors (18.2 percent).

Top Five Crash Types for Motorcycle Fatal and Serious Injury Victims, California, 2018

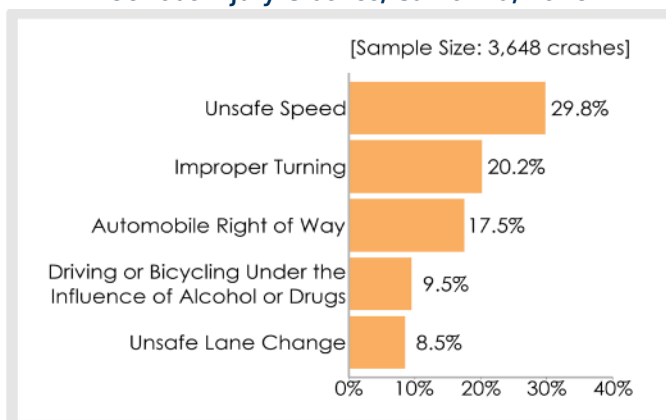


Source: Provisional SWITRS 2018

REFERENCES

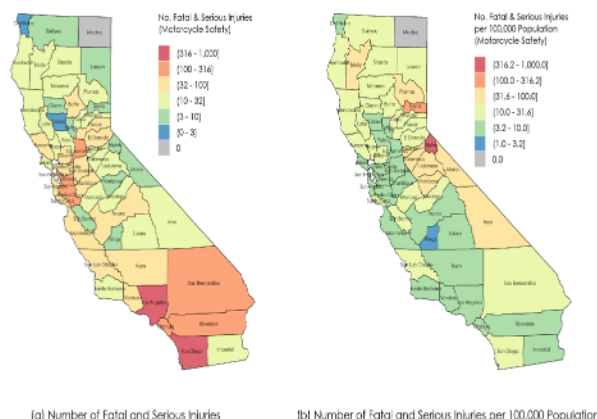
- National Center for Statistics and Analysis. (2019, August). Motorcycles: 2017 data (Updated, Traffic Safety Facts. Report No. DOT HS 812 785). Washington, DC: National Highway Traffic Safety Administration.

Top Five Primary Crash Factors for Motorcycle Fatal and Serious Injury Crashes, California, 2018



Source: Provisional SWITRS 2018

Motorcycle Fatal and Serious Injury Number and Rate per 100K Population by County, California, 2018



Source: FARS ARF 2018; Provisional SWITRS 2018; California Department of Finance 2019

Top Five Crash Types for Motorcycle Fatal and Serious Injury Victims, California, 2018

	MON	TUE	WED	THU	FRI	SAT	SUN	TOTAL
Midnight-3AM	13	16	16	16	19	42	40	162 [4.3%]
3-6AM	15	15	16	18	24	15	16	119 [3.2%]
6-9AM	45	57	70	65	48	28	20	333 [8.9%]
9AM-Noon	54	39	41	43	52	100	116	445 [11.9%]
Noon-3PM	69	67	82	64	85	166	177	710 [18.9%]
3-6PM	122	108	129	136	176	150	160	981 [26.2%]
6-9PM	70	74	71	83	112	104	112	626 [16.7%]
9PM-Midnight	43	34	39	52	55	83	47	353 [9.4%]
Unknown	3	0	1	0	3	6	7	20 [0.5%]
TOTAL	434 [11.6%]	410 [10.9%]	465 [12.4%]	477 [12.7%]	574 [15.3%]	694 [18.5%]	695 [18.5%]	3,749 [100.0%]

FSI Num+% 0 1-16 17-42 43-64 65-102 103-177

Source: Provisional SWITRS 2018

- State Traffic Safety Institute (STSI). Traffic Safety Performance (Core Outcome) Measures For California. Washington, DC: National Highway Traffic Safety Administration. <https://cdan.nhtsa.gov/STSI.htm>
- California Department of Transportation. (2019, November). California Public Road Data 2018