

The Legalization of Marijuana in Colorado:  
The Impact Volume 5 – 2018, UPDATE

Attached please find portions of a recent report prepared by the Rocky Mountain High Intensity Drug Trafficking Area Strategic Intelligence Unit. It is dated September 2018.

Attached in this document please find:

1. Executive Summary
2. Section I: Traffic Fatalities & Impaired Driving

The full report can be found here:

<https://rmhidta.org/files/D2DF/FINAL-%20Volume%205%20UPDATE%202018.pdf>

# Executive Summary

## Purpose of Report Update:

RMHIDTA has published annual reports every year since 2013 tracking the impact of legalizing recreational marijuana in Colorado. The purpose is to provide data and information so that policy makers and citizens can make informed decisions on the issue of marijuana legalization. This year (2018) RMHIDTA elected to provide an update to the 2017 Volume 5 report rather than another detailed report.

## Section I: Traffic Fatalities & Impaired Driving

- Since recreational marijuana was legalized, marijuana related traffic deaths **increased 151 percent** while all Colorado traffic deaths **increased 35 percent**
- Since recreational marijuana was legalized, traffic deaths involving drivers who tested positive for marijuana **more than doubled** from 55 in 2013 to 138 people killed in 2017.
  - This equates to one person killed every 2 ½ days compared to one person killed every 6 ½ days.
- The percentage of all Colorado traffic deaths that were marijuana related **increased from 11.43 percent** in 2013 to **21.3 percent** in 2017.

## Section II: Marijuana Use

- Colorado past month marijuana use shows a **45 percent increase** in comparing the three-year average prior to recreational marijuana being legalized to the three years after legalization.
- Colorado past month marijuana use for ages 12 and older is ranked **3<sup>rd</sup>** in the nation and is **85 percent higher** than the national average.

### Section III: Public Health

- The yearly rate of emergency department visits related to marijuana **increased 52 percent** after the legalization of recreational marijuana. (2012 compared to 2016)
- The yearly rate of marijuana-related hospitalizations **increased 148 percent** after the legalization of recreational marijuana. (2012 compared to 2016)
- Marijuana only exposures more than tripled in the five-year average (2013-2017) since Colorado legalized recreational marijuana compared to the five-year average (2008-2012) prior to legalization.

### Section IV: Black Market

- RMHIDTA Colorado Task Forces (10) conducted **144 investigations** of black market marijuana in Colorado resulting in:
  - **239** felony arrests
  - **7.3 tons** of marijuana seized
  - **43,949** marijuana plants seized
  - **24** different states the marijuana was destined
- The number of highway seizures of Colorado marijuana **increased 39 percent** from an average of 242 seizures (2009-2012) to an average of 336 seizures (2013-2017) during the time recreational marijuana has been legal.
- Seizures of Colorado marijuana in the U.S. mail system has **increased 1,042 percent** from an average of 52 parcels (2009-2012) to an average of 594 parcels (2013-2017) during the time recreational marijuana has been legal.

### Section V: Societal Impact

- Marijuana tax revenue represent approximately **nine tenths of one percent** of Colorado's FY 2017 budget.
- Violent crime **increased 18.6 percent** and property crime **increased 8.3 percent** in Colorado since 2013.
- 65 percent of local jurisdictions in Colorado have banned medical and recreational marijuana businesses.

## Section IV: Marijuana Industry

- **According to the Marijuana Policy Group, *Market Size and Demand for Marijuana in Colorado 2017 Market Update*:**
  - “From 2014 through 2017, average annual adult use flower prices fell 62.0 percent, from \$14.05 to \$5.34 per gram weighted average.”
  - “Adult use concentrate prices fell 47.9 percent, from \$41.43 to \$21.57 per gram.”
  - “The average THC content of all tested flower in 2017 was 19.6 percent statewide compared to 17.4 percent in 2016, 16.6 percent in 2015 and 16.4 percent in 2014.”
  - “The average potency of concentrated extract products increased steadily from 56.6 percent THC content by weight in 2014 to 68.6 percent at the end of 2017.”
- As of June 2017, there were 491 retail marijuana stores in the state of Colorado compared to 392 Starbucks and 208 McDonald’s.

# Section I: Traffic Fatalities & Impaired Driving

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## Some Findings

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- Since recreational marijuana was legalized, marijuana related traffic deaths **increased 151 percent** while all Colorado traffic deaths **increased 35 percent**
- Since recreational marijuana was legalized, traffic deaths involving drivers who tested positive for marijuana **more than doubled** from 55 in 2013 to 138 people killed in 2017.
  - This equates to one person killed every 2 ½ days compared to one person killed every 6 ½ days.
- The percentage of all Colorado traffic deaths that were marijuana related **increased from 11.43 percent** in 2013 to **21.3 percent** in 2017.
- Consistent with the past, in 2017, less than half of drivers (**42 percent**) or half of operators (**50 percent**) involved in traffic deaths were tested for drug impairment.
- A Colorado Department of Transportation survey found that **69 percent of self-identified marijuana users** admitted to driving after having consumed marijuana.

## Definitions by Rocky Mountain HIDTA

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**Driving Under the Influence of Drugs (DUID):** DUID could include alcohol in combination with drugs. This is an important measurement since the driver’s ability to operate a vehicle was sufficiently impaired that it brought his or her driving to the attention of law enforcement. The erratic driving and the subsequent evidence that the subject was under the influence of marijuana helps confirm the causation factor.

**Marijuana-Related:** Also called “marijuana mentions,” is any time marijuana shows up in the toxicology report. It could be marijuana only or marijuana with other drugs and/or alcohol.

**Marijuana Only:** When toxicology results show marijuana and no other drugs or alcohol.

**Fatalities:** Any death resulting from a traffic crash involving a motor vehicle.

**Operators:** Anyone in control of their own movements such as a driver, pedestrian or bicyclist.

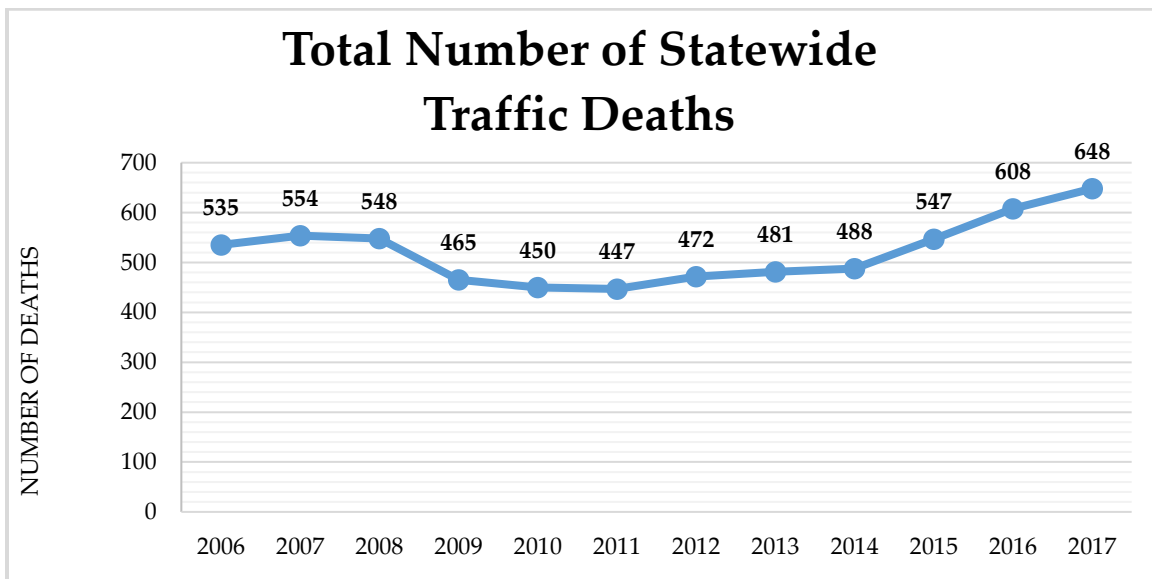
**Drivers:** An occupant who is in physical control of a transport vehicle. For an out-of-control vehicle, an occupant who was in control until control was lost.

**Personal Conveyance:** Non-motorized transport devices such as skateboards, wheelchairs (including motorized wheelchairs), tricycles, foot scooters, and Segways. These are more or less non-street legal transport devices.

## Traffic Fatalities

**NOTE:**

- THE DATA FOR 2012 THROUGH 2017 WAS OBTAINED FROM THE COLORADO DEPARTMENT OF TRANSPORTATION (CDOT). CDOT AND RMHIDTA CONTACTED CORONER OFFICES AND LAW ENFORCEMENT AGENCIES INVESTIGATING FATALITIES TO OBTAIN TOXICOLOGY REPORTS. THIS REPRESENTS 100 PERCENT REPORTING. PRIOR YEARS MAY HAVE HAD LESS THAN 100 PERCENT REPORTING TO THE COLORADO DEPARTMENT OF TRANSPORTATION, AND SUBSEQUENTLY THE FATALITY ANALYSIS REPORTING SYSTEM (FARS). ANALYSIS OF DATA WAS CONDUCTED BY ROCKY MOUNTAIN HIDTA. 2017 FARS DATA WILL NOT BE OFFICIAL UNTIL JANUARY 2019.



SOURCE: National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2011 and Colorado Department of Transportation 2012-2017

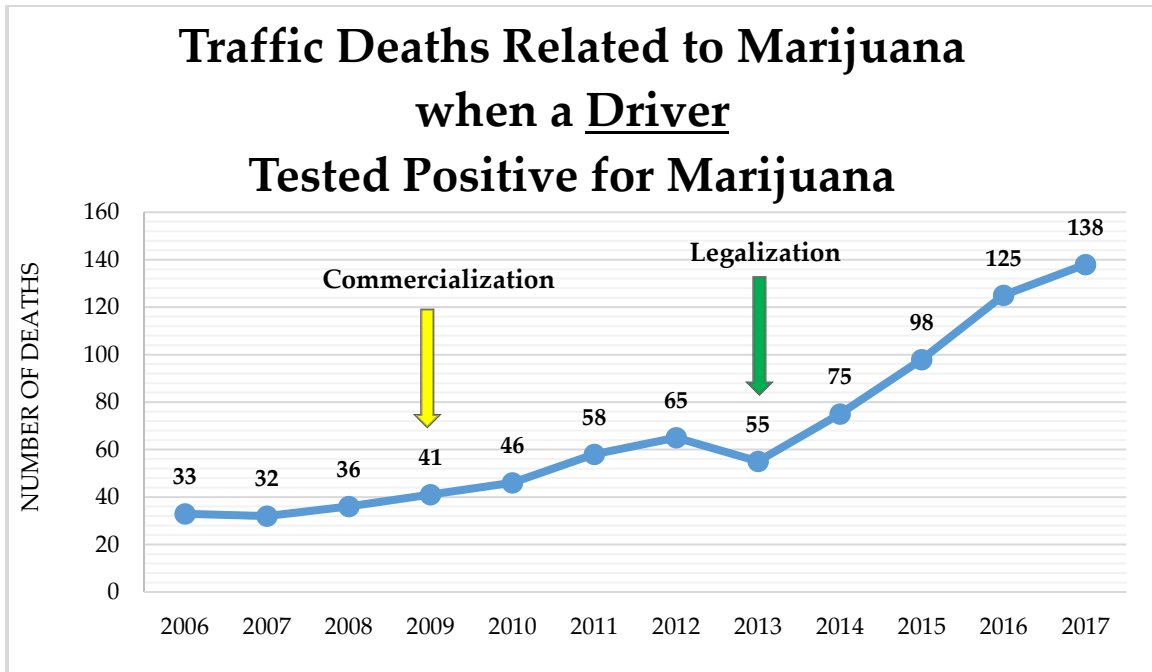
- ❖ In 2017 there were a total of 648 traffic deaths. Of which:
  - 415 were drivers
  - 125 were passengers
  - 92 were pedestrians
  - 16 were bicyclists

Traffic Deaths Related to Marijuana When a <u>DRIVER</u> Tested Positive for Marijuana			
Crash Year	Total Statewide Fatalities	Fatalities with <u>Drivers</u> Testing Positive for Marijuana	Percentage Total Fatalities
2006	535	33	6.17%
2007	554	32	5.78%
2008	548	36	6.57%
2009	465	41	8.82%
2010	450	46	10.22%
2011	447	58	12.98%
2012	472	65	13.77%
2013	481	55	11.43%
2014	488	75	15.37%
2015	547	98	17.92%
2016	608	125	20.56%
2017	648	138	21.30%

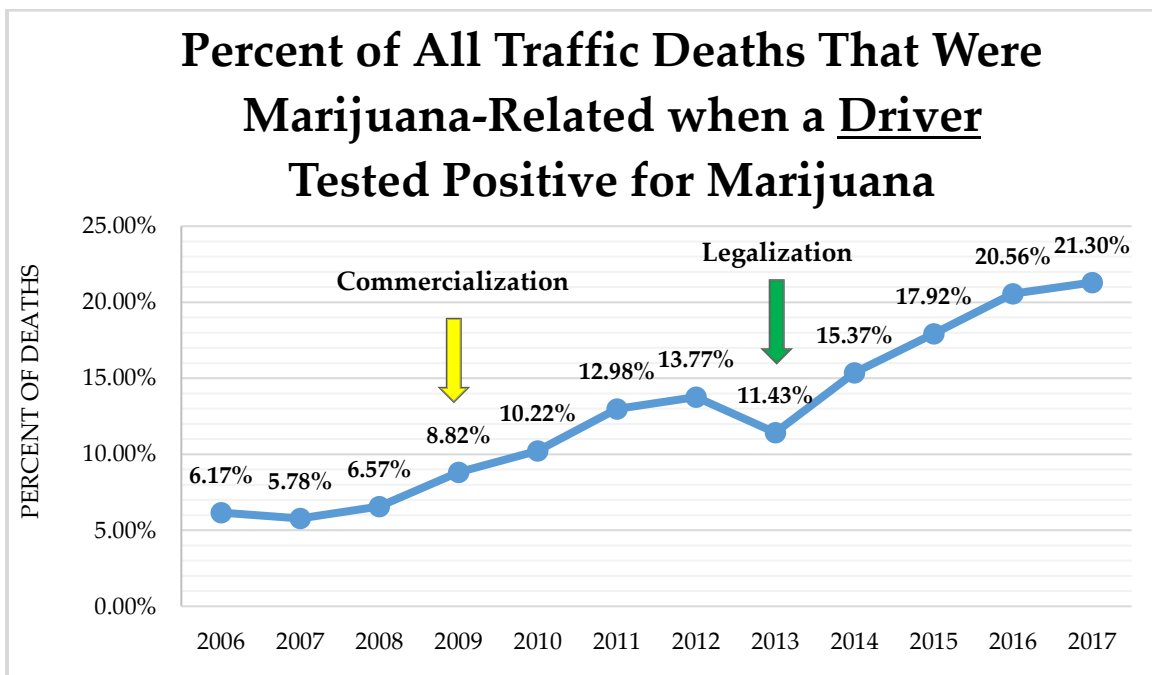
SOURCE: National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2011 and Colorado Department of Transportation 2012-2017

- ❖ In 2017 there were a total of 138 marijuana-related traffic deaths when a driver tested positive for marijuana. Of which:
  - 112 were drivers
  - 22 were passengers
  - 4 were pedestrians
  
- ❖ In 2017, of the 112 drivers in fatal wrecks who tested positive for marijuana use, 76 were found to have Delta 9 tetrahydrocannabinol, or THC, the psychoactive ingredient in marijuana, in their blood, indicating use within hours, according to state data. Of those, 37 percent were over 5 nanograms per milliliter, the state’s limit for driving.
  - Similar to findings from the August 2017 article by David Migoya, “Exclusive: Traffic fatalities linked to marijuana are up sharply in Colorado. Is legalization to blame?” *The Denver Post*.



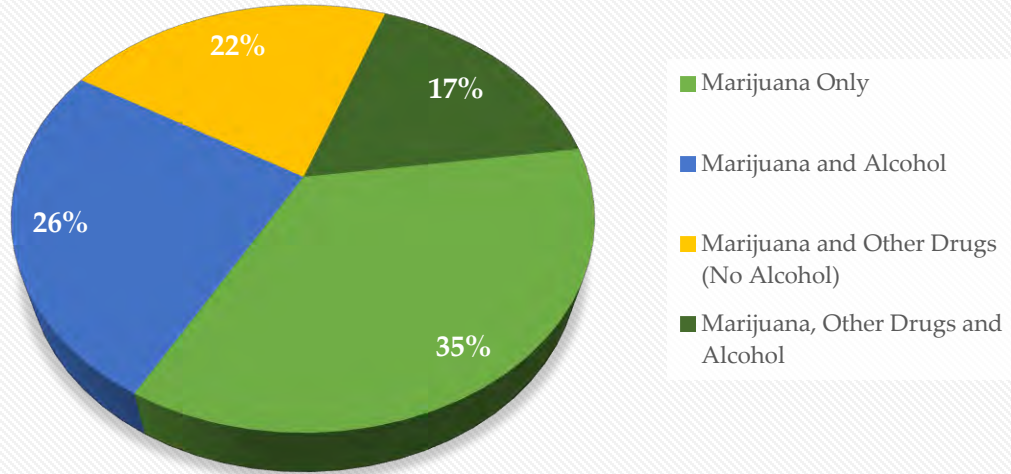


SOURCE: National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2011 and Colorado Department of Transportation 2012-2017



SOURCE: National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2011 and Colorado Department of Transportation 2012-2017

### Drug Combinations for Drivers Positive for Marijuana\*, 2017



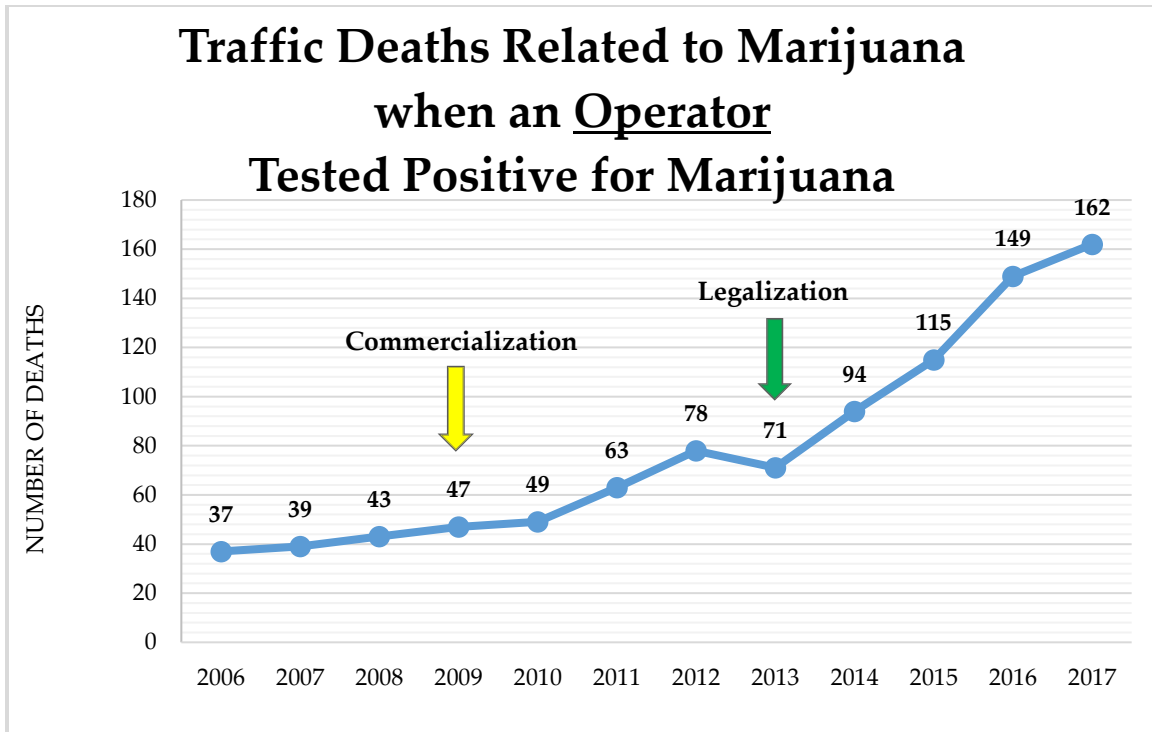
\*Toxicology results for all substances present in individuals who tested positive for marijuana

SOURCE: National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2011 and Colorado Department of Transportation 2012-2017

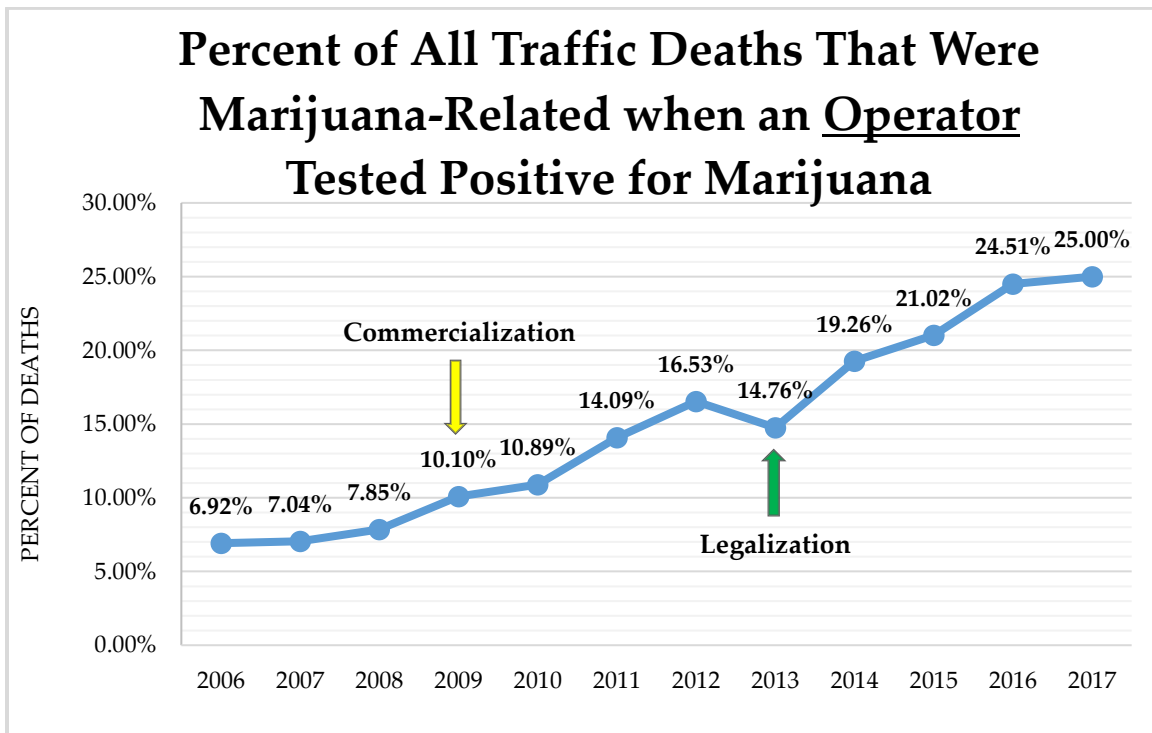
<b>Traffic Deaths Related to Marijuana                      When an OPERATOR Tested Positive for Marijuana</b>			
Crash Year	Total Statewide Fatalities	Fatalities with Operators Testing Positive for Marijuana	Percentage Total Fatalities
2006	535	37	6.92%
2007	554	39	7.04%
2008	548	43	7.85%
2009	465	47	10.10%
2010	450	49	10.89%
2011	447	63	14.09%
2012	472	78	16.53%
2013	481	71	14.76%
2014	488	94	19.26%
2015	547	115	21.02%
2016	608	149	24.51%
2017	648	162	25.00%

SOURCE: National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2011 and Colorado Department of Transportation 2012-2017

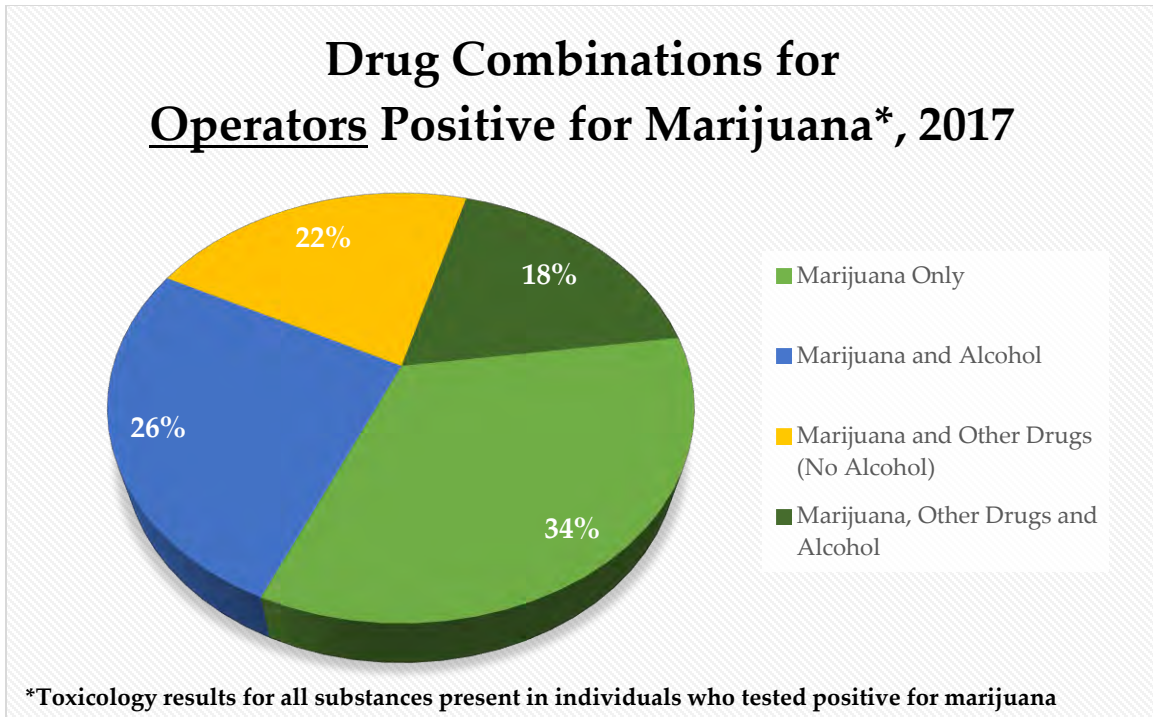
- ❖ In 2017 there were a total of 162 marijuana-related traffic deaths when an operator tested positive for marijuana. Of which:
  - 112 were drivers
  - 22 were passengers
  - 27 were pedestrians
  - 1 was a bicyclist



SOURCE: National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2011 and Colorado Department of Transportation 2012-2017



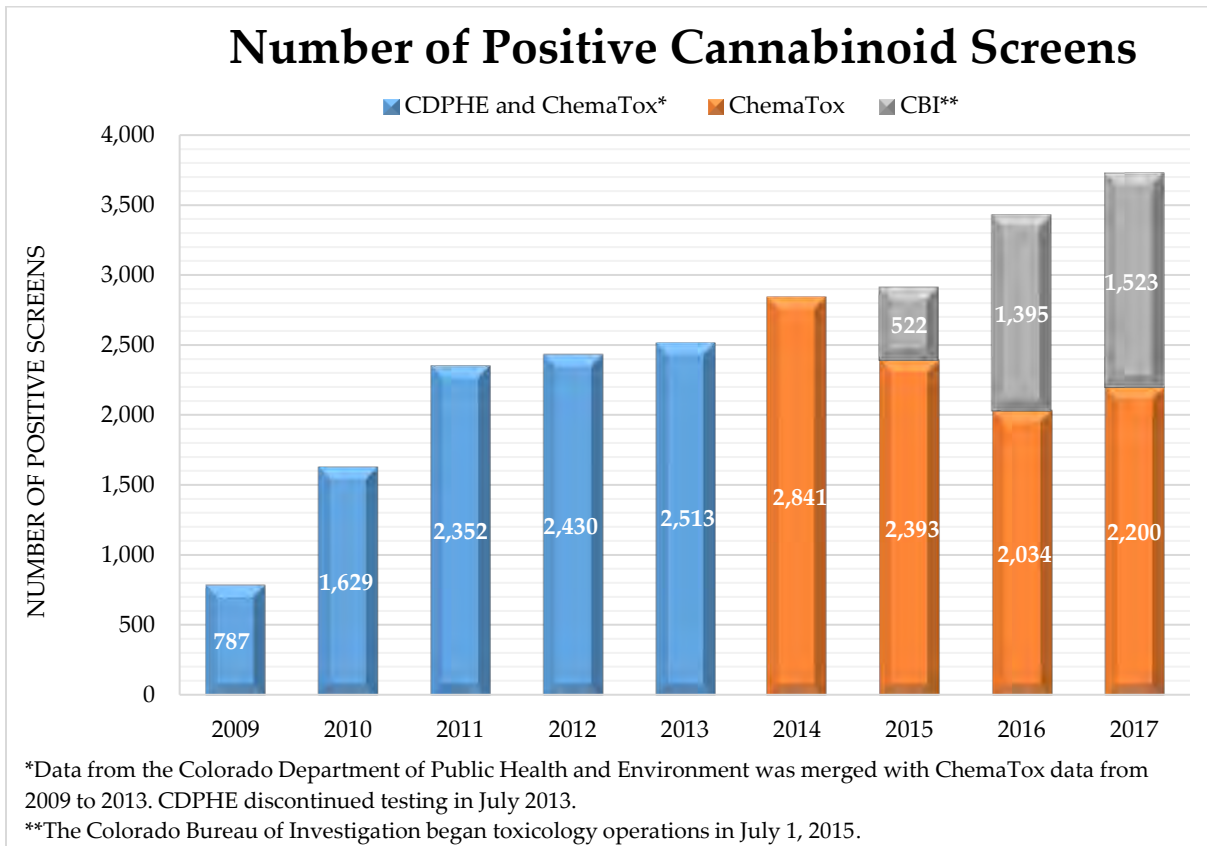
SOURCE: National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2011 and Colorado Department of Transportation 2012-2017



SOURCE: National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), 2006-2011 and Colorado Department of Transportation 2012-2017

## Impaired Driving

**NOTE:** WHEN A DRIVER IS ARRESTED FOR IMPAIRED DRIVING RELATED TO ALCOHOL, (USUALLY 0.08 OR HIGHER BLOOD ALCOHOL CONTENT) TYPICALLY TESTS FOR OTHER DRUGS (INCLUDING MARIJUANA) ARE NOT REQUESTED SINCE THERE IS NO ADDITIONAL PUNISHMENT IF THE TEST COMES BACK POSITIVE.



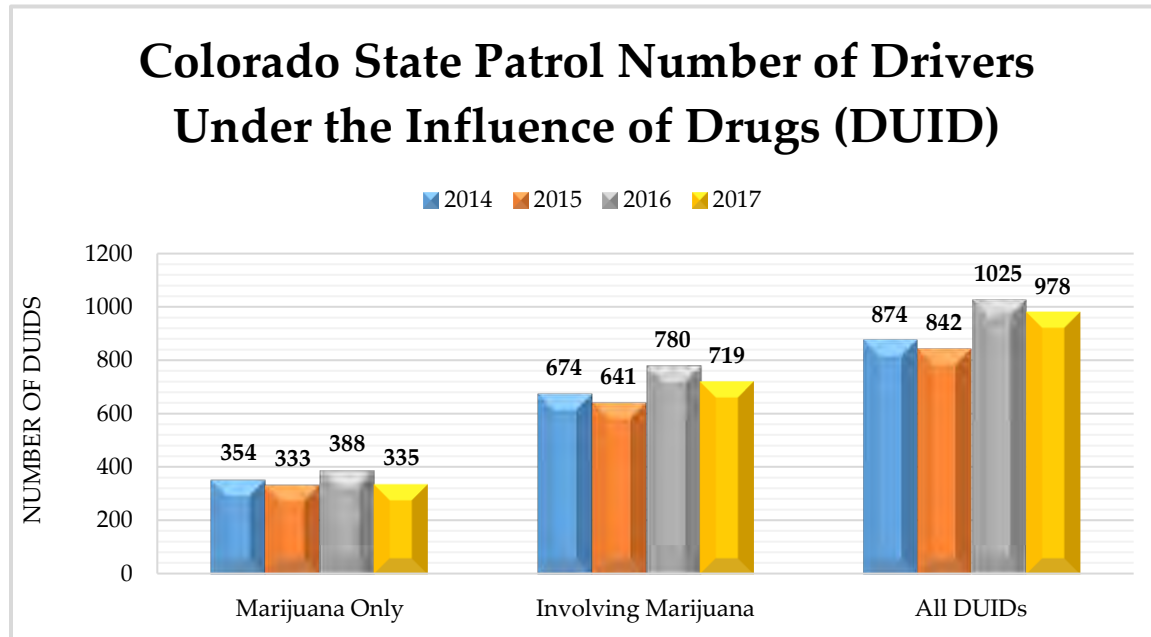
SOURCE: Colorado Bureau of Investigation, ChemaTox, and Rocky Mountain HIDTA

❖ The above graph is Rocky Mountain HIDTA’s conversion of ChemaTox data as well as data from the Colorado Bureau of Investigation’s state laboratory.

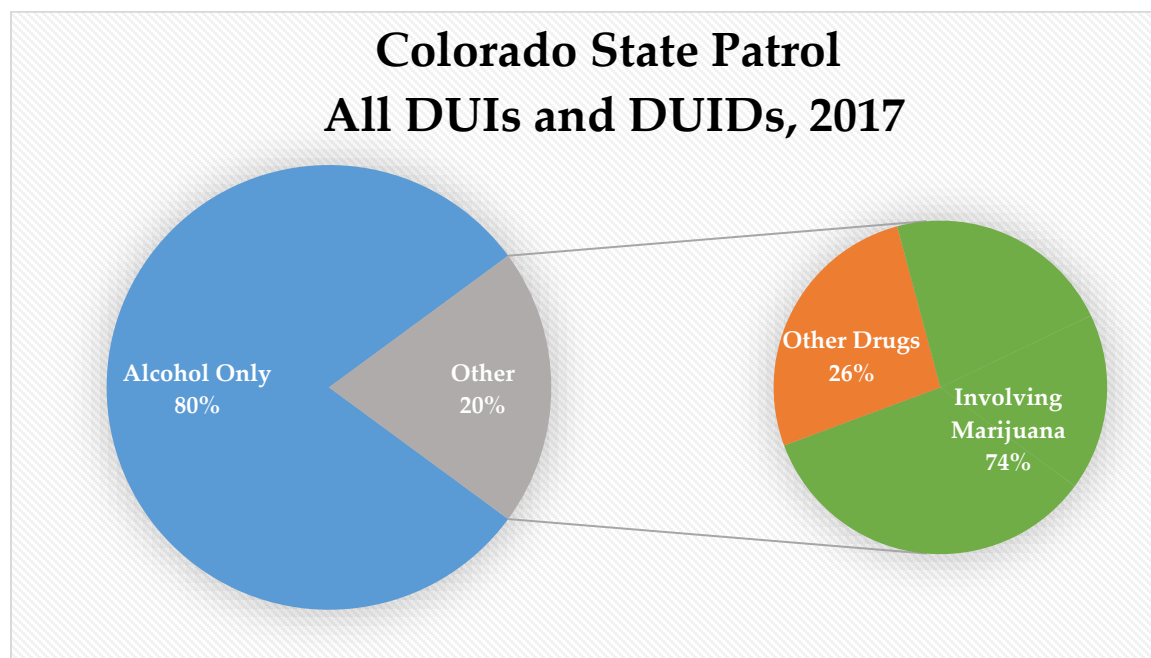
**NOTE:** THE ABOVE GRAPHS INCLUDE DATA FROM CHEMATOX LABORATORY WHICH WAS MERGED WITH DATA SUPPLIED BY COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT - TOXICOLOGY LABORATORY. THE VAST MAJORITY OF THE SCREENS ARE DUID SUBMISSIONS FROM COLORADO LAW ENFORCEMENT.

**NOTE:** "MARIJUANA CITATIONS ARE DEFINED AS ANY CITATION WHERE THE CONTACT WAS CITED FOR DUI OR DWAI AND MARIJUANA INFORMATION WAS FILLED OUT ON THE TRAFFIC STOP FORM INDICATING MARIJUANA & ALCOHOL, MARIJUANA & OTHER CONTROLLED SUBSTANCES, OR MARIJUANA ONLY PRESENT BASED ON OFFICER OPINION ONLY (NO TOXICOLOGICAL CONFIRMATION)."

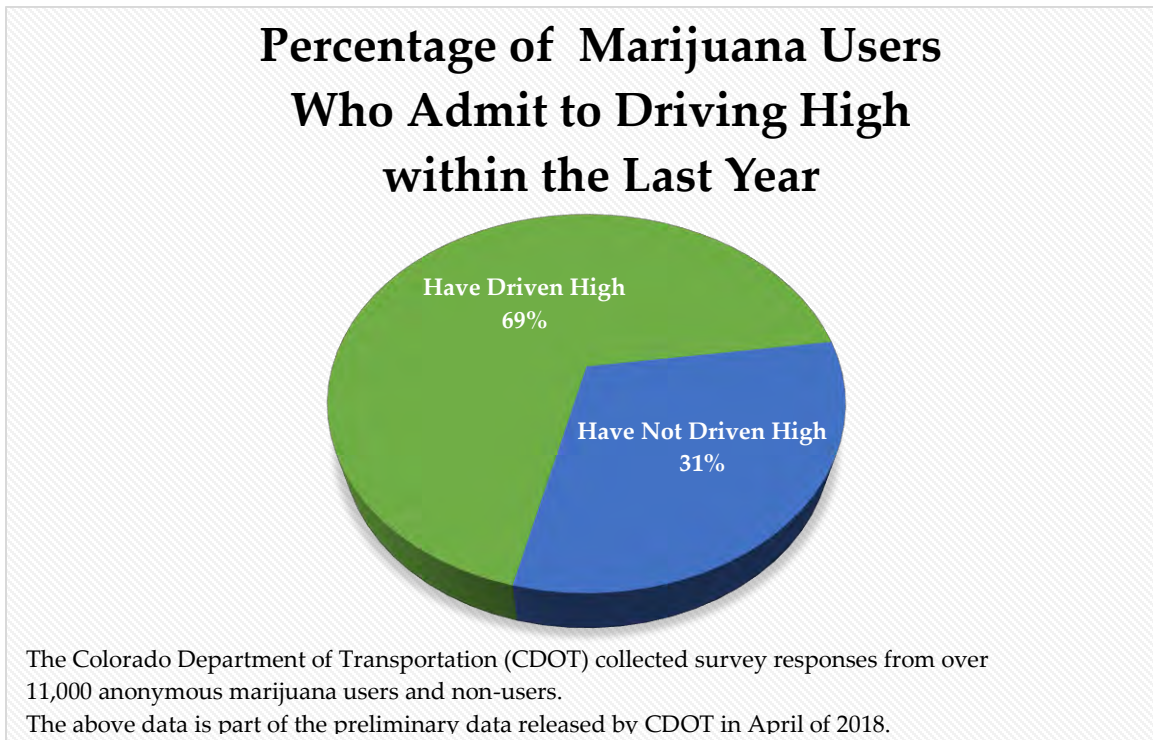
-COLORADO STATE PATROL



SOURCE: Colorado State Patrol, CSP Citations for Drug Impairment by Drug Type



SOURCE: Colorado State Patrol, CSP Citations for Drug Impairment by Drug Type



SOURCE: Colorado Department of Transportation, *Cannabis Conversation Survey*

## Impaired Driving Information

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### Over Half of CO Marijuana Users Believe It’s Safe to Drive While High

Among marijuana users surveyed by CDOT last November, 55 percent said they believed it was safe to drive under the influence of marijuana. Within that group, the same percentage said they had driven high within the past 30 days, on average 12 times. CDOT spokesman, Sam Cole said that just because drunk driving is more dangerous, it doesn’t mean that stoned driving is safe. “I think (comparing the two) is a dangerous road to go down, because driving impaired is driving impaired.” Recent analysis found that Colorado drivers involved in fatal crashes has doubled since 2013.

- Jack Queen, *More than half of Colorado marijuana users think it’s OK to drive high, CDOT says. Changing that could be an uphill battle*, Summit Daily News, November 12<sup>th</sup> 2017.



## Legal Pot and Pedestrian Deaths

A study published by the Governors' Highway Safety Association looked at pedestrian fatalities over 20 years. They noted interesting information from the seven states that legalized recreational marijuana. Between 2012 and 2016 there was a 16.4 percent increase in pedestrian traffic deaths for the first six months of 2017 compared to the first 6 months of 2016 whereas all other states had a 5.8 percent decrease. Traffic safety engineer, Richard Retting was clear to point out that the report was not making a direct correlation or expressly claiming a link between weed and walking deaths.

- A.J. Herrington, *Is A Rise In Pedestrian Deaths Really Due To Legal Cannabis?* High Times, March 3<sup>rd</sup>, 2018.

## 70% Drivers in DUI Test Positive for Marijuana

A comprehensive analysis of 2016 driving under the influence data revealed that over 70% of 3,946 drivers charged with driving under the influence of alcohol also tested positive for marijuana. Even though the presence of Delta 9 THC, the primary psychoactive ingredient in marijuana, dissipates rather quickly, still over 70% tested positive for Delta 9 and close to half detected Delta 9 THC at a 5.0 ng/mL or above.

- *Driving Under the Influence of Drugs and Alcohol* Colorado Department of Public Safety, Division of Criminal Justice, July 2018.

## Higher Levels of THC

In Colorado, the legal limit of THC in a driver's blood is 5ng/mL. However, according to the Denver Post, "THC levels in drivers killed in crashes in 2016 routinely reached levels of more than 30 ng/mL... [t]he year before, levels only occasionally topped 5 ng/mL." This trend has coroners concerned because some are "uncertain about listing the presence of THC on a death certificate because of doubts on what constitutes impairment." Police Chief Jackson of Greenwood Village, CO attributes the rise in THC levels of drivers to the rise in THC potency in marijuana oils and concentrates. He states, "This is not your grandfather's weed."

- David Migoya, *Exclusive: Traffic fatalities linked to marijuana are up sharply in Colorado. Is Legalization to blame?* The Denver Post, August 25th 2017.

## 57 Percent of Marijuana Users in Colorado Admit Driving within 2 Hours:

A survey conducted by the Colorado Department of Transportation discovered that 57 percent of people who reported using marijuana drove within two hours after consumption. The survey also indicated that, on average, those participants who reported consuming marijuana and then driving within 2 hours did so on 11.7 of 30 days. By comparison, 38 percent of respondents who drank alcoholic beverages reported driving within 2 hours after consumption and only reported doing so on 2.8 of 30 days.

- Anica Padilla, *Study: 57 percent of marijuana users in Colorado admit driving within 2 hours*, KDVR/Fox 31 Denver, March 9 2017.

## Drivers Killed in Crashes More Likely to be on Drugs than Alcohol

A recent study using data available from 2015 indicates that “[d]rivers who are killed in car crashes are now more likely to be on drugs than alcohol.” Drugs were present in 43 percent of drivers in fatal accidents compared to 37 percent with alcohol above the legal limit.

Additionally, 36 percent of the drivers tested had marijuana present in their system at the time of the accident. In general, traffic fatalities are rising and can be attributed to factors such as improved economy, more distracted drivers, and more drugged drivers. 11

- Melanie Zanona, *Study: Drivers Killed in Crashes More Likely to be on Drugs than Alcohol*, The Hill, April 26<sup>th</sup> 2017.