INJURY DATA BRIEF

Alcohol and Drug Involvement in California Fatal Motor Vehicle Collisions by Travel Mode, 2018

California strives for a transportation system that fosters health and safety. Active travel modes, including walking and biking, support healthy lifestyles and environments. The safety of all travel modes can be compromised by alcohol or drug use. This brief describes alcohol and drug involvement among drivers, pedestrians, and cyclists involved in California fatal motor vehicle collisions (MVCs) in 2018. The California Highway Patrol reports fatal MVCs to the National Highway Traffic Safety Administration's Fatality Analysis Reporting System (FARS). FARS data were used for this analysis and include toxicology results from coroners, medical examiners, or police investigations, when available. In this brief, alcohol involvement was defined as a blood alcohol content ≥0.01 g/dL. Drug involvement was defined as ≥1 positive drug test result. If no alcohol or drug test results were available, officer judgement as recorded on the police report was used. Alcohol or drug involvement does not necessarily mean the party was impaired during the MVC or was the party at fault.

In 2018, 3,798 people were killed in 3,485 fatal MVCs on California roadways. These fatal MVCs involved 5,273 drivers, 1,033 pedestrians, and 173 cyclists.[1] Absolute numbers of alcohol or drug involved parties in fatal MVCs were greatest among drivers (n=1,478), followed by pedestrians (n=532) and cyclists (n=81) (Table 1). As a proportion of parties with a known alcohol and drug status, however, alcohol and/or drug involvement was more prevalent among pedestrians (60%) and cyclists (58%) than drivers (32%) (Figure 1).

- Alcohol only involvement was most prevalent among pedestrians (18%), followed by drivers (12%), then cyclists (7%).
- Drug only involvement was most prevalent among cyclists (39%), followed by pedestrians (26%), then drivers (12%).
- Alcohol in combination with drug involvement was most prevalent among pedestrians (16%), followed by cyclists (12%), then drivers (8%).

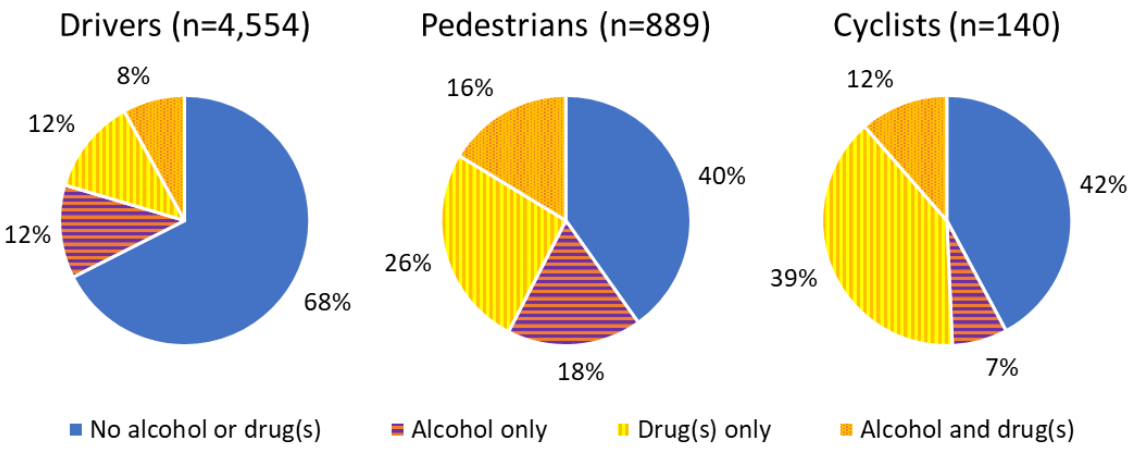

Figure 1: Alcohol and drug involvement among drivers, pedestrians, and cyclists in California fatal motor vehicle collisions, 2018

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In the five years prior to 2018, the total number of parties involved in fatal MVCs increased by 24% for drivers (from 4,259 in 2014 to 5,273 in 2018), 30% for pedestrians (from 794 to 1,033) and 33% for cyclists (from 130 to 173) (Table 1). For all travel modes, drug-involved parties (alone and in combination with alcohol) had the greatest percent change over the period. For pedestrians and cyclists, percent changes were lowest among parties not involved in alcohol or drugs. For drivers, alcohol only-involved parties had the lowest percent change (Figure 2).

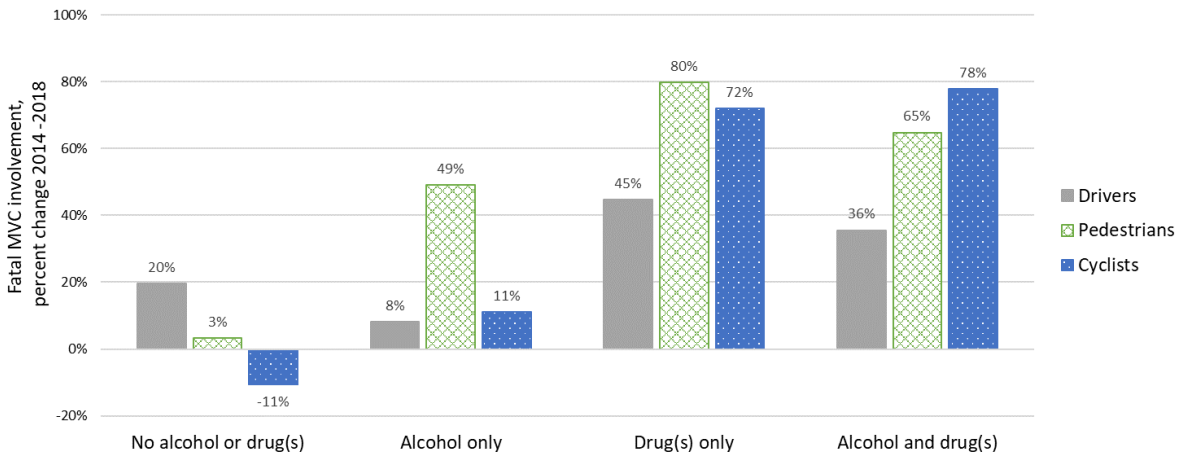

Figure 2: Percent change in parties involved in California fatal motor vehicle collisions from 2014 to 2018, by travel mode and alcohol and drug involvement.

From 2014 to 2018, cannabinoids (e.g., marijuana, and THC) were the most common drug type detected among drivers involved in fatal MVCs and tested for drugs, while stimulants (e.g., amphetamine and cocaine) were the most common drug type detected among pedestrians and cyclists (Figure 3, Table 2).[2]

- In 2018, California legalized recreational cannabis use for adults aged 21 and older. From 2017 to 2018, cannabinoid prevalence decreased by two percentage points among drivers (from 22% to 20%), remained unchanged among pedestrians (16%), and increased by one percentage point among cyclists (from 19% to 20%).
- From 2014 to 2018, stimulant prevalence increased more than any other drug type across all travel modes: from 12% to 16% among drivers, from 20% to 28% among pedestrians, and from 22% to 41% among cyclists.

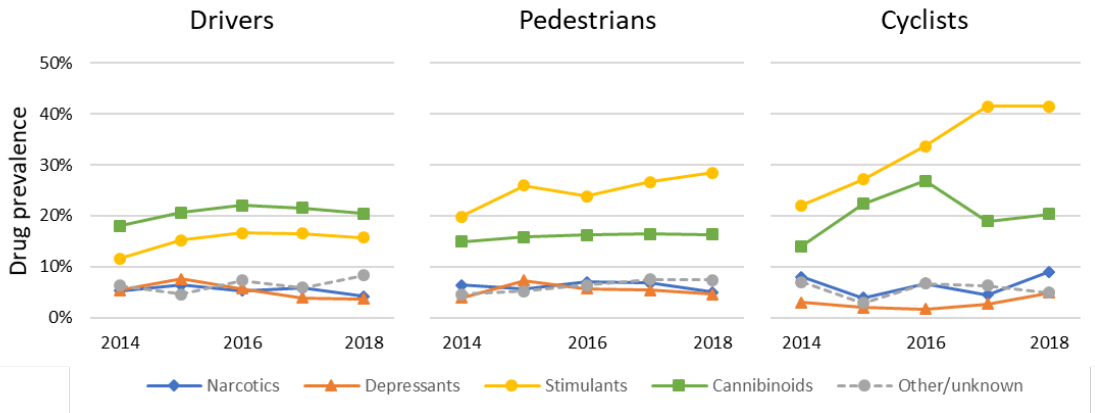

Figure 3: Prevalence of drug types detected among parties involved in a California fatal motor vehicle collisions who were tested for drugs, 2014-2018 by travel mode.

Conclusion

Fatal MVC data from FARS are an important source of information for planning and implementing countermeasures to prevent traffic fatalities and serious injuries. Although substance involvement does not equal impairment or fault, these findings highlight the role that alcohol and drug involvement may play in fatal MVCs, especially among pedestrians and cyclists. In 2018, 60% of pedestrians and 58% of cyclists involved in fatal MVCs were alcohol or drug involved, compared to 32% of drivers. From 2014 to 2018, drug involved parties (alone and in combination with alcohol) in fatal MVCs increased more than substance-free or alcohol-only parties across all travel modes. Stimulants and cannabinoids were the most common drug types detected across all travel modes, and stimulants increased in prevalence more than any other drug type over the five-year period.

Supplemental tables

The following tables contain the number of parties involved in fatal MVCs on California roadways per year from 2014 to 2018 by alcohol and drug status (Table 1) and by drug types detected (Table 2).

Table 1: Number of parties involved in a California fatal motor vehicle collision from 2014-2018 by travel mode and alcohol and drug involvement.

	2014	2015	2016	2017	2018
Drivers	4,259	4,679	5,293	5,443	5,273
Unknown alcohol or drug status	519	501	562	611	719
Known alcohol and drug status	3,740	4,178	4,731	4,832	4,554
No alcohol or drugs	2,573	2,873	3,195	3,260	3,076
Alcohol only	507	499	575	616	548
Drug only	390	526	581	584	564
Alcohol and drug	270	280	380	372	366
Pedestrians	794	871	1,012	995	1,033
Unknown alcohol or drug status	127	116	162	154	144
Known alcohol and drug status	667	755	850	841	889
No alcohol or drugs	346	329	388	350	357
Alcohol only	104	128	145	153	155
Drug only	129	192	192	217	232
Alcohol and drug	88	106	125	121	145
Cyclists	130	140	156	151	173
Unknown alcohol or drug status	14	20	22	24	33
Known alcohol and drug status	116	120	134	127	140
No alcohol or drugs	66	56	58	48	59
Alcohol only	9	16	11	12	10
Drug only	32	31	51	46	55
Alcohol and drug	9	17	14	21	16

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Table 2: Number of drug-tested parties involved in a California fatal motor vehicle collision from 2014-2018 by travel mode and drug type detected. A single party may test positive for more than one drug type (up to three).

	2014	2015	2016	2017	2018*
Drivers drug tested	1,828	1,967	2,266	2,337	2,277
Narcotics	97	126	119	135	96
Depressants	99	149	128	90	83
Stimulants	212	299	376	387	357
Cannabinoids	329	405	500	504	464
Other/unknown drugs	114	91	165	138	188
Pedestrians drug tested	565	662	739	748	801
Narcotics	36	37	52	51	40
Depressants	22	48	42	40	37
Stimulants	112	172	176	199	228
Cannabinoids	84	105	120	123	131
Other/unknown drugs	26	34	47	56	59
Cyclists drug tested	100	103	119	111	123
Narcotics	8	4	8	5	11
Depressants	3	2	2	3	6
Stimulants	22	28	40	46	51
Cannabinoids	14	23	32	21	25
Other/unknown drugs	7	3	8	7	6

* In 2018, FARS data were changed to allow reporting of an unlimited number of drug test results. For this brief, 2018 data were limited to the first three drug test results listed for each party to match the 2014-2017 data.

Endnotes

[1] Drivers include persons operating a motor vehicle in transport, including motorcycles and commercial vehicles. Pedestrians include persons outside transport devices, including those pushing vehicles or being carried by another pedestrian. Pedestrians exclude persons in/on buildings (n=37 from 2014 to 2018) or in/on personal conveyances such as scooters, skateboards, Segway-style devices, and wheelchairs (n=168 from 2014 to 2018). Cyclists include persons travelling on a non-motorized unicycle, bicycle, or tricycle. Cyclists include all operators and passengers, including persons being pulled by a cycle (e.g., in a wagon or bike trailer).

[2] For a complete list of specific drugs included in each drug type, see page 654 of the National highway Traffic Safety Administration's *2018 FARS/CRSS Coding and Validation Manual. (DOT HS 812 828).* Accessed January 2021 from https://crashstats.nhtsa.dot.gov/Api/Public/Publication/812828.

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Source Files: National Highway Traffic Safety Administration Fatality Analysis Reporting System (FARS) 2014-2018 Final Files. Data retrieved January 2021 from https://www.nhtsa.gov/node/97996/251.