Berkeley SafeTREC

SAFE TRANSPORTATION RESEARCH AND EDUCATION CENTER



TRAFFIC SAFETY FACTS Alcohol-Involved Driving

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

INTRODUCTION

While alcohol-impaired driving fatalities have fallen significantly in the last three decades, NHTSA reports that alcohol-impaired driving still comprises a large percentage of traffic injuries and fatalities. On average in 2018, one person died from an alcohol-impaired driving crash every 50 minutes. There was a decrease in the number of alcohol-impaired driving fatalities and rate per 100 million VMT in the United States between 2017 and 2018. Analyses from SWITRS presented in this program area refer to alcohol involvement and include fatalities and serious injuries where law enforcement reported a driver, pedestrian, or bicyclist to have been drinking. Crashes in the program area are defined as one where one or more drivers, pedestrians, or bicyclists is alcohol-impaired or had been drinking (alcohol-involved) depending on which data set is used.

CALIFORNIA FACTS

NATIONAL DATA

- In the United States, there were 10,511 people killed in alcohol-impaired crashes in 2018, a 3.6 percent decrease from 10,908 in 2017, and a 5.7 percent increase from 9,943 in 2014.
- All 50 states have laws that make it illegal to drive with a BAC of .08 grams per deciliter (g/dL) or higher. However, testing standards for when to administer a BAC test vary considerably between states and local jurisdictions which affect the accuracy and reliability of BAC estimates.
- Of the 51,490 drivers involved in fatal crashes nationally in 2018, only 41.6 percent, or 21,420, of drivers had known BAC test results. Across all states, the percentage of drivers with known BAC test results ranged from 27.5 to 83.1 percent.
- In the United States in 2018, of the 36,560 motor vehicle fatalities, 28.8 percent involved a driver with a BAC of .08 or higher.

CALIFORNIA DATA

- In California, there were 1,069 people killed in alcoholimpaired crashes in 2018, a 6.8 percent decrease from 1,147 in 2017, and a 22.0 percent increase from 876 in 2014.
- In California, of the 3,563 motor vehicle fatalities in 2018, 30.0 percent involved a driver with a BAC of .08 or higher. This is higher than the national average of 28.8 percent.
- California only reported BAC results for 38.5 percent of drivers involved in a fatal crash in 2018, which is lower than the national average of 41.6 percent. Testing rates were higher for drivers who died than drivers who survived, but testing rates in California for both groups were lower than the national average. Of drivers who died, 64.9 percent had known BAC test results compared to only 22.0 percent of drivers that survived.
- In 2019, 1,298 Californians were asked about their top traffic safety concerns in the Traffic Safety Study sponsored by the Office of Traffic Safety. The fifth-most frequently cited safety problem was "Drunk Driving," which increased to 9.2 percent of concerns from 6.5 percent of concerns expressed in 2016 and a sharp decrease from 22.9 percent of concerns expressed in 2017.

Alcohol-Impaired Fatality Trends, Nationwide and California,



State-level Analysis

The figures in this section refer to drivers, passengers, bicyclists, and pedestrians fatally injured in an alcohol-impaired crash or seriously injured in an alcohol-involved crash in California in 2018. When reported collectively, these crashes will be referred to as alcohol-involved. These numbers are the products of UCB SafeTREC analysis.

Fatal and Serious Injury Alcohol-Involved Crashes by County

- Los Angeles, Riverside, and San Bernardino counties in Southern California, along with San Diego, Orange, Sacramento, Kern, San Joaquin, Contra Costa, Santa Clara, Alameda, Stanislaus, Fresno, and Tulare counties had the highest number of alcohol-involved fatal and serious injuries.
- Alpine and Trinity counties, followed by Plumas, Calaveras, Mendocino, Modoc, Madera, and Yuba counties had the highest rate of alcohol-involved fatal and serious injuries per 100k population.
- Expectedly, the vast majority, 77.8 percent, of the primary crash factors (PCF) for alcohol-involved crashes were classified as driving or bicycling under the influence of alcohol or drugs. Following that PCF, unsafe speed (6.1 percent) and improper turning (5.3 percent) were the most frequent PCFs recorded.

TRAFFIC SAFETY FACTS

CALIFORNIA DATA

(continued)

Crash Types for Alcohol-Involved Fatal and Serious Injury Crashes

Hit objects was the most prevalent type of alcohol-involved crash at 37.3 percent. This was followed by rear end crashes at 14.3 percent and broadside at 13.2 percent.

Time and Day of Alcohol-Involved Fatal and Serious Injuries

- The rate of alcohol-involved fatal and serious injuries was much higher at night, especially on weekends, than during the day. Alcohol-involved fatal and serious injuries were also more likely to occur on weekends than weekdays, with Saturday and Sunday accounting for 38.9 percent of injuries.
- Almost half (47.2 percent) of alcohol-involved fatal and serious injuries occurred between 9PM and 3AM. Alcoholinvolved fatal and serious injuries were least recorded between 6AM and noon, with only 5.8 percent of injuries.
- Almost half (45.5 percent) of all alcohol-involved driving fatal and serious injuries occurred over the weekend between 9PM on Friday and 3AM on Monday.

Alcohol-Involved Fatal and Serious Injury Victim Demographics

- Alcohol-involved fatal and serious injury victims were predominantly male adults; male victims age 15 to 34 comprising 38.7 percent of all victims.
- Race was not reported for 65.8 percent of the alcoholimpaired driving fatalities. Of the 365 fatalities with a known race, 83.3 percent (or 304) were white.

Crash Location for Fatal Alcohol-Impaired Victims

- Over two-third (68.8 percent) of alcohol-impaired fatalities occurred in urban areas compared to 31.2 percent on rural roads. However only about 16.3 percent of travel took place on rural roads in 2018.
- Nearly half (41.0 percent) of all alcohol-impaired fatalities occurred on non-interstate principal arterials.

Vehicle Type for Fatally Injured Victims of Alcohol-Impaired Crashes

In 2018, passenger cars were involved in 46.0 percent of alcohol-impaired fatalities followed by non-motor vehicle occupants at 16.4 percent, motorcycles at 13.5 percent, and utility vehicles at 12.0 percent.

Top Five Primary Crash Factors for Alcohol-Involved Driving Fatal and Serious Injury Crashes, 2018



Source: Provisional SWITRS 2018

Top Five Crash Types of Alcohol-Involved Driving Fatal and Serious Injury Crashes, California, 2018



Source: Provisional SWITRS 2018



Time of Day and Day of Week for Alcohol-Involved Driving Fatal and Serious Injury Victims, California, 2018

Source: FARS ARF 2018, Provisional SWITRS 2018

- California Department of Transportation. (2019, November). California Public Road Data 2018.
- Subramanian, R. (2002, January; Revised 2002, October). Transitioning to Multiple Imputation A New Method to Impute Missing Blood Alcohol Concentration (BAC) values in FARS. (DOT HS 809 403). Washington, DC: National Highway Traffic Safety Administration.

REFERENCES

- National Center for Statistics and Analysis. (2019, December). Alcohol-impaired driving: 2018 data. (Traffic Safety Facts. DOT HS 812 864). Washington, DC: National Highway Traffic Safety Administration. National Center for Statistics and Analysis. (2019, October). 2018 Fatal Motor Vehicle Crashes: Overview. (Traffic Safety Facts. DOT HS 812 86). Washington, DC: National Highway Traffic Safety Administration. Ewald & Wasserman Research Consultants, LLC. (2019, September). California Traffic Safety Survey 2019. Elk Grove, CA: California Office of Traffic Safety.
- Traffic Safety

Funding for this program was provided by a grant from the California Office of Traffic Safety, through the National Highway Traffic Safety Administration.