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#### **Title**

2021 SafeTREC Traffic Safety Fact Sheet: Aging Road Users

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## 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.

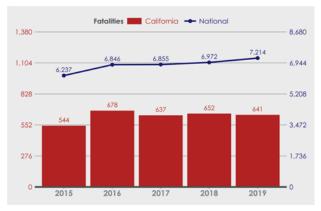
Historically, road safety efforts focused on changing human behaviors to prevent crashes. The Safe System approach reframes efforts to save lives by expecting crashes to happen and focusing attention on reducing the severity of injuries when a crash occurs. By understanding the nuances of aging road 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

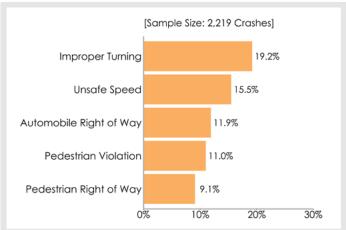


Source: FARS 2015-2018, FARS ARF 2019

#### **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 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).

#### **REFERENCES**

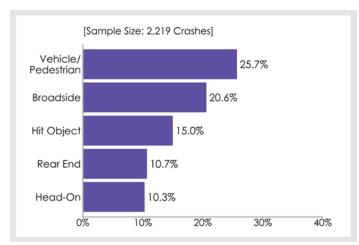
- Choi, J., Tay, R., Kim, S., and Jeong, S. Turning movements, vehicle offsets and ageing drivers driving behaviour at channelized and unchannelized intersections. Accident Analysis & Prevention, Volume 108, November 2017, Pages 227-233. <a href="https://www.sciencedirect.com/science/article/pii/ 50001457517303093">https://www.sciencedirect.com/science/article/pii/ 50001457517303093</a>
- 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. <a href="https://www.sciencedirect.com/science/article/pii/S0001457516303918">https://www.sciencedirect.com/science/article/pii/S0001457516303918</a>
- 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. <a href="https://www.census.gov/content/dam/Census/library/publications/2020/demo/p25-1144.pdf">https://www.census.gov/content/dam/Census/library/publications/2020/demo/p25-1144.pdf</a> Accessed April 2021.

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



Source: FARS ARF 2019; Provisional SWITRS 2019

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).

- 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=ACSDP1Y2019.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. <a href="https://www.iihs.org/topics/older-drivers">https://www.iihs.org/topics/older-drivers</a>
- 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

Alomed			-	-	Fatal & Serious	FSI per 100K
Alpine 1,123 0 3 3 3 267. Amador 37,724 5 13 18 47. Butte 214,532 2 24 26 12. Caloweros 44,403 2 9 9 11 24. Colusa 22,045 2 4 6 6 27. Colusa 22,045 2 4 6 6 27. Colusa 1,147,269 12 32 44 6 27. Del Norte 27,207 3 5 8 29. Del Norte 27,207 3 5 8 29. Del Norte 27,207 3 5 11 16 8. Fresno 1,018,437 28 22 50 44 16. Fresno 1,018,437 28 22 50 44. Imperial 188,181 5 11 16 8. Imperial 188,962 8 14 12 11. Imperial 188,962 8 14 12 12 11. Imperial 188,962 8 14 12 12 11. Imperial 188,962 8 14 12 2 11. Imperial 188,962 8 12 2 5 7 2 2 2 2 2 5 7 7 2 2 2 2 2 2 2 5 7 7 2 2 2 2	County	Population	Fatalities	Serious Injuries	Injuries (FSI)	Population
Amador 37,724 5 13 18 47. Butte 214,532 2 2 24 26 12. Colaveros 44,403 2 9 9 111 24. Colusa 22,045 2 4 6 6 27. Contro Costa 1,147,269 12 32 44 33. Del Norte 27,207 3 5 8 29. El Dorado 188,818 5 111 16 8. Fresno 1,108,437 28 22 50 4 4 16 11. Imperiol 1,108,437 28 22 50 4 4 16 11. Imperiol 188,962 8 14 22 111. Imperiol 188,962 8 14 12 1 1 1 3. Imperiol 188,962 8 10.010,966 125 345 470 44. Index 64,080 4 6 10 15. Index 64,080 4 6 10 15. Index 64,080 4 6 10 15. Index 64,080 1 1 1 1 3. Imperiol 188,962 8 1 1 1 1 3. Imperiol 188,962 8 1 1 1 1 1 2. Imperiol 188,962 8 1 1 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1	Alameda	1,668,965	12	66	78	4.67
Buttle 214,532 2 24 26 12. Calaveras 44,403 2 9 11 24. Colusa 22,045 2 4 6 6 27. Contra Costa 1,147,269 12 32 44 6. Entra Costa 1,147,269 12 32 44 3. Del Norte 27,207 3 5 8 29. El Dorado 188,818 5 11 16 6 8. Fresno 1,018,437 28 22 50 44 16. Glenn 29,072 0 4 4 4 16. Imperial 188,962 18 14 16 11. Imperial 188,962 8 14 22 11. Imperial 188,962 18 14 12 22 11. Imperial 188,962 18 14 12 11. Imperial 188,962 18 14 12 11. Imperial 188,962 18 19 19 19 19 19 19 19 19 19 19 19 19 19	Alpine	1,123	0	3	3	267.14
Calaveras         44,403         2         9         11         24.           Colusa         22,045         2         4         6         227.           Contra Costa         1,147,269         12         32         44         33.           Del Norte         27,207         3         5         8         29.           B Dorado         188,818         5         11         16         8.           Fresno         1,018,437         28         22         50         44           Humboldt         133,820         2         14         16         111.           Importal         188,962         8         14         22         11.           Importal         18,463         6         6         12         655           Kem         909,697         20         27         47         55           Kings         153,522         2         5         7         4.4           Lassen         28,972         0         1         1         1         3         23         14.           Lassen         102,109,66         125         345         470         4.6         4         6         10	Amador	37,724	5	13	18	47.72
Colusa         22,045         2         4         6         27: Contra Costa         1,147,269         12         32         44         33. Del Norte           Del Norte         22,207         3         5         8         29. El Dorado         188,818         5         111         16         8. Person         1,018,437         28         22         50         43. Person         1,018,437         28         22         50         44         4         13. Person         1,018,437         28         22         50         43. Person         1,018,437         28         22         50         43. Person         1,018,437         28         22         50         43. Person         1,018,433         6         6         6         111. Person         11. Person         11. Person         1,118,433         6         6         6         12. Person         1,118,433         1         1,118,433         1         1,118,433         1         1,118,433         1         1,118,433         1         1,118,433         1	Butte	214,532	2	24	26	12.12
Contra Costa         1,147,269         12         32         44         3.8           Del Norte         27,207         3         5         8         29.           El Dorado         188,818         5         11         1         6         8           Fresno         1,018,437         28         22         50         4.3           Glenn         29,072         0         4         4         13.           Humboldt         118,820         2         14         16         11.           Impo         18,463         6         6         12         655.           Kem         909,697         20         27         47         5.5           Kings         153,522         2         5         7         4.3           Lake         64,080         4         6         10         15.           Lase         64,080         4         6         10         15.           Lossen         28,972         0         1         1         1         3.3           Lossen         10,210,966         125         345         470         4.4           Morin         20,969         6         <	Calaveras	44,403	2	9	11	24.77
Del Norte	Colusa	22,045	2	4	6	27.22
El Dorado 188,818 5 111 16 8.4 Fresno 1.018,437 28 22 50 44 Clenn 29,072 0 4 4 4 13. Humboldt 133,820 2 114 16 11. Imperial 188,962 8 114 22 11. Inyo 18,463 6 6 6 12 65.3 Kern 909,697 20 27 47 5. Kings 153,522 2 5 5 7 44. Lake 64,080 4 6 10 15. Lassen 28,972 0 1 1 1 3. Los Angeles 10,210,966 125 345 470 4.4 Madera 157,686 10 13 23 14. Marinosa 17,842 1 4 5 28. Marinosa 17,842 1 4 5 28. Mendocino 88,125 4 13 177 19. Merced 281,592 7 18 25 8.8 Modoc 9,458 2 2 4 4 42. Mono 13,885 3 8 11 80. Morarey 443,397 8 26 34 7. Napa 139,874 2 8 10 7. Nevada 97,808 1 11 12 12 12. Orange 3,195,197 32 98 130 44. Riverside 2,428,464 37 105 142 5. San Benito 62,051 2 2 4 6. San Benito 64,060 3 3 66 99 6. San Benito 62,051 2 2 4 6. San Benito 62,051 2 2 2 5 5 30 10. San Benito 62,051 2 2 2 4 6. San Benito 62,051 2 2 2 5 5 30 10. San Benito 62,051 2 2 2 4 6. San Benito 62,051 2 2 2 5 5 30 10. San Benito 62,051 2 2 2 4 6. San Benito 62,051 2 2 2 5 5 30 10. San Benito 62,051 2 2 2 4 6. San Benito 62,051 2 2 2 5 5 30 10. San Benito 62,051 2 2 2 4 6. San Benito 62,051 2 2 2 5 5 30 10. San Benito 62,051 2 2 2 5 5 30 10. San Benito 62,051 2 2 2 5 5 30 10. San Benito 77,002 8 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Contra Costa	1,147,269	12	32	44	3.84
Fresno         1,018,437         28         22         50         4.3           Glenn         29,072         0         4         4         13.           Humboldt         133,820         2         114         16         11.           Importal         188,962         8         14         22         11.           Importal         188,962         8         14         22         11.           Importal         188,962         8         14         22         11.           Importal         184,63         6         6         12         65.           Kern         909,697         20         27         47         5.           Kend         40,080         4         6         10         15.           Loste         640,890         4         6         10         15.           Loste         640,890         1         1         1         3.           Mordacer         157,886         10         13         23         14           Mcrocol         157,886         10         13         23         8.           Mericol         281,592         7         18         25	Del Norte	27,207	3	5	8	29.40
Glenn         29.072         0         4         4         13.           Humbolott         133,820         2         14         16         11.           Imperial         188,962         8         14         22         15.           Inyo         18.463         6         6         12         65.           Kerm         909,697         20         27         47         5.           Kings         153,522         2         5         7         4.4           Lake         64,080         4         6         10         15.           Lassen         28,972         0         1         1         1         3.4           Los Angeles         10,210,966         125         345         470         4.4           Macron         157,886         10         13         23         14.           Marin         260,969         6         17         23         8.8           Marin         260,969         6         17         23         8.8           Marin         260,969         6         17         23         8.8           Marin         260,969         6         17 <t< td=""><td>El Dorado</td><td>188,818</td><td>5</td><td>11</td><td>16</td><td>8.47</td></t<>	El Dorado	188,818	5	11	16	8.47
Humboldt	Fresno	1,018,437	28	22	50	4.91
Imperial         188,962         8         14         22         11.           Inyo         18,463         6         6         12         65.           Kern         909,697         20         27         47         5.           Kings         153,522         2         5         7         4.4           Lake         64,080         4         6         10         15.           Lossen         28,972         0         1         1         1         3.4           Los Angeles         10,210,966         125         345         470         4.4           Madera         157,686         10         13         23         14.           Madera         157,686         10         13         23         14.           Marinosa         17,842         1         4         5         28.           Merced         281,592         7         18         25         8.           Merced         281,592         7         18         25         8.           Modoc         9,458         2         2         4         422           Monon         135,895         3         8         11	Glenn	29,072	0	4	4	13.76
Inyo	Humboldt	133,820	2	14	16	11.96
Kern         909,697         20         27         47         5.5           Kings         153,522         2         5         7         4.4           Lake         64,080         4         6         10         15.5           Lossen         28,972         0         1         1         1         3.3           Los Angeles         10,210,966         125         345         470         4.4           Macdera         157,686         10         13         23         14.           Marin         260,969         6         17         23         8.3           Merced         281,592         7         18         25         28.           Mendocino         88,125         4         13         17         19.           Merced         281,592         7         18         25         8.8         11           Modoc         9,458         2         2         2         4         42.           Mono         135,853         3         8         11         80           Mone         135,874         2         8         10         7.           Nevada         97,808         1	Imperial	188,962	8	14	22	11.64
Kings         153,522         2         5         7         4.3           Lake         64,080         4         6         10         15.           Loss Angeles         10,210,966         125         345         470         4.4           Madera         157,686         10         13         23         14.           Mariposa         17,842         1         4         5         28.           Merced         281,592         7         18         25         8.8           Mendocino         88,125         4         13         17         19.           Merced         281,592         7         18         25         8.8           Modoc         9,458         2         2         4         42.	Inyo	18,463	6	6	12	65.00
Lake         64,080         4         6         10         15.           Lassen         28,972         0         1         1         3.           Los Angeles         10,210,966         125         345         470         4.3           Madroca         157,686         10         13         23         14.           Marin         260,969         6         17         23         8.8           Merdocino         8.18         1	Kern	909,697	20	27	47	5.17
Lossen 28,972 0 1 1 1 3.4  Los Angeles 10.210,966 125 345 470 4.4  Madera 157,686 10 13 23 14.  Marin 260,969 6 177 23 8.8  Mariposa 17,842 1 4 5 28.  Mendocino 88,125 4 13 177 19.  Merced 281,592 7 18 25 8.8  Mono 13,585 3 8 111 80.  Mono 13,585 3 8 111 80.  Montrey 443,397 8 26 34 7.9  Napa 139,874 2 8 10 7.7  Nevada 97,808 1 111 12 12 12.  Crange 3,195,197 32 98 130 4.6  Pluma 18,450 0 8 8 8 43.  Riverside 2,428,464 37 105 142 5.8  San Bernito 62,051 2 2 4 4 6.4  San Bernardino 2,176,150 46 73 119 166 4.5  San Brancisco 897,114 12 33 45 5.8  San Luis Obispo 277,276 5 25 30 100  San Mateo 776,002 8 38 18 25 30 10 15  San Luis Obispo 277,276 5 25 30 100  San Bardara 452,066 9 26 33 45 5.8  Santo Clara 1,960,932 27 48 75 33  Santo Barbara 452,066 9 26 35 7.5  San Bardara 452,066 9 26 35 7.5  San Luis Obispo 277,276 5 25 30 100  San Bardara 452,066 9 26 35 7.5  Santo Clara 1,960,932 27 48 75 33  Santo Clara 1,960,932 27 48 75 33  Santo Clara 1,960,932 27 48 75 33  Sierra 3,127 1 2 3 3 95.  Siskiyou 44,000 3 10 13 29.  Shasta 177,620 7 18 25 144  Solano 439,990 10 12 22 5.5  Sonoma 495,058 6 33 39 7.8  Storislaus 554,212 12 33 45 8.8  Storitivy 13,374 4 5 9 9 67.  Tuolumne 52,557 1 8 9 17.  Ventura 844,213 13 51 64 7.5  Ventura 844,213 13 51 64 7.5  Ventura 844,213 13 51 64 7.5	Kings	153,522	2	5	7	4.56
Los Angeles         10,210,966         125         345         470         4.4           Modera         157,686         10         13         23         14.           Morin         260,969         6         17         23         8.8           Moriposa         17,842         1         4         5         28.           Mendocino         88,125         4         13         17         19.           Merced         281,592         7         18         25         8.8           Modoc         9,458         2         2         4         42.           Modoc         13,585         3         8         11         11         12         12.           Modoc         9,458         13         0	Lake	64,080	4	6	10	15.61
Macdera         157,686         10         13         23         14.           Marin         260,969         6         17         23         8.8           Mariposa         17,842         1         4         5         28.           Mendocino         88,125         4         13         17         119.           Merced         281,592         7         18         25         8.           Modoc         9,458         2         2         4         42.           Mono         13,585         3         8         11         80.           Monterey         443,397         8         26         34         7.3           Nevada         97,808         1         11         12         12.           Nevada         97,808         1         11         12         12.           Orange         31,95,197         32         98         130         44.           Plumas         18,450         0         8         8         8         43.           Simserside         2,428,464         37         105         142         5.           San Benito         62,051         2         2	Lassen	28,972	0	1	1	3.45
Marin         260,969         6         17         23         8.8           Mariposa         17,842         1         4         5         281           Mendocino         88,125         4         13         17         19.           Merced         281,592         7         18         25         8.           Modoc         9,458         2         2         4         42.           Mono         13,585         3         8         11         80.           Monterey         443,397         8         26         34         7.           Napa         139,874         2         8         10         7.           Nevada         97,808         1         11         12         12           Orange         3,195,197         32         98         130         4.0           Plumas         18,450         0         8         8         8         43.           Sacramento         1,548,760         33         66         99         6.5           San Benito         62,051         2         2         4         6.           San Eroncisco         897,114         12         33	Los Angeles	10,210,966	125	345	470	4.60
Mariposa         17,842         1         4         5         281           Mendocino         88,125         4         13         17         19;           Merced         281,592         7         18         25         8.8           Modoc         9,458         2         2         4         42;           Mono         13,885         3         8         11         80;           Monterey         443,397         8         26         34         7.4           Napa         139,874         2         8         10         7.7           Nevada         97,808         1         11         12         12;           Orange         319,5197         32         98         130         4.6           Plucer         394,626         0         21         21         21         5.6           Plumas         18,450         0         8         8         43.3         43.3           Riverside         2,428,464         37         105         142         5.8           Sar Benito         62,051         2         2         4         6.4           San Bernardino         2,176,150 <t< td=""><td>Madera</td><td>157,686</td><td>10</td><td>13</td><td>23</td><td>14.59</td></t<>	Madera	157,686	10	13	23	14.59
Mendocino         88,125         4         13         17         19.           Merced         281,592         7         18         25         8.8           Modoc         9,458         2         2         4         42.           Mono         13,585         3         8         11         80.           Monterey         443,397         8         26         34         7.           Nepa         139,874         2         8         10         7.           Nevada         97,808         1         11         12         12.           Orange         3,195,197         32         98         130         40           Plucer         394,626         0         21         21         21         5.5           Plumas         18,450         0         8         8         8         43.           Riverside         2,428,464         37         105         142         5.5           Sacramento         1,548,760         33         66         99         6.3           San Benito         62,051         2         2         4         6.4           San Francisco         897,114 <td< td=""><td>Marin</td><td>260,969</td><td>6</td><td>17</td><td>23</td><td>8.81</td></td<>	Marin	260,969	6	17	23	8.81
Merced         281,592         7         18         25         8.8           Modoc         9,458         2         2         4         42.           Mono         13,585         3         8         11         80.           Monterey         443,397         8         26         34         7.4           Nappa         139,874         2         8         10         7.7           Nevada         97,808         1         11         12         12.           Orange         3,195,197         32         98         130         4.0           Plucer         394,626         0         21         21         21         5.5           Plumas         18,450         0         8         8         8         43.           Sacramento         1,548,760         33         66         99         6.5           San Benito         62,051         2         2         4         6.4           San Bernardino         2,176,150         46         73         119         166         4.5           San Francisco         897,114         12         33         45         58         7.5	Mariposa	17,842	1	4	5	28.02
Modoc         9,458         2         2         4         42.           Mono         13,585         3         8         11         80.           Monterey         443,397         8         26         34         7.4           Napa         139,874         2         8         10         7.           Nevada         97,808         1         11         12         12.           Nevada         97,808         1         11         12         12.           Orange         3,195,197         32         98         130         44.           Placer         394,626         0         21         21         5.           Plumas         18,450         0         8         8         43.           Riverside         2,428,464         37         105         142         5.8           Sacramento         1,548,760         33         66         99         6.5           San Benito         62,051         2         2         4         6.4           San Benardino         2,176,150         46         73         119         166         4.5           San Francisco         897,114         12	Mendocino	88,125	4	13	17	19.29
Mono         13,585         3         8         11         80.           Monterey         443,397         8         26         34         7.8           Nopa         139,874         2         8         10         7.7           Nevada         97,808         1         11         12         12.1           Orange         3,195,197         32         98         130         4.6           Pluder         394,626         0         21         21         5.5           Plumas         18,450         0         8         8         8         43.           Riverside         2,428,464         37         105         142         5.8           Sar Benito         62,051         2         2         4         6.4           San Benito         62,051         2         2         4         6.4           San Bernardino         2,176,150         46         73         119         166         4.5           San Bernardino         2,176,150         46         73         119         166         4.5           San Ercancisco         897,114         12         33         45         5.0 <td< td=""><td>Merced</td><td>281,592</td><td>7</td><td>18</td><td>25</td><td>8.88</td></td<>	Merced	281,592	7	18	25	8.88
Monterey         443,397         8         26         34         7,3           Napa         139,874         2         8         10         7.           Nevada         97,808         1         11         12         12.           Orange         3,195,197         32         98         130         4.0           Placer         394,626         0         21         21         5.3           Plumas         18,450         0         8         8         43.           Riverside         2,428,464         37         105         142         5.8           Sacramento         1,548,760         33         66         99         6.3           San Benito         62,051         2         2         4         6.4           San Bernardino         2,176,150         46         73         119         5.4           San Diego         3,346,937         47         119         166         4.5           San Francisco         897,114         12         33         45         5.0           San Luis Obispo         277,276         5         25         30         10           San Mateo         776,002         <	Modoc	9,458	2	2	4	42.29
Napa         139,874         2         8         10         7.           Nevada         97,808         1         111         12         12.           Orange         3,195,197         32         98         130         44.           Placer         394,626         0         21         21         21         5.           Plumas         18,450         0         8         8         43.           Riverside         2,428,464         37         105         142         5.           Sacramento         1,548,760         33         66         99         6.           San Benito         62,051         2         2         4         6.           San Bernardino         2,176,150         46         73         119         5.           San Diego         3,346,937         47         119         166         4.           San Francisco         897,114         12         33         45         5.           San Luis Obispo         277,276         5         25         30         10.           San Mateo         776,002         8         33         41         5.           Santa Clara         1,960	Mono	13,585	3	8	11	80.97
Nevada         97,808         1         11         12         12           Orange         3,195,197         32         98         130         4.0           Placer         394,626         0         21         21         5.5           Plumas         18,450         0         8         8         43.           Riverside         2,428,464         37         105         142         5.8           Sacramento         1,548,760         33         66         99         6.3           San Benito         62,051         2         2         4         6.4           San Benito         62,051         3         3         45         5.6           San Benito         62,051         3         3	Monterey	443,397	8	26	34	7.67
Orange         3.195,197         32         98         130         4.0           Placer         394,626         0         21         21         5.3           Plumas         18.450         0         8         8         43.3           Riverside         2.428,464         37         105         142         5.8           Sacramento         1.548,760         33         66         99         6.3           San Benito         62,051         2         2         4         6.4           San Bernardino         2.176,150         46         73         119         5.4           San Diego         3.346,937         47         119         166         4.3           San Francisco         897,114         12         33         45         5.0           San Juis Obispo         277,276         5         25         30         10.3           San Mateo         776,002         8         33         41         5.2           Santa Barbara         452,066         9         26         35         7.3           Santa Clara         1,960,932         27         48         75         3.8           Santa Cruz         <	Napa	139,874	2	8	10	7.15
Placer         394,626         0         21         21         5.3           Plumas         18,450         0         8         8         43.3           Riverside         2,428,464         37         105         142         5.8           Sacramento         1,548,760         33         66         99         6.3           San Benito         62,051         2         2         4         6.4           San Bernardino         2,176,150         46         73         119         166         4.5           San Diego         3,346,937         47         119         166         4.5           San Diego         3,346,937         47         119         166         4.5           San Francisco         897,114         12         33         45         5.0           San Jacoquin         767,935         13         45         58         7.3           San Jacoquin         767,935         13         45         58         7.3           San Mateo         776,002         8         33         41         5.2           Santa Barbara         452,066         9         26         35         7.3           Sant	Nevada	97,808	1	11	12	12.27
Plumas         18,450         0         8         8         43.           Riverside         2,428,464         37         105         142         5.8           Sacramento         1,548,760         33         66         99         6.3           San Benito         62,051         2         2         4         6.4           San Bernardino         2,176,150         46         73         119         5.4           San Diego         3,346,937         47         119         166         43           San Diego         3,346,937         47         119         166         43           San Francisco         897,114         12         33         45         5.6           San Joaquin         767,935         13         45         58         7.3           San Luis Obispo         277,276         5         25         30         10.0           San Mateo         776,002         8         33         41         5.2           Santa Clara         1,960,932         27         48         75         3.8           Santa Cruz         272,185         8         18         26         9.3           Shasta         <	Orange	3,195,197	32	98	130	4.07
Riverside         2,428,464         37         105         142         5.8           Sacramento         1,548,760         33         66         99         6.3           San Benito         62,051         2         2         4         6.4           San Bernardino         2,176,150         46         73         119         5.4           San Diego         3,346,937         47         119         166         4.3           San Diego         3,346,937         47         119         166         4.3           San Diego         3,346,937         47         119         166         4.3           San Francisco         897,114         12         33         45         5.6           San Joaquin         767,935         13         45         5.8         7.3           San Luis Obispo         277,276         5         25         30         10.3           San Mateo         776,002         8         33         41         5.2           Santa Barbara         452,066         9         26         35         7.7           Santa Clara         1,960,932         27         48         75         3.8           Sant	Placer	394,626	0	21	21	5.32
Sacramento         1,548,760         33         66         99         6.3           San Benito         62,051         2         2         4         6.4           San Bernardino         2,176,150         46         73         119         5.4           San Diego         3,346,937         47         119         166         4.5           San Diego         3,346,937         47         119         166         4.5           San Francisco         897,114         12         33         45         5.0           San Joaquin         767,935         13         45         58         7.3           San Luis Obispo         277,276         5         25         30         10.3           San Mateo         776,002         8         33         41         5.2           Santa Barbara         452,066         9         26         35         7.3           Santa Clara         1,960,932         27         48         75         3.8           Santa Cruz         272,185         8         18         26         9.3           Shasta         177,620         7         18         25         14           Sierra	Plumas	18,450	0	8	8	43.36
San Benito         62,051         2         2         4         6.4           San Bernardino         2,176,150         46         73         119         5.4           San Diego         3,346,937         47         119         166         4.9           San Francisco         897,114         12         33         45         5.0           San Joaquin         767,935         13         45         58         7.3           San Luis Obispo         277,276         5         25         30         10.3           San Mateo         776,002         8         33         41         5.2           Santa Barbara         452,066         9         26         35         7.3           Santa Clara         1,960,932         27         48         75         3.8           Santa Cruz         272,185         8         18         26         9.3           Shasta         177,620         7         18         25         14.1           Sierra         3,127         1         2         3         95.           Siskiyou         44,000         3         10         13         29.           Solano         495,058 <td>Riverside</td> <td>2,428,464</td> <td>37</td> <td>105</td> <td>142</td> <td>5.85</td>	Riverside	2,428,464	37	105	142	5.85
San Bernardino         2,176,150         46         73         119         5.6           San Diego         3,346,937         47         119         166         4.9           San Francisco         897,114         12         33         45         5.6           San Joaquin         767,935         13         45         58         7.3           San Luis Obispo         277,276         5         25         30         10.3           San Mateo         776,002         8         33         41         5.2           Santa Barbara         452,066         9         26         35         7.3           Santa Clara         1,960,932         27         48         75         3.8           Santa Cruz         272,185         8         18         26         9.3           Shasta         177,620         7         18         25         14.1           Sierra         3,127         1         2         3         95.           Siskiyou         44,000         3         10         13         29.           Solano         495,058         6         33         39         7.8           Stanislaus         554,212	Sacramento	1,548,760	33	66	99	6.39
San Diego         3,346,937         47         119         166         4.9           San Francisco         897,114         12         33         45         5.0           San Joaquin         767,935         13         45         58         7.3           San Luis Obispo         277,276         5         25         30         10.3           San Mateo         776,002         8         33         41         5.2           San Mateo         776,002         8         33         41         5.2           Santa Barbara         452,066         9         26         35         7.3           Santa Clara         1,960,932         27         48         75         3.8           Santa Clara         1,960,932         27         48         75         3.8           Santa Clara         1,960,932         27         48         75         3.8           Santa Clara         1,960,932         27         18         26         9.3           Shasta         177,620         7         18         25         14.1           Sierra         3,127         1         2         3         95.           Siskiyou <td< td=""><td>San Benito</td><td>62,051</td><td>2</td><td>2</td><td>4</td><td>6.45</td></td<>	San Benito	62,051	2	2	4	6.45
San Francisco         897,114         12         33         45         5.0           San Joaquin         767,935         13         45         58         7.3           San Luis Obispo         277,276         5         25         30         10.3           San Mateo         776,002         8         33         41         5.2           Santa Barbara         452,066         9         26         35         7.3           Santa Clara         1,960,932         27         48         75         3.8           Santa Clara         1,960,932         27         18         25         14.1           Sierra         3,127         1         2         3         95.5           Siskiyou <td>San Bernardino</td> <td>2,176,150</td> <td>46</td> <td>73</td> <td>119</td> <td>5.47</td>	San Bernardino	2,176,150	46	73	119	5.47
San Joaquin         767,935         13         45         58         7.3           San Luis Obispo         277,276         5         25         30         10.3           San Mateo         776,002         8         33         41         5.2           Santa Barbara         452,066         9         26         35         7.7           Santa Barbara         452,066         9         26         35         7.7           Santa Clara         1,960,932         27         48         75         3.8           Santa Clara         1,960,932         27         18         26         9.3           Shasta         1,777,620         7         18         25         14.1           Sierra<	San Diego	3,346,937	47	119	166	4.96
San Luis Obispo         277,276         5         25         30         10.0           San Mateo         776,002         8         33         41         5.2           Santa Barbara         452,066         9         26         35         7.7           Santa Clara         1,960,932         27         48         75         3.8           Santa Cruz         272,185         8         18         26         9.5           Shasta         177,620         7         18         25         14.1           Sierra         3,127         1         2         3         95.           Siskiyou         44,000         3         10         13         29.           Solano         439,990         10         12         22         5.0           Sonoma         495,058         6         33         39         7.8           Stanislaus         554,212         12         33         45         8.           Sutter         102,808         2         9         11         10.           Tehama         65,163         0         6         6         9.2           Trinity         13,374         4	San Francisco	897,114	12	33	45	5.02
San Mateo         776,002         8         33         41         5.2           Santa Barbara         452,066         9         26         35         7.7           Santa Clara         1,960,932         27         48         75         3.8           Santa Cruz         272,185         8         18         26         9.5           Shasta         177,620         7         18         25         14.1           Sierra         3,127         1         2         3         95.           Siskiyou         44,000         3         10         13         29.           Solano         439,990         10         12         22         5.0           Sonoma         495,058         6         33         39         7.8           Stanislaus         554,212         12         33         45         8.           Sutter         102,808         2         9         11         10.           Tehama         65,163         0         6         6         9.3           Trinity         13,374         4         5         9         67.           Tulare         477,731         9         30		767,935	13	45	58	7.55
Santa Barbara         452,066         9         26         35         7.7           Santa Clara         1,960,932         27         48         75         3.8           Santa Cruz         272,185         8         18         26         9.5           Shasta         177,620         7         18         25         14.1           Sierra         3,127         1         2         3         95.           Siskiyou         44,000         3         10         13         29.           Solano         439,990         10         12         22         5.0           Sonoma         495,058         6         33         39         7.8           Stanislaus         554,212         12         33         45         8.           Sutter         102,808         2         9         11         10.           Tehama         65,163         0         6         6         9.3           Trinity         13,374         4         5         9         67.           Tulare         477,731         9         30         39         8.           Tuolumne         52,557         1         8	San Luis Obispo	277,276	5	25	30	10.82
Santa Clara         1,960,932         27         48         75         3.8           Santa Cruz         272,185         8         18         26         9.5           Shasta         177,620         7         18         25         14.1           Sierra         3,127         1         2         3         95.           Siskiyou         44,000         3         10         13         29.           Solano         439,990         10         12         22         5.0           Sonoma         495,058         6         33         39         7.8           Stanislaus         554,212         12         33         45         8.           Sutter         102,808         2         9         11         10.           Tehama         65,163         0         6         6         9.3           Trinity         13,374         4         5         9         67.           Tulare         477,731         9         30         39         8.           Tuolumne         52,557         1         8         9         17.           Ventura         844,213         13         51         64	San Mateo	776,002	8	33	41	5.28
Santa Cruz         272,185         8         18         26         9.3           Shasta         177,620         7         18         25         14           Sierra         3,127         1         2         3         95.           Siskiyou         44,000         3         10         13         29.           Solano         439,990         10         12         22         5.0           Sonoma         495,058         6         33         39         7.8           Stanislaus         554,212         12         33         45         8.3           Sutter         102,808         2         9         11         10.           Tehama         65,163         0         6         6         9.3           Trinity         13,374         4         5         9         67.           Tulare         477,731         9         30         39         8.           Tuolumne         52,557         1         8         9         17.           Ventura         844,213         13         51         64         7.3           Yolo         220,723         9         12         21						7.74
Shasta         177,620         7         18         25         14           Sierra         3,127         1         2         3         95           Siskiyou         44,000         3         10         13         29           Solano         439,990         10         12         22         5.0           Sonoma         495,058         6         33         39         7.8           Stanislaus         554,212         12         33         45         8.3           Sutter         102,808         2         9         11         10           Tehama         65,163         0         6         6         9.3           Trinity         13,374         4         5         9         67.           Tulare         477,731         9         30         39         8.           Tuolumne         52,557         1         8         9         17.           Ventura         844,213         13         51         64         7.3           Yolo         220,723         9         12         21         9.5	Santa Clara	1,960,932	27	48	75	3.83
Sierra         3,127         1         2         3         95.           Siskiyou         44,000         3         10         13         29.           Solano         439,990         10         12         22         5.0           Sonoma         495,058         6         33         39         7.8           Stanislaus         554,212         12         33         45         8.3           Sutter         102,808         2         9         11         10.           Tehama         65,163         0         6         6         9.3           Trinity         13,374         4         5         9         67.           Tulare         477,731         9         30         39         8.           Tuolumne         52,557         1         8         9         17.           Ventura         844,213         13         51         64         7.3           Yolo         220,723         9         12         21         9.5	Santa Cruz	272,185				9.55
Siskiyou         44,000         3         10         13         29.           Solano         439,990         10         12         22         5.0           Sonoma         495,058         6         33         39         7.8           Stanislaus         554,212         12         33         45         8.3           Sutter         102,808         2         9         11         10.           Tehama         65,163         0         6         6         9.3           Trinity         13,374         4         5         9         67.           Tulare         477,731         9         30         39         8.3           Tuolumne         52,557         1         8         9         17.           Ventura         844,213         13         51         64         7.3           Yolo         220,723         9         12         21         9.5						14.07
Solano         439,990         10         12         22         5.0           Sonoma         495,058         6         33         39         7.8           Stanislaus         554,212         12         33         45         8.1           Sutter         102,808         2         9         11         10.           Tehama         65,163         0         6         6         9.2           Trinity         13,374         4         5         9         67.3           Tulare         477,731         9         30         39         8.3           Tuolumne         52,557         1         8         9         17.           Ventura         844,213         13         51         64         7.3           Yolo         220,723         9         12         21         9.5						95.94
Sonoma         495,058         6         33         39         7.8           Stanislaus         554,212         12         33         45         8.1           Sutter         102,808         2         9         11         10.           Tehama         65,163         0         6         6         9.2           Trinity         13,374         4         5         9         67.3           Tulare         477,731         9         30         39         8.3           Tuolumne         52,557         1         8         9         17.           Ventura         844,213         13         51         64         7.3           Yolo         220,723         9         12         21         9.5	Siskiyou					29.55
Stanislaus         554,212         12         33         45         8.           Sutter         102,808         2         9         11         10.           Tehama         65,163         0         6         6         9.2           Trinity         13,374         4         5         9         67.2           Tulare         477,731         9         30         39         8.           Tuolumne         52,557         1         8         9         17.           Ventura         844,213         13         51         64         7.3           Yolo         220,723         9         12         21         9.5	Solano					5.00
Sutter         102,808         2         9         11         10.           Tehama         65,163         0         6         6         9.3           Trinity         13,374         4         5         9         67.3           Tulare         477,731         9         30         39         8.3           Tuolumne         52,557         1         8         9         17.           Ventura         844,213         13         51         64         7.3           Yolo         220,723         9         12         21         9.3	Sonoma					7.88
Tehama         65,163         0         6         6         9.2           Trinity         13,374         4         5         9         67.3           Tulare         477,731         9         30         39         8.3           Tuolumne         52,557         1         8         9         17.           Ventura         844,213         13         51         64         7.3           Yolo         220,723         9         12         21         9.3						8.12
Trinity         13,374         4         5         9         67.           Tulare         477,731         9         30         39         8.           Tuolumne         52,557         1         8         9         17.           Ventura         844,213         13         51         64         7.           Yolo         220,723         9         12         21         9.5				-		10.70
Tulare         477,731         9         30         39         8.           Tuolumne         52,557         1         8         9         17.           Ventura         844,213         13         51         64         7.           Yolo         220,723         9         12         21         9.5	Tehama		0			9.21
Tuolumne         52,557         1         8         9         17.           Ventura         844,213         13         51         64         7.3           Yolo         220,723         9         12         21         9.3	-					67.30
Ventura         844,213         13         51         64         7.3           Yolo         220,723         9         12         21         9.3	Tulare					8.16
Yolo 220,723 9 12 21 9.5	Tuolumne	52,557	1	8	9	17.12
	Ventura					7.58
IVI TOOKS I A I I I I I I I I I I I I I I I I I	Yolo					9.51
	Yuba	78,061	3	6	9	11.53
Total 39,761,195 641 1,686 2,327 5.8	Total	39,761,195	641	1,686	2,327	5.85

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