

TRAFFIC SAFETY FACTS

Aging Road Users

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

INTRODUCTION

The older adult population in the United States aged 65 and older is expected to almost double between 2016 and 2060, from 49 million to 95 million. In 2019, there were 7,214 people aged 65 and older killed in traffic crashes in the United States; this accounted for 20.0 percent of all traffic fatalities. To provide context, the overall population aged 65 and older accounted for 16.5 percent of people in the United States and 20.2 percent of all licensed drivers in 2019. California has the largest number of licensed drivers aged 65 and older in the nation with 4,516,813, or 16.6 percent of all licensed drivers in the state. However, as drivers age, physical and mental changes including reduced visual acuity, increased fragility, restricted movement, and cognitive impairment can directly and indirectly result in age-related driving impairments.

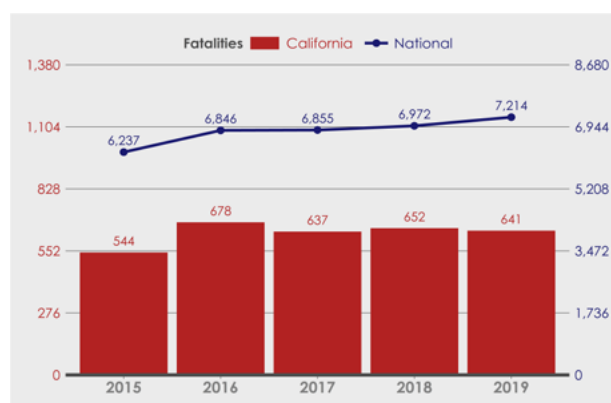
Historically, road safety efforts focused on changing human behaviors to prevent crashes. The Safe System approach reframes efforts to save lives by expecting crashes to happen and focusing attention on reducing the severity of injuries when a crash occurs. By understanding the nuances of aging road user crashes, transportation professionals can better address every aspect of crash risks and implement multiple layers of protection to ensure that everyone traveling on California roadways will go safely. Analyses presented in this section include fatal and serious injuries to drivers, passengers, bicyclists, pedestrians, and other non-motor vehicle occupants aged 65 and older.

KEY FINDINGS

NATIONAL DATA

- In 2019, 7,214 adults aged 65 and older were killed in motor vehicle crashes, an increase of 3.5 percent from 6,972 in 2018 (see Figure 1).
- In 2019, drivers age 65 and older had a lower involvement rate in fatal crashes (16.5 per 100,000 licensed drivers) than drivers age 16-64 (23.0 per 100,000 licensed drivers). While drivers 70 and older drive fewer miles per driver, both the number of licensed drivers 70 and older and the proportion of people 70 and older with licenses has been increasing over the past two decades.
- In 2019, fewer drivers 65 and older involved in fatal crashes had blood alcohol concentrations (BAC) of .08 or more, relative to drivers under 65. Of drivers 65 and older who were involved in fatal crashes in 2018, 9.4 percent were alcohol-impaired.
- In 2018, 55.8 percent of the traffic fatalities involving passenger vehicle drivers age 65 and older were the older drivers themselves.

Figure 1: Aging Road User Fatality Trends, Nationwide and California, 2015-2019



Source: FARS 2015-2018, FARS ARF 2019

CALIFORNIA DATA

- In 2019, there were 641 people age 65 and older killed in traffic crashes in California, which is a 1.7 percent decrease from 652 in 2018.
- Pedestrian fatalities aged 65 and older increased 2.2 percent, from 225 in 2018 to 230 in 2019.
- In 2019, drivers age 65 and older had a lower involvement rate in fatal crashes (12.7 per 100,000 licensed drivers) than drivers age 16-64 (18.5 per 100,000 licensed drivers).

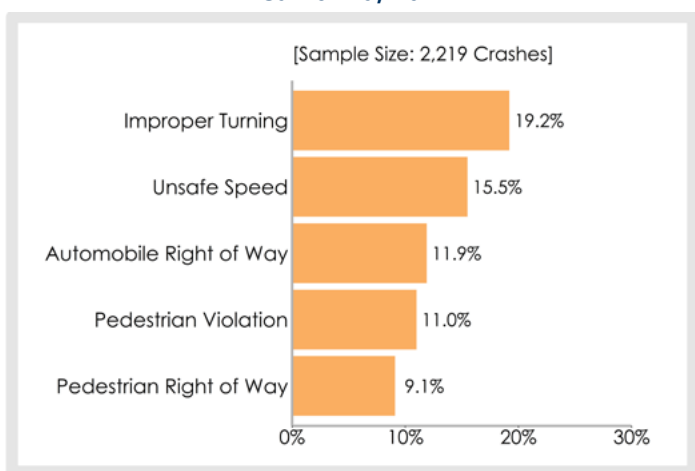
Figure 2: Time of Day and Day of Week for Aging Road User Fatal and Serious Injury Victims, California, 2019

	MON	TUE	WED	THU	FRI	SAT	SUN	TOTAL
Midnight-3AM	11	6	2	5	14	12	15	65 [2.8%]
3-6AM	15	13	10	17	12	11	17	95 [4.1%]
6-9AM	46	36	38	42	44	37	30	273 [11.7%]
9AM-Noon	48	54	56	59	59	52	51	379 [16.3%]
Noon-3PM	54	51	102	66	59	63	60	455 [19.6%]
3-6PM	57	77	73	72	84	62	58	483 [20.8%]
6-9PM	48	57	51	51	61	57	55	380 [16.3%]
9PM-Midnight	31	26	13	25	33	39	21	188 [8.1%]
Unknown	3	1	0	1	0	2	2	9 [0.4%]
TOTAL	313 [13.5%]	321 [13.8%]	345 [14.8%]	338 [14.5%]	366 [15.7%]	335 [14.4%]	309 [13.3%]	2,327 [100.0%]

FSI Num+% 0 1-11 12-29 30-51 52-59 60-102

Source: FARS ARF 2019; Provisional SWITRS 2019

Figure 3: Top Five Primary Crash Factors for Aging Road User Fatal and Serious Injury Crashes, California, 2019

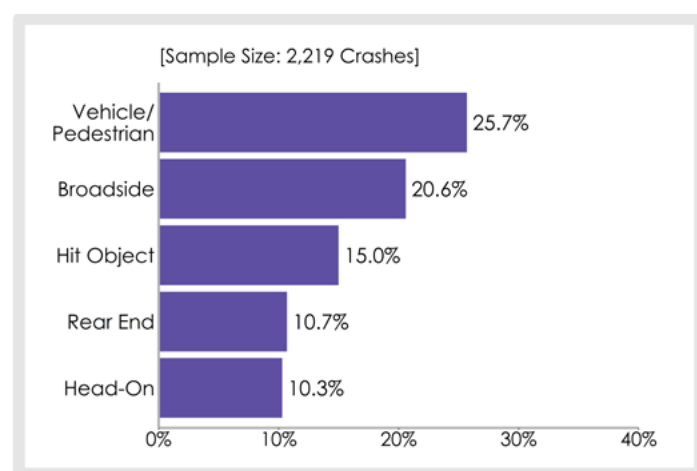


Source: Provisional SWITRS 2019

Primary Crash Factors of Aging Road User Fatal and Serious Injury Crashes

- The most common primary crash factor (PCF) in fatal and serious injury crashes involving aging road users was improper turning at 19.2 percent followed by unsafe speed at 15.5 percent and automobile right of way at 11.9 (see Figure 3).

Figure 4: Top Five Crash Types for Aging Road User Fatal and Serious Injury Crashes, California, 2019



Source: Provisional SWITRS 2019

Crash Types of Aging Road User Fatal and Serious Injury Crashes

- Crashes between a vehicle and a pedestrian were the most common type of crash among fatal and serious injury crashes involving aging road users at 25.7 percent of crashes, followed by broadside crashes at 20.6 percent and hit object with 15.0 percent (see Figure 4).

REFERENCES

- Choi, J., Tay, R., Kim, S., and Jeong, S. Turning movements, vehicle offsets and ageing drivers driving behaviour at channelized and unchannelized intersections. Accident Analysis & Prevention, Volume 108, November 2017, Pages 227-233. <https://www.sciencedirect.com/science/article/pii/S0001457517303093>
- Lombardi, D.A., Horrey, W.J., and Courtney, T.K. Age-related differences in fatal intersection crashes in the United States. Accident Analysis and Prevention 99 (2017) 20-29. <https://www.sciencedirect.com/science/article/pii/S0001457516303918>
- Vespa, J., Medina, L., and Armstrong, D. (2020, Feb - Revised). Demographic Turning Points for the United States: Population Projections for 2020 to 2060. United States Census Bureau. <https://www.census.gov/content/dam/Census/library/publications/2020/demo/p25-1144.pdf> Accessed April 2021.
- U.S. Census Bureau, ACS DEMOGRAPHIC AND HOUSING ESTIMATES, 2019: ACS 1-Year Estimates Data Profiles. Accessed April 2021. https://data.census.gov/cedsci/table?q=United%20States&g=0100000US&tid=A_CSDP1Y2019_DP05
- Federal Highway Administration. Highway Statistics 2019. Accessed April 2021. <https://www.fhwa.dot.gov/policyinformation/statistics/2019>
- Insurance Institute for Highway Safety. (2021, April). Older Drivers. Accessed April 2021. <https://www.iihs.org/topics/older-drivers>
- National Center for Statistics and Analysis. (2020, December). Overview of Motor Vehicle Crashes in 2019. (Traffic Safety Facts Research Note, Report No. DOT HS 813 060). Washington, DC: National Highway Traffic Safety Administration.

COUNTY TABLE: AGING ROAD USERS**Figure 5: Aging Road User Fatalities and Serious Injuries, by Number and Rate, 2019**

County	Population	Fatalities	Serious Injuries	Fatal & Serious Injuries (FSI)	FSI per 100K Population
Alameda	1,668,965	12	66	78	4.67
Alpine	1,123	0	3	3	267.14
Amador	37,724	5	13	18	47.72
Butte	214,532	2	24	26	12.12
Calaveras	44,403	2	9	11	24.77
Colusa	22,045	2	4	6	27.22
Contra Costa	1,147,269	12	32	44	3.84
Del Norte	27,207	3	5	8	29.40
El Dorado	188,818	5	11	16	8.47
Fresno	1,018,437	28	22	50	4.91
Glenn	29,072	0	4	4	13.76
Humboldt	133,820	2	14	16	11.96
Imperial	188,962	8	14	22	11.64
Inyo	18,463	6	6	12	65.00
Kern	909,697	20	27	47	5.17
Kings	153,522	2	5	7	4.56
Lake	64,080	4	6	10	15.61
Lassen	28,972	0	1	1	3.45
Los Angeles	10,210,966	125	345	470	4.60
Madera	157,686	10	13	23	14.59
Marin	260,969	6	17	23	8.81
Mariposa	17,842	1	4	5	28.02
Mendocino	88,125	4	13	17	19.29
Merced	281,592	7	18	25	8.88
Modoc	9,458	2	2	4	42.29
Mono	13,585	3	8	11	80.97
Monterey	443,397	8	26	34	7.67
Napa	139,874	2	8	10	7.15
Nevada	97,808	1	11	12	12.27
Orange	3,195,197	32	98	130	4.07
Placer	394,626	0	21	21	5.32
Plumas	18,450	0	8	8	43.36
Riverside	2,428,464	37	105	142	5.85
Sacramento	1,548,760	33	66	99	6.39
San Benito	62,051	2	2	4	6.45
San Bernardino	2,176,150	46	73	119	5.47
San Diego	3,346,937	47	119	166	4.96
San Francisco	897,114	12	33	45	5.02
San Joaquin	767,935	13	45	58	7.55
San Luis Obispo	277,276	5	25	30	10.82
San Mateo	776,002	8	33	41	5.28
Santa Barbara	452,066	9	26	35	7.74
Santa Clara	1,960,932	27	48	75	3.83
Santa Cruz	272,185	8	18	26	9.55
Shasta	177,620	7	18	25	14.07
Sierra	3,127	1	2	3	95.94
Siskiyou	44,000	3	10	13	29.55
Solano	439,990	10	12	22	5.00
Sonoma	495,058	6	33	39	7.88
Stanislaus	554,212	12	33	45	8.12
Sutter	102,808	2	9	11	10.70
Tehama	65,163	0	6	6	9.21
Trinity	13,374	4	5	9	67.30
Tulare	477,731	9	30	39	8.16
Tuolumne	52,557	1	8	9	17.12
Ventura	844,213	13	51	64	7.58
Yolo	220,723	9	12	21	9.51
Yuba	78,061	3	6	9	11.53
Total	39,761,195	641	1,686	2,327	5.85

Source: FARS ARF 2019, Provisional SWITRS 2019, California Department of Finance 2020