

# UC Berkeley

## Fact Sheet

### Title

2022 SafeTREC Traffic Safety Fact Sheet: Occupant Protection

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## TRAFFIC SAFETY FACTS

# Occupant Protection

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### PROBLEM IDENTIFICATION AND DATA ANALYSIS

Restraint devices such as seat belts are a key element of motor vehicle occupant protection systems. Each year, NHTSA conducts the National Occupant Protection Use Survey (NOPUS) that measures, among many variables, the daytime use of seat belts by occupants age eight and older. The 2020 NOPUS reported that seat belt use was 90.3 percent among front-seat passengers, a slight decrease from the 90.7 percent observed in 2018. This change, along with the changes in subsets such as time of day or day of the week, was not statistically significant.

The United States Department of Transportation uses the Safe System Approach to work towards zero roadway fatalities and serious injuries. The Safe System Approach recognizes human mistakes and vulnerabilities, and designs a system with many redundancies in place to protect everyone. The Federal Highway Administration names safe road users, safe vehicles, safe speeds, safe roads, and post-crash care as key elements of a Safe System. Proper use of seat belts and other occupant safety devices is an important component of the "Safer Vehicles" and "Safer People" layers of protection.

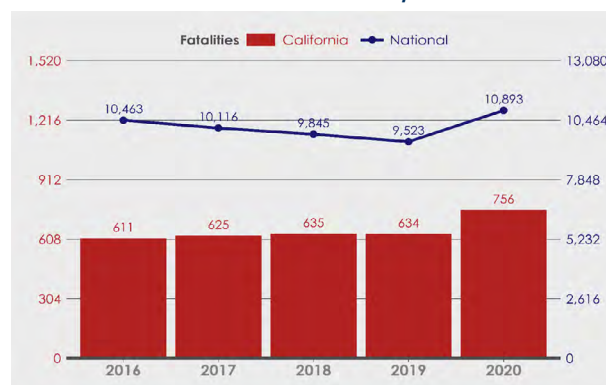
Analyses presented in the occupant protection program area include fatal and serious injuries where a driver or passenger in a passenger vehicle was unrestrained. Occupant protection crashes in this report are defined as crashes where one or more occupants in a passenger vehicle was unrestrained. Under this program area, there is additional analyses that address aging road users and child passenger safety.

### KEY FINDINGS

#### NATIONAL DATA

- Seat belt use among vehicle occupants in the western region of the U.S. slightly decreased from 94.5 percent in 2019 to 93.8 percent in 2020.
- In the United States, there were 10,983 unrestrained passenger vehicle occupants killed in traffic crashes in 2020, a 14.4 percent increase from 9,523 in 2019 (see Figure 1).
- In 2020, of the 21,376 passenger vehicle occupants with known restraint use killed in motor vehicle traffic crashes, 10,893 or 51.0 percent were known to be unrestrained.
- In 2020, daytime restraint use was higher than nighttime restraint use; 58.3 percent of passenger vehicle occupants with known restraint use involved in a nighttime fatal crash were unrestrained, compared with 43.7 percent involved in a daytime crash who were unrestrained.

Figure 1: Unrestrained Occupant Fatality Trends, Nationwide and California, 2016-2020



Source: FARS 2016 - 2019 Final File, 2020 ARF

## CALIFORNIA DATA

- In California, there were 756 unrestrained occupants killed in traffic crashes in 2020, a 19.2 percent increase from 634 in 2019.
- In 2019, California's front seat belt use was observed to be 96.0 percent, which was the second-highest use rate among all states. California did not conduct a seat belt survey in 2020.
- California's front seat belt use rate for those aged 5 and older has been greater than 95.0 percent from 2015 to 2019.
- According to the Behavioral Risk Factor Surveillance System, 97.6 percent of respondents in 2020 reported that they always or nearly always wear a seat belt. This is not a significant change from 97.4 percent in 2018.

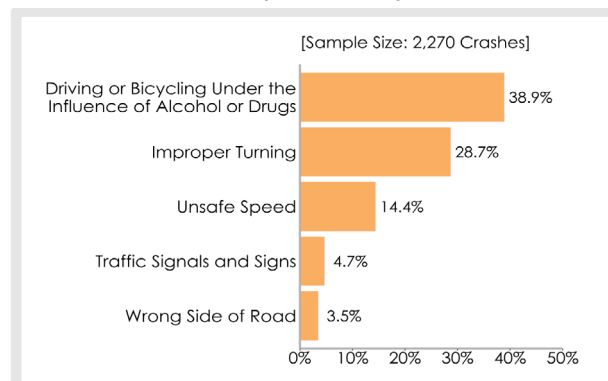
### Primary Crash Factors of Unrestrained Occupant Fatal and Serious Injury Crashes

- In California in 2020, the top five primary crash factors for unrestrained occupant bicycling fatal and serious injury crashes were driving or bicycling under the influence of alcohol or drugs (38.9 percent), improper turning (28.7 percent), unsafe speed (14.4 percent), traffic signals and signs (4.7 percent), and wrong side of the road (3.5 percent). The primary crash factor does not indicate which party is at fault (see Figure 2).

### Crash Types for Unrestrained Occupant and Serious Injury Crashes

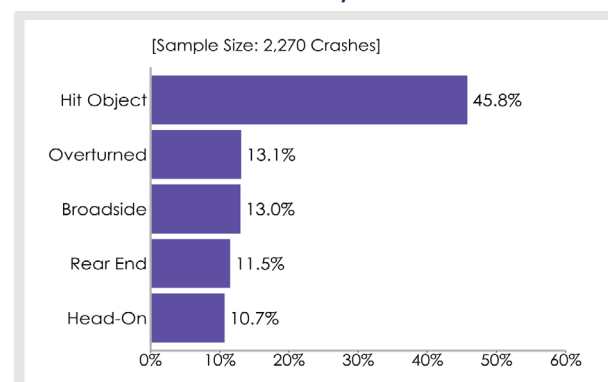
- Nearly half (48.5 percent) of unrestrained occupant fatal and serious injury crashes were due to hitting an object. Other common crash types for unrestrained occupant crashes were overturned vehicle at 13.1 percent and broadside at 13.0 percent (see Figure 3).

**Figure 2: Top Five Primary Collision Factors for Unrestrained Occupant Fatal and Serious Injury Crashes, California, 2020**



Source: Provisional SWITRS 2020

**Figure 3: Top Five Crash Types for Unrestrained Occupant Fatal and Serious Injury Victims, California, 2020**



Source: Provisional SWITRS, 2020

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## COUNTY TABLE: OCCUPANT PROTECTION

Figure 4: Occupant Protection Fatalities and Serious Injuries, by Number and Rate, 2020

| County          | Population        | Fatalities | Serious Injuries | Fatal & Serious Injuries (FSI) | FSI per 100K Population |
|-----------------|-------------------|------------|------------------|--------------------------------|-------------------------|
| Alameda         | 1,681,700         | 19         | 44               | 63                             | 3.75                    |
| Alpine          | 1,199             | 0          | 1                | 1                              | 83.40                   |
| Amador          | 40,506            | 3          | 3                | 6                              | 14.81                   |
| Butte           | 211,216           | 5          | 20               | 25                             | 11.84                   |
| Calaveras       | 45,277            | 1          | 14               | 15                             | 33.13                   |
| Colusa          | 21,826            | 2          | 9                | 11                             | 50.40                   |
| Contra Costa    | 1,166,669         | 20         | 35               | 55                             | 4.71                    |
| Del Norte       | 27,745            | 1          | 5                | 6                              | 21.63                   |
| El Dorado       | 191,282           | 4          | 18               | 22                             | 11.50                   |
| Fresno          | 1,008,860         | 25         | 51               | 76                             | 7.53                    |
| Glenn           | 28,822            | 3          | 9                | 12                             | 41.64                   |
| Humboldt        | 136,514           | 6          | 26               | 32                             | 23.44                   |
| Imperial        | 178,537           | 5          | 16               | 21                             | 11.76                   |
| Inyo            | 18,977            | 4          | 8                | 12                             | 63.23                   |
| Kern            | 907,021           | 54         | 89               | 143                            | 15.77                   |
| Kings           | 153,085           | 8          | 11               | 19                             | 12.41                   |
| Lake            | 68,099            | 4          | 15               | 19                             | 27.90                   |
| Lassen          | 32,025            | 1          | 6                | 7                              | 21.86                   |
| Los Angeles     | 10,012,474        | 112        | 306              | 418                            | 4.18                    |
| Madera          | 156,519           | 10         | 14               | 24                             | 15.33                   |
| Marin           | 262,410           | 1          | 7                | 8                              | 3.05                    |
| Mariposa        | 17,123            | 0          | 4                | 4                              | 23.36                   |
| Mendocino       | 91,602            | 8          | 21               | 29                             | 31.66                   |
| Merced          | 280,873           | 10         | 57               | 67                             | 23.85                   |
| Modoc           | 8,703             | 3          | 3                | 6                              | 68.94                   |
| Mono            | 13,185            | 4          | 6                | 10                             | 75.84                   |
| Monterey        | 439,008           | 13         | 24               | 37                             | 8.43                    |
| Napa            | 138,433           | 4          | 8                | 12                             | 8.67                    |
| Nevada          | 102,392           | 5          | 10               | 15                             | 14.65                   |
| Orange          | 3,184,513         | 16         | 43               | 59                             | 1.85                    |
| Placer          | 405,308           | 8          | 35               | 43                             | 10.61                   |
| Plumas          | 19,666            | 2          | 3                | 5                              | 25.43                   |
| Riverside       | 2,421,480         | 56         | 129              | 185                            | 7.64                    |
| Sacramento      | 1,585,666         | 26         | 78               | 104                            | 6.56                    |
| San Benito      | 64,110            | 4          | 11               | 15                             | 23.40                   |
| San Bernardino  | 2,181,983         | 100        | 180              | 280                            | 12.83                   |
| San Diego       | 3,303,736         | 49         | 94               | 143                            | 4.33                    |
| San Francisco   | 870,985           | 1          | 9                | 10                             | 1.15                    |
| San Joaquin     | 780,676           | 32         | 66               | 98                             | 12.55                   |
| San Luis Obispo | 282,996           | 2          | 15               | 17                             | 6.01                    |
| San Mateo       | 763,497           | 6          | 12               | 18                             | 2.36                    |
| Santa Barbara   | 448,659           | 4          | 14               | 18                             | 4.01                    |
| Santa Clara     | 1,933,516         | 17         | 20               | 37                             | 1.91                    |
| Santa Cruz      | 272,360           | 2          | 9                | 11                             | 4.04                    |
| Shasta          | 181,881           | 9          | 20               | 29                             | 15.94                   |
| Sierra          | 3,233             | 1          | 1                | 2                              | 61.86                   |
| Siskiyou        | 44,091            | 5          | 17               | 22                             | 49.90                   |
| Solano          | 453,405           | 11         | 19               | 30                             | 6.62                    |
| Sonoma          | 489,880           | 2          | 17               | 19                             | 3.88                    |
| Stanislaus      | 553,995           | 18         | 43               | 61                             | 11.01                   |
| Sutter          | 100,751           | 2          | 19               | 21                             | 20.84                   |
| Tehama          | 65,643            | 10         | 17               | 27                             | 41.13                   |
| Trinity         | 16,135            | 2          | 3                | 5                              | 30.99                   |
| Tulare          | 473,482           | 23         | 52               | 75                             | 15.84                   |
| Tuolumne        | 55,500            | 0          | 16               | 16                             | 28.83                   |
| Ventura         | 844,545           | 7          | 28               | 35                             | 4.14                    |
| Yolo            | 216,544           | 5          | 9                | 14                             | 6.47                    |
| Yuba            | 81,468            | 1          | 13               | 14                             | 17.19                   |
| <b>Total</b>    | <b>39,541,786</b> | <b>756</b> | <b>1,832</b>     | <b>2,588</b>                   | <b>6.54</b>             |

Source: FARS ARF 2020; Provisional SWITRS 2020; California Department of Finance 2021.