

Safe Transportation Research and Education Center SafeTREC

California Bicycle Safety Facts Thomas Rice June 2017

INTRODUCTION

Bicycling is becoming more popular across the country. In 2015, more than 2 people were killed each day in bicycle injury collisions in the US, representing a 6% increase in bicyclist fatalities since 2006 and a 12% increase from 2014. These fatalities represent about 2% of the total number of road users killed or injured in 2015. However, numbers and rates of bicycle injury collisions might be underreported.1

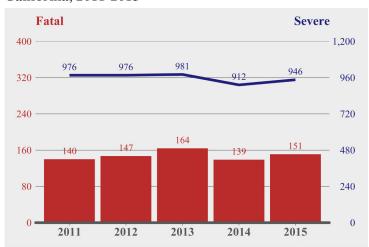
METHODS

Collision data for years 2011-2015 were obtained from the California Statewide Integrated Traffic Records System (SWITRS), an electronic database of police-reported traffic collisions operated by the California Highway Patrol (CHP). SafeTREC queried the publicly available SWITRS files for collisions that involved a bicycle and resulted in injury to the bicycle operator or passenger, and obtained data from the collision, party, and victim data files.

FINDINGS

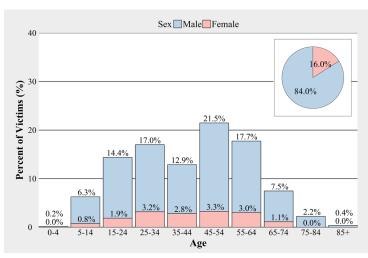
- There were 12,253 bicycle riders injured in traffic collisions in 2015, a 3% decrease compared with the 12,689 riders injured in 2014.
- Of the 12,253 injured bicycle riders, 946 were fatally injured (7.7%) and 151 were fatally injured (1.2%). The number of riders with fatal or severe injured remained stable during the 2011-2015 period, ranging from 1,116 and 8.2% of all injuries to 1,097 and 9.0% of all injuries (Figure 1).
- The fatally or severely injured bicyclists were predominantly males. Less than one out of every five bicyclists was female (16%). The age distribution (Figure 2) shows a wide range of ages. Male riders aged 25-34, 45-54, and 55-64 were the largest groups, comprising 56% of all riders. The likelihood that injured riders were female was slightly greater in age groups 35-44 year. All riders aged 75 years or older were male.

Figure 1. Fatally and Severely Injured Bicyclists, California, 2011-2015



Source: SWITRS 2011-2015 (2014 and 2015 are provisional)

Figure 2. Age and Sex of Fatally or Severely Injured Bicyclists, California, 2015



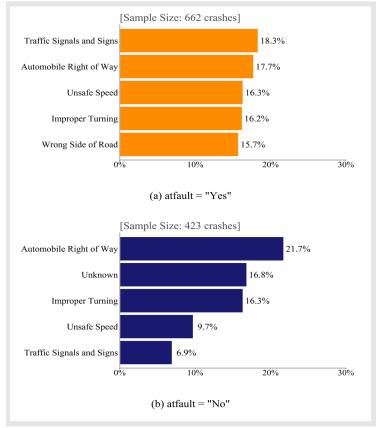
Source: SWITRS 2015 (2015 is provisional)

Men are over-represented in adult bicycling overall, not just bicycle collisions. Nationally, three-quarters of bicycle trips are made by male riders.² In California, the trend is similar - surveys in Los Angeles and San Francisco have found that only 16% and 30% of commuting bicylists were women, respectively.3



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Figure 3. Top Causes of Fatal or Severe Injury Bicycle Collisions by Bicyclist Fault, California, 2015



Source: SWITRS 2015 (2015 is provisional)

Figure 4. Day and Time of Fatal and Severe Injuries (FSI) among Bicyclists, California, 2015

	MON	TUE	WED	THU	FRI	SAT	SUN	TOTAL
Midnight-3AM	5	2	4	1	2	8	8	30
3-6AM	6	5	3	4	2	3	4	27
6-9AM	18	22	22	46	15	13	6	142
9AM-Noon	17	14	16	17	21	32	32	149
Noon-3PM	23	21	16	31	30	34	33	188
3-6PM	32	44	34	42	37	25	25	239
6-9PM	29	31	31	29	28	36	30	214
9PM-Midnight	12	17	13	16	14	19	13	104
Unknown	2	0	1	0	1	0	0	4
TOTAL	144	156	140	186	150	170	151	1,097

FSI Total 0 1 - 3 4 - 13 14 - 21 22 - 31 32 - 46

Source: SWITRS 2015 (2015 is provisional)

- When bicyclists were <u>at fault</u>, they most often violated traffic signals or signs, violated a vehicle's right of way, or were travel at an unsafe speed (Figure 3).
- When bicyclists were <u>not at fault</u>, bicyclists most often had their right of way violated, another vehicle improperly turned, or another vehicle was traveling too fast.
- The number of collision-related bicyclist injuries varied greatly by day of week and time of day (Figure 4). The most injurious time of day was constant across weekdays. On weekdays, the largest number of fatal and severe injuries occurred between 6 am and 9 am and between 3 pm and 9 pm. On Saturdays and Sundays, the times of highest injury risk were from noon to 3 pm and from 6-9 pm.
- When bicyclists were <u>at fault</u>, they most often struck other vehicles broadside, overturned their bicycles, or sideswiped other vehicles.
- When bicyclists were <u>not at fault</u>, the top types of collisions included broadsides, sideswipes, and another vehicle rear-ending the bicycle.

REFERENCES

- 1. Lopez DS, Sunjaya DB, Chan S, et al. Using trauma center data to identify missed bicycle injuries and their associated costs. J Trauma Acute Care Surg. 2012 Dec;73(6):1602-6.
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- 3. San Francisco Municipal Transportation Agency. 2012 San Francisco State of Cycling Report. San Francisco, 2012. https://archives.sfmta.com/cms/rbikes/documents/2012StateofCyclingReport8_9_12.pdf