

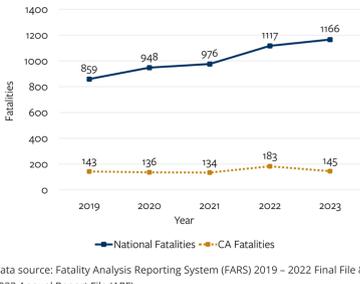
Safe Transportation Research and Education Center

2025 SafeTREC Traffic Safety Facts: Bicycle Safety

Introduction

Bicycling is becoming more popular across the country for commuting, exercise, and leisure. However, in the event of a traffic crash between a motor vehicle and a bicyclist, the bicyclist is the more vulnerable party and more likely to be injured or killed. In 2023, there were 1166 bicyclists killed in a traffic crash in the United States.

BICYCLE FATALITY TRENDS NATIONWIDE AND IN CALIFORNIA FROM 2019 TO 2023



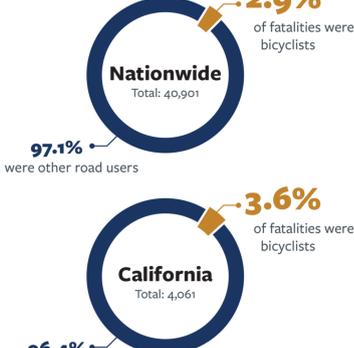
Data source: Fatality Analysis Reporting System (FARS) 2019 – 2022 Final File & 2023 Annual Report File (ARF)

Bicyclists are required to follow the California Vehicle Code while riding on California roadways. Unless prohibited, bicyclists are allowed to ride in travel lanes. In the 2024 California Traffic Safety Survey, 61.3 percent of drivers surveyed believed it is legal for bicyclists to ride on roadways when there is not a bicycle lane present, a decrease from 68 percent of respondents in 2023, and the lowest number recorded since 2014.

In an alarming trend similar to that seen in pedestrian fatalities, between 2016 and 2018, Black Americans died more than four times the rate for white Americans while cycling.

Analyses presented in the bicycling program area include fatal and serious injuries to bicyclists, other cyclists, and passengers on bicycles. Bicycle crashes are defined as crashes where one or more victim is a bicyclist, other cyclist, or bicycling passenger.

BREAKDOWN OF BICYCLE FATALITIES NATIONWIDE AND IN CALIFORNIA IN 2023



Data Source: Data sources: i) National Center for Statistics and Analysis. (2025, April). Overview of motor vehicle traffic crashes in 2023 (Traffic Safety Facts Research Note, Report No. DOT HS 813 705). National Highway Traffic Safety Administration. Table 3, page 5 ii) State Traffic Safety Information (STSI). Traffic Safety Performance (Core Outcome) Measures for California. Washington, DC: National Highway Traffic Safety Administration, C1 - C6

Summary

- In 2023 nationwide, 2.9 percent (or 1166) of all motor vehicle fatalities were bicyclists.
- In 2023 in California, 3.6 percent (or 145) of all motor vehicle fatalities were bicyclists.

California Summary

The figures in this section refer to crashes where one or more bicyclists were fatally or seriously injured in California in 2023.

Bicyclist Fatalities and Serious Injuries by County in 2023

TOP 5 COUNTIES IN CALIFORNIA BY FATALITIES

Ranking	Counties	Fatalities
1	Los Angeles	28
2	San Bernardino	18
3	Sacramento	16
4	Riverside	13
4	San Joaquin	9

TOP 5 COUNTIES IN CALIFORNIA BY SERIOUS INJURIES

Ranking	County	Serious Injuries
1	Los Angeles	268
2	Orange	101
3	San Diego	84
4	Sacramento	72
5	Santa Clara	66

TOP 5 COUNTIES IN CALIFORNIA BY FATALITIES PER 100K POPULATION

Ranking	County	Fatalities Per 100K Population
1	Yuba	2.4
2	Lake	1.5
3	Napa	1.5
4	San Joaquin	1.1
4	Sacramento	1

TOP 5 COUNTIES IN CALIFORNIA BY SERIOUS INJURIES PER 100K POPULATION

Ranking	County	Serious Injuries Per 100K Population
1	Alpine	85.8
2	Santa Cruz	9.1
3	Marin	9
4	San Luis Obispo	7.5
5	Yuba	7.2

Note: Counties are ranked by unrounded fatalities per 100k population.

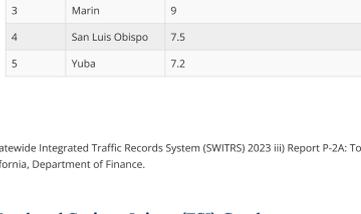
Data source: i) Fatality Analysis Reporting System (FARS) ARF 2023; ii) Provisional Statewide Integrated Traffic Records System (SWITRS) 2023 iii) Report P-2A: Total Population Projections, 2020-2070, California Counties, 2023 Baseline. State of California, Department of Finance. <https://dof.ca.gov/forecasting/demographics/projections/>

Primary Crash Factors and Crash Types for Bicycle Fatal and Serious Injury (FSI) Crashes

TOP FIVE PRIMARY CRASH FACTORS OF BICYCLE FATAL AND SERIOUS INJURY CRASHES IN CALIFORNIA (2023)



TOP FIVE CRASH TYPES OF BICYCLE FATAL AND SERIOUS INJURY CRASHES IN CALIFORNIA (2023)



Note: For more information on the different Crash Types, please see the Transportation Injury Mapping System (TIMS) Help FAQ page, in the [Codebook - Crash Level Section](#)

Data source: Provisional Statewide Integrated Traffic Records System (SWITRS) 2023.

Summary

- Unsafe speed was the most common primary crash factor in bicycle FSI crashes in 2023 making up 16.5 percent, followed by automobile right of way and improper turning, accounting for 16.3 and 15 percent respectively.
- Traffic signals and signs followed by the wrong side of road made up the fourth and fifth most common primary crash factor in bicycle FSI crashes in 2023, accounting for 13.8 and 13.6 percent respectively.

Summary

- Broadside crashes were the most common type of bicycle FSI crashes in 2023 making up 34.9 percent, followed by other (22.6 percent) and rear end (10.3 percent).
- Head-on crashes followed by sideswipe crashes jointly made up the fourth and fifth most common type of bicycle FSI crashes in 2023 each accounting for 8.6 percent.

Time and Day of Fatal and Serious Injury Bicycle Crashes

TIME AND DAY OF FATAL BICYCLE CRASHES IN CALIFORNIA IN 2023



Data sources: i) Fatality Analysis Reporting System (FARS) ARF 2023; ii) Provisional Statewide Integrated Traffic Records System (SWITRS) 2023.

Summary

- The peak period of all fatal bicycle crashes in 2023 was Saturday night between 6pm and 9pm.
- 39.9 percent of all fatal bicycle crashes in 2023 occurred between 6pm and midnight.
- 37.8 percent of fatal bicycle crashes in 2023 occurred on Tuesday and Saturday.

TIME AND DAY OF SERIOUS INJURY BICYCLE CRASHES IN CALIFORNIA IN 2023



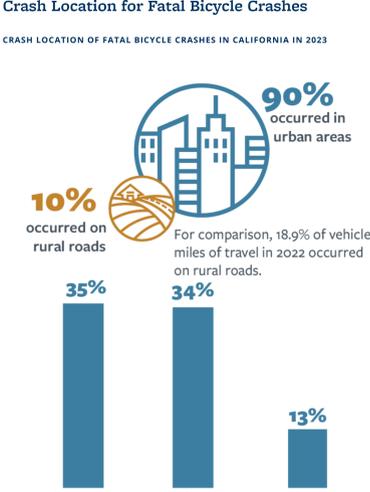
Data sources: i) Fatality Analysis Reporting System (FARS) ARF 2023; ii) Provisional Statewide Integrated Traffic Records System (SWITRS) 2023.

Summary

- The peak period of all serious injury bicycle crashes in 2023 was Tuesday afternoon between 3pm and 6pm.
- 46 percent of all serious injury bicycle crashes in 2023 occurred between 3pm and 9pm.
- 33.3 percent of serious injury bicycle crashes in 2023 occurred on Friday and Saturday.

Crash Location for Fatal Bicycle Crashes

CRASH LOCATION OF FATAL BICYCLE CRASHES IN CALIFORNIA IN 2023



Note: Urban and Rural areas are defined in the Fatality

Analysis Reporting System (FARS) based on the boundaries defined by the U.S. Census Bureau which considers population and housing density.

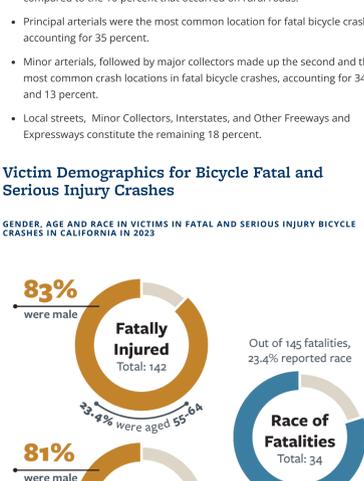
Data source: i) Fatality Analysis Reporting System (FARS) ARF 2023; ii) California Public Road Data 2022, pp. 10-12, Table 4 2022 HPMS. https://dot.ca.gov/media/dot-media/programs/research-innovation-system-information/documents/hpms2022_prd_final.pdf

Summary

- Urban crashes accounted for 90 percent of all fatal bicycle crashes compared to the 10 percent that occurred on rural roads.
- Principal arterials were the most common location for fatal bicycle crashes accounting for 35 percent.
- Minor arterials, followed by major collectors made up the second and third most common crash locations in fatal bicycle crashes, accounting for 34 and 13 percent.
- Local streets, Minor Collectors, Interstates, and Other Freeways and Expressways constitute the remaining 18 percent.

Victim Demographics for Bicycle Fatal and Serious Injury Crashes

GENDER, AGE AND RACE IN VICTIMS IN FATAL AND SERIOUS INJURY BICYCLE CRASHES IN CALIFORNIA IN 2023



Data source: i) Fatality Analysis Reporting System (FARS) ARF 2023; ii) Provisional Statewide Integrated Traffic Records System (SWITRS) 2023

Summary

- Male bicyclists made up 83.4 percent of bicycle fatalities while also making up 81.2 percent of all seriously injured bicyclists in 2023.
- Bicyclists aged 55-64 were the most represented group in bicycle fatalities in 2023, making up 23.4 percent of fatalities and 16.7 of serious injuries. Bicyclists aged 25-35 made up the highest percent of serious injuries at 17.2 percent.
- Race was reported in only 23.4 percent of bicycle fatalities in 2023.
- Of the 34 bicycle fatalities in 2023 with a known race, 79 percent were white.

Policies and Recommendations

Bicyclist safety relates to all of the elements of the [Federal Highway Administration's Safe System Approach](#): safe road users, safe vehicles, safe speeds, safe roads, and post-crash care. The Governor's Highway Safety Association (GHSA) policies and priorities list the following:

- encouraging states to support the use of helmets, adopt helmet laws, and enforce mandatory bicycle helmet laws. States are also encouraged to collect data on bicycle helmets to the greatest practicable extent.
- urging states and communities to leverage infrastructure countermeasures to separate bicycle riders from traffic or to designate travel areas and traffic signaling specifically for bicycles. The problem of bicycle safety should be researched, continually monitored, and evaluated to determine the effectiveness of countermeasures, and to document the progress that has been made in reducing the size and scope of the problem.
- supporting implementation of bicycle safety education programs and bicycle safety awareness programs. Special bicycle safety programs aimed at young children and teenagers should also be implemented at the state and community levels.

Data definitions expressed as queries are available in the data dictionary on [google sheets](#).

References

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