Cannabinoids

Perception of Harm | Vermont Crash Data

CANNABIS ON VERMONT ROADWAYS: TRENDS IN CRASH AND IMPAIRMENT DATA

Sergeant Jay Riggen
Vermont State Police
Traffic Safety Unit

2019 NORTHEAST TRANSPORTATION SAFETY CONFERENCE

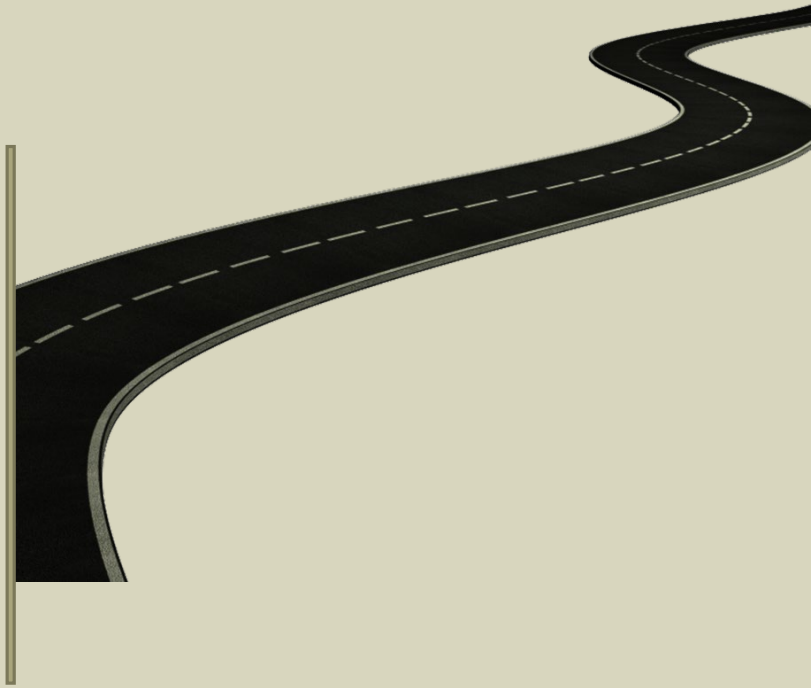
OBJECTIVE

Increase awareness of Cannabis' presence in Vermont crashes

Reduce the harm caused by **misrepresentations** and **deception** by *weaponizing* **ambassador knowledge**

THE ROADMAP

- Define “Cannabinoids” and their interaction with the Central Nervous System
- Identify the perception of harm as it relates to cannabis use
- Quantify the presence of cannabis in Vermont crashes

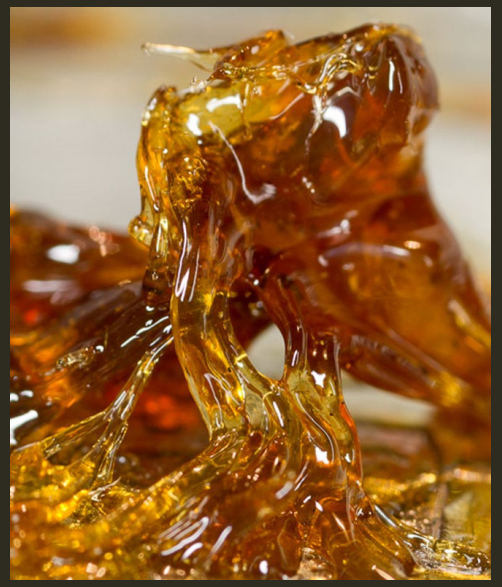


WHAT ARE CANNABINOIDS?

- △9-tetrahydrocannabinol
  - (THC) is the primary psychoactive ingredient
- >500 chemicals
  - e.g. Terpenes, polyaromatic hydrocarbons
- >100 cannabinoids
  - e.g. Cannabidiol, cannabinol

WHAT ARE CANNABINOIDS?

- Common products:
  - Marijuana
  - THC Oil
  - Edibles
  - Synthetic
  - Hash
  - Hash oil



THE PERCEPTION OF HARM

- 2017 Vermont Youth Risk Behavior Survey:
  - **66%** report their parents would think it is wrong for them to use alcohol **(2015: 72%)**
  - **76%** report their parents would think it is wrong for them to smoke marijuana **(2015: 80%)**
  - **36%** believe binge drinking regularly "greatly risks harm"
  - **24%** believe using marijuana regularly "greatly risks harm"

VPR AND VPT POLL

Is the fact that you are very or somewhat likely to use marijuana in the coming year due to the fact that the Vermont legislature legalized the possession of small amounts of marijuana for personal use, or is that law irrelevant to your decision?

23% Because of law

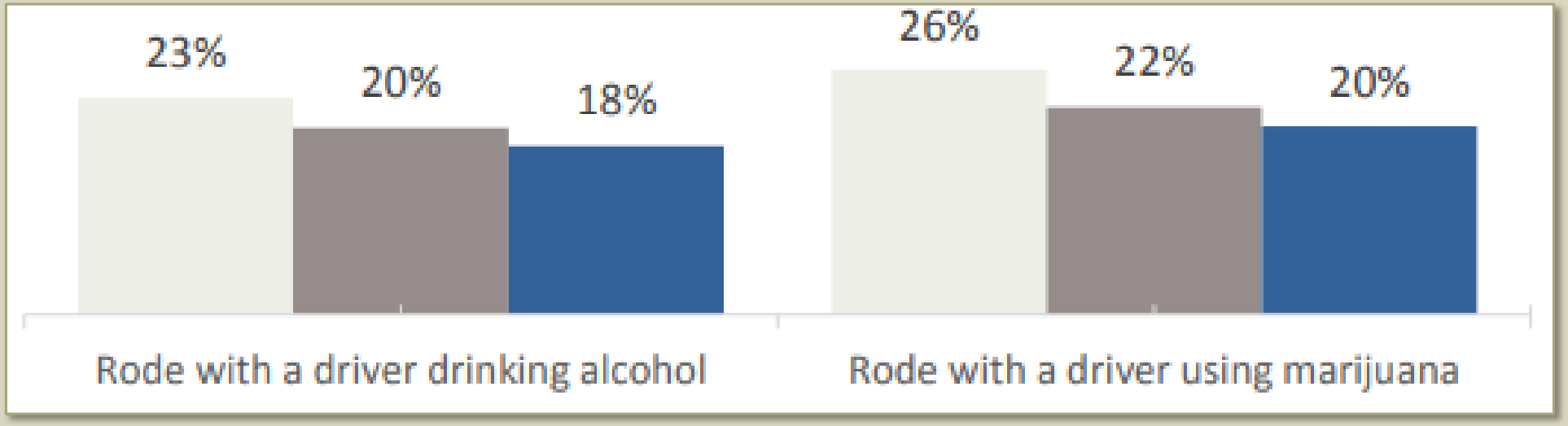
73% Irrelevant

4% Don't know/Refused

148 Total Respondents

THE PERCEPTION OF HARM

In the past 30 days…



THE PERCEPTION OF HARM

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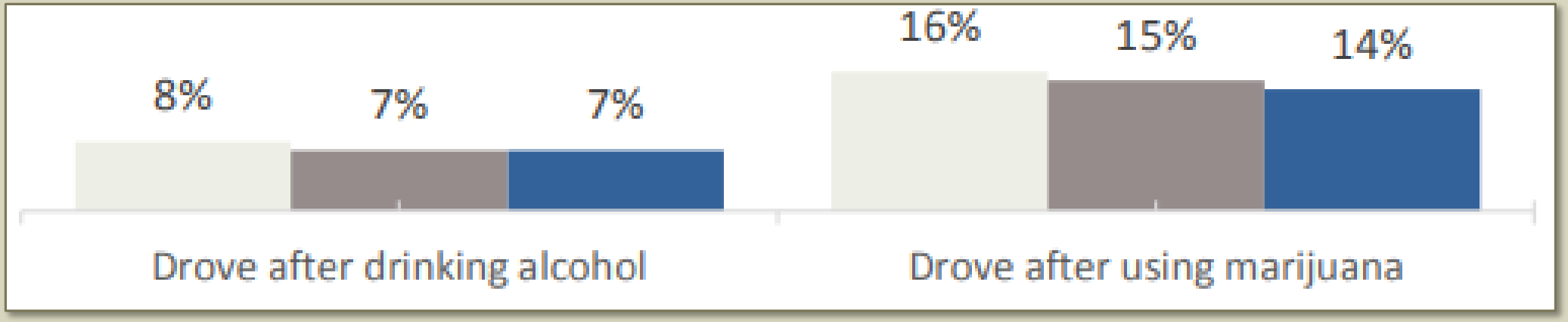
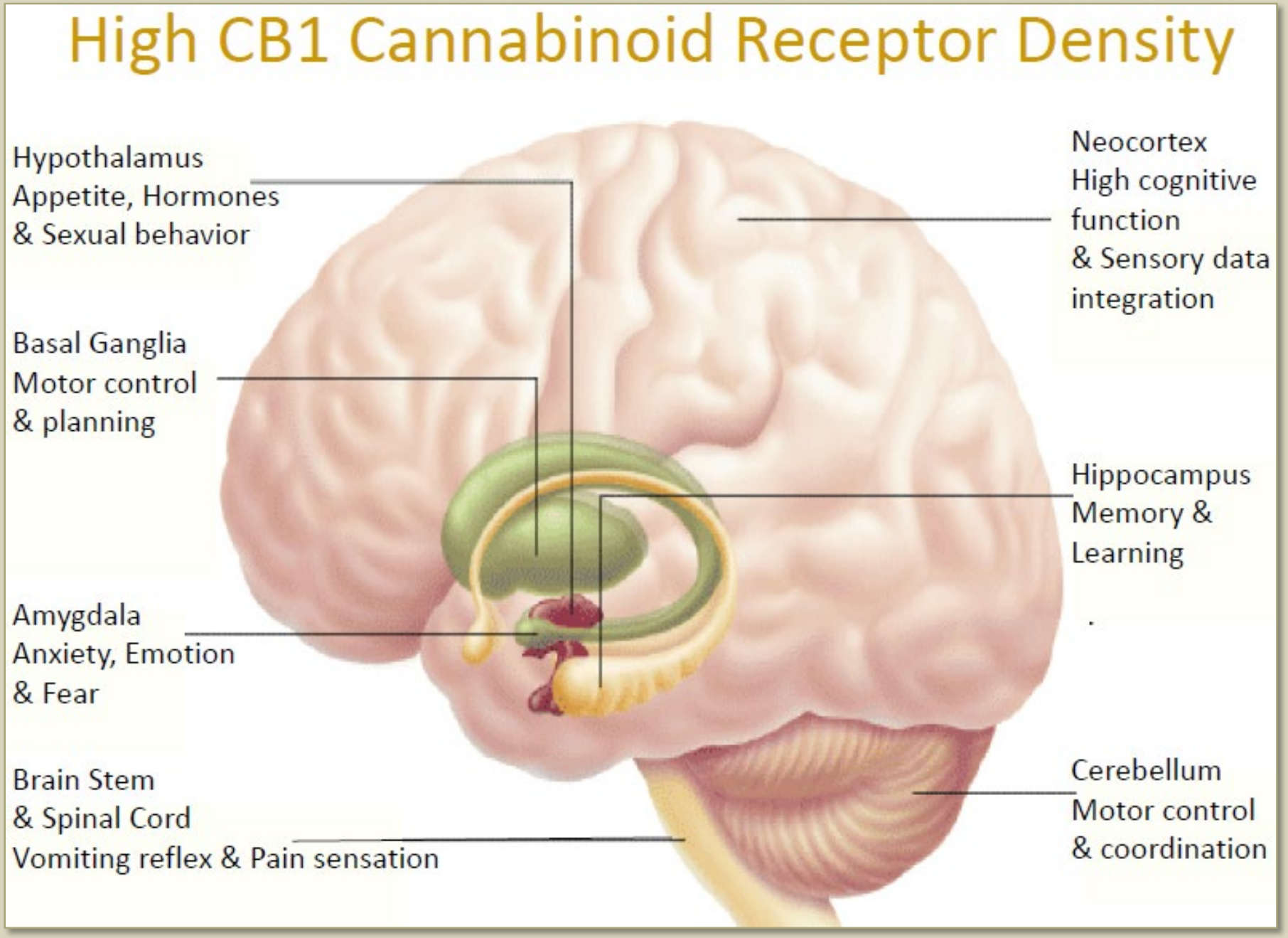
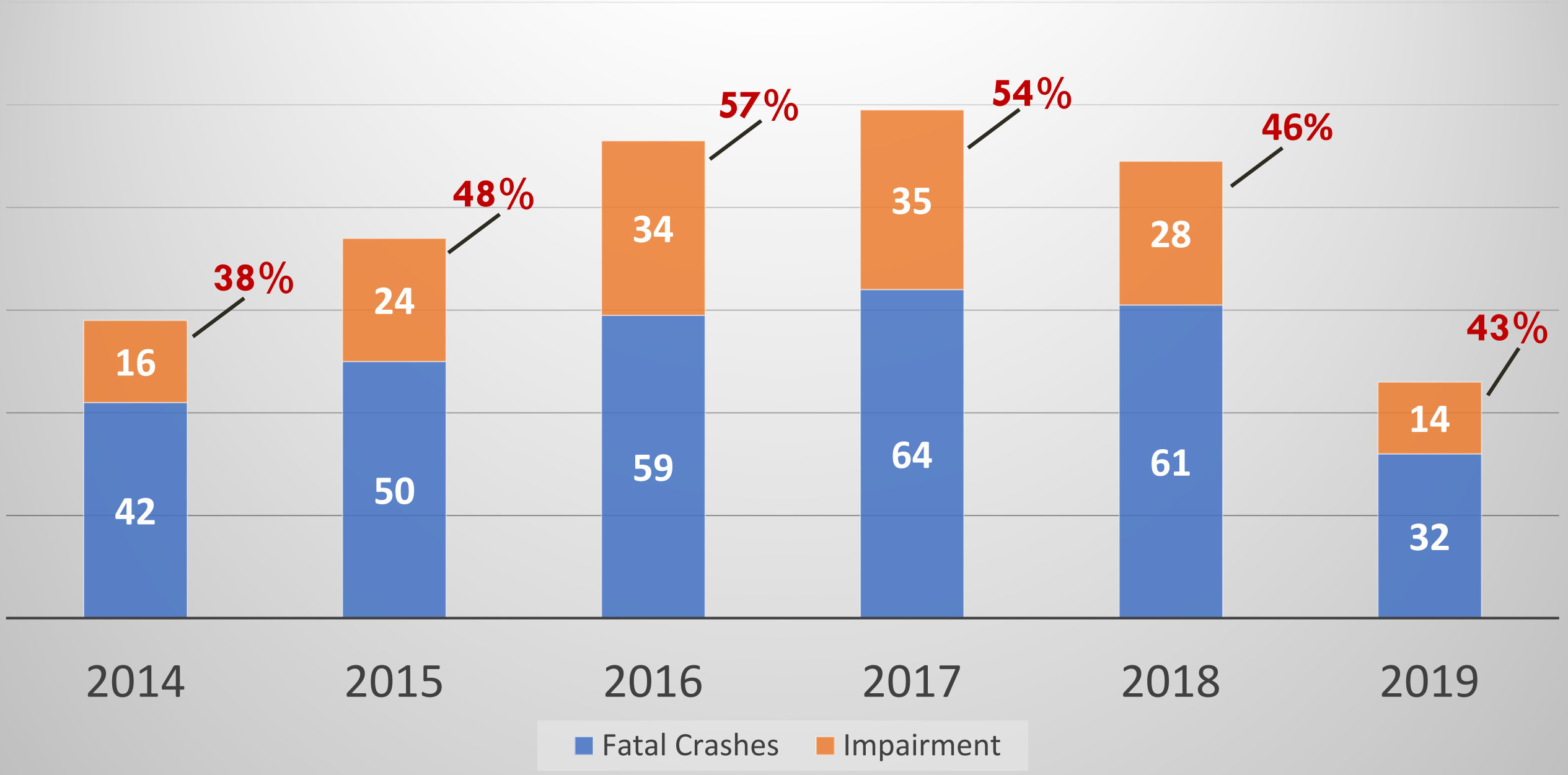


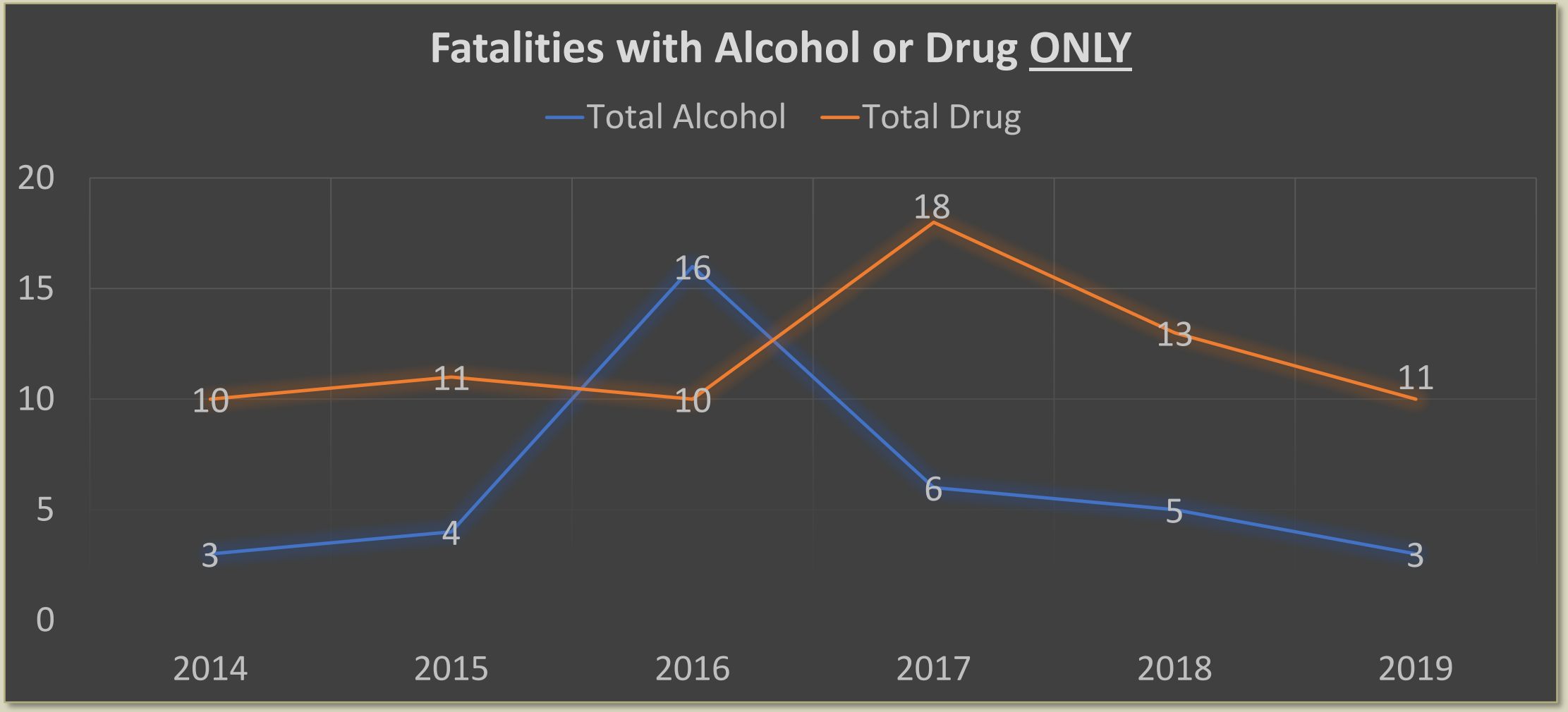
High CB1 Cannabinoid Receptor Density



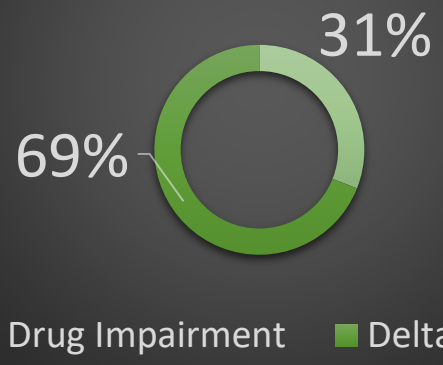
Fatal Crashes and Impairment Rate



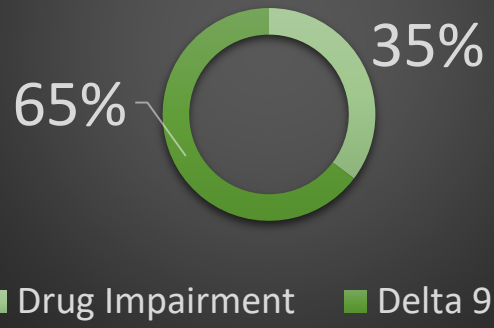
ALCOHOL & DRUG FATALITIES



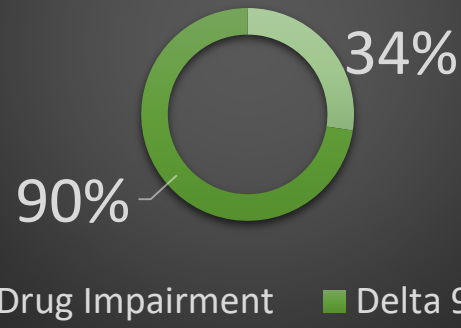
2014 Delta 9 THC Fatalities



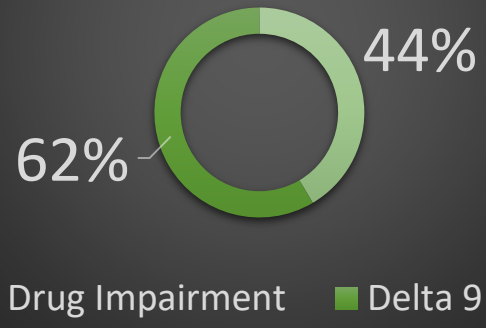
2015 Delta 9 THC Fatalities



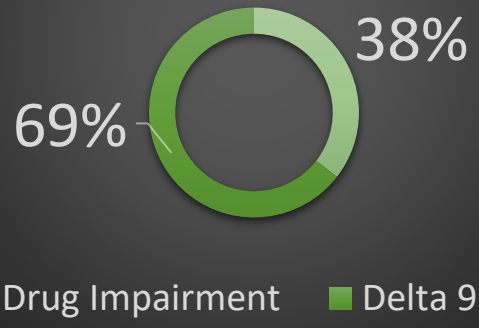
2016 Delta 9 THC Fatalities



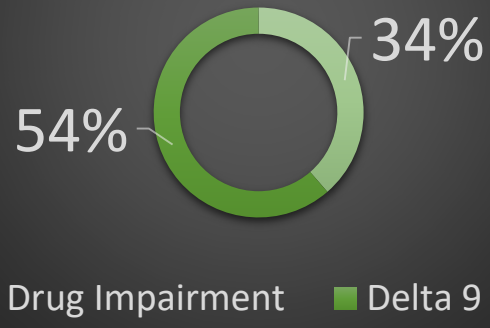
2017 Delta 9 THC Fatalities



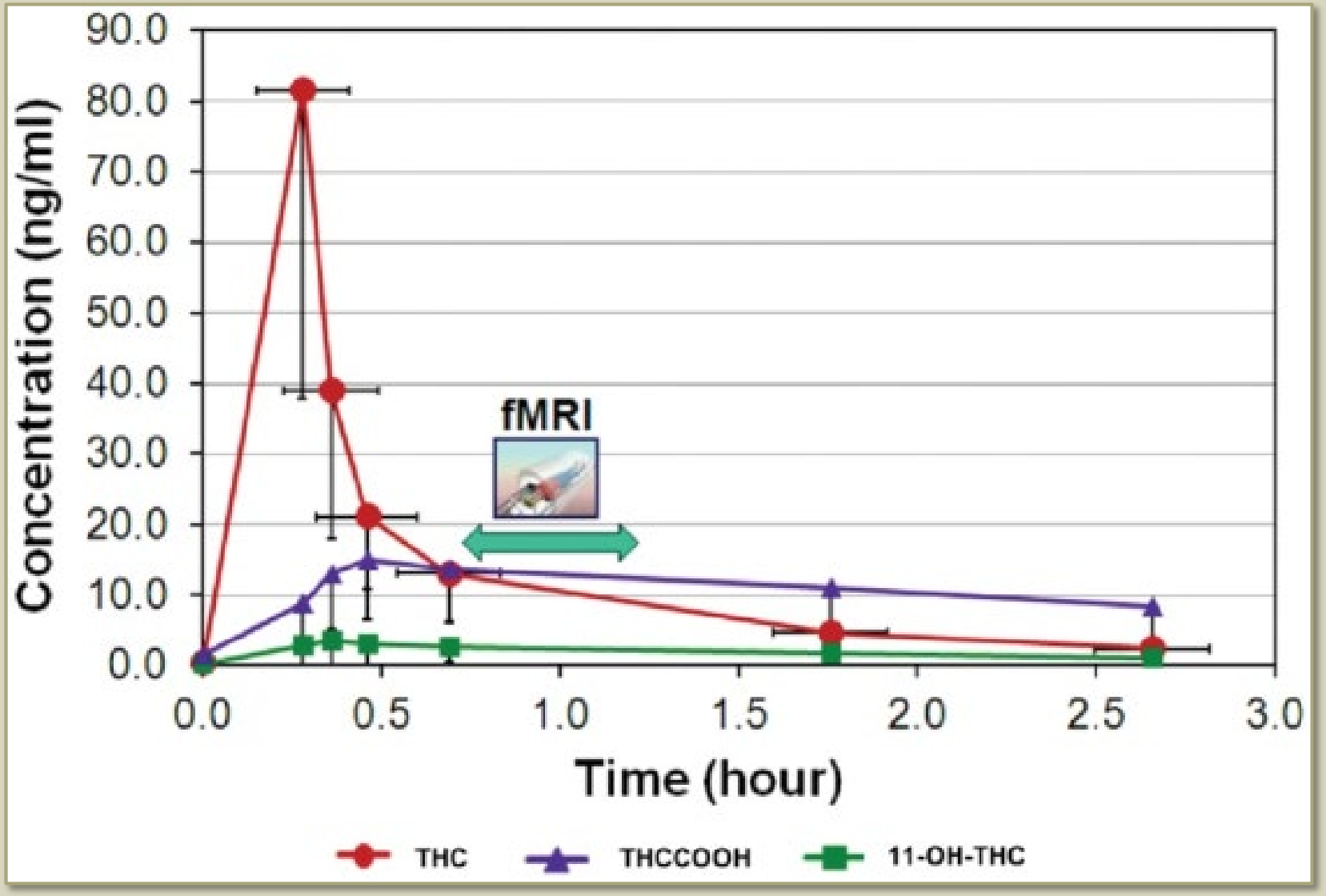
2018 Delta 9 THC Fatalities



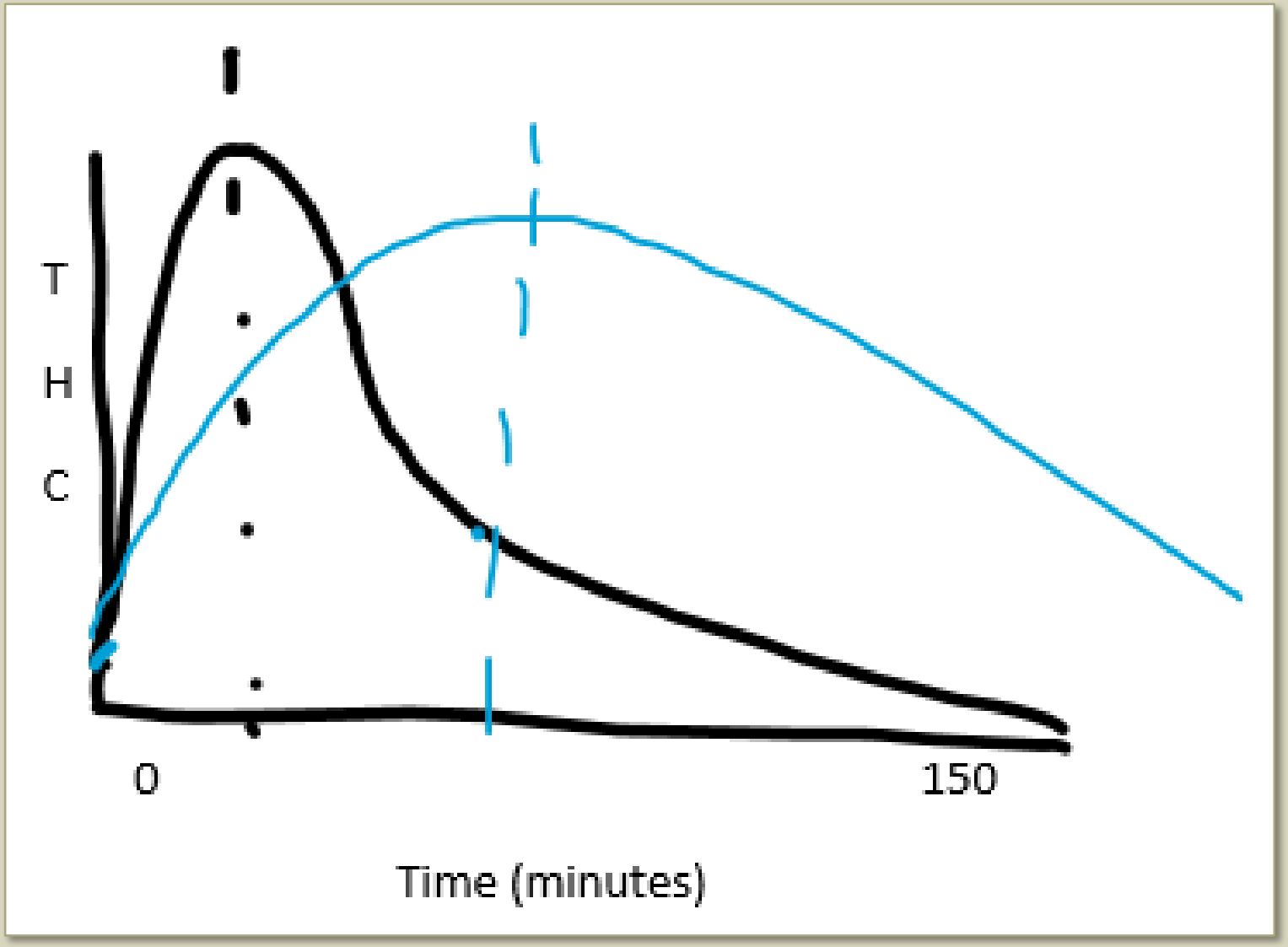
2019 Delta 9 THC Fatalities



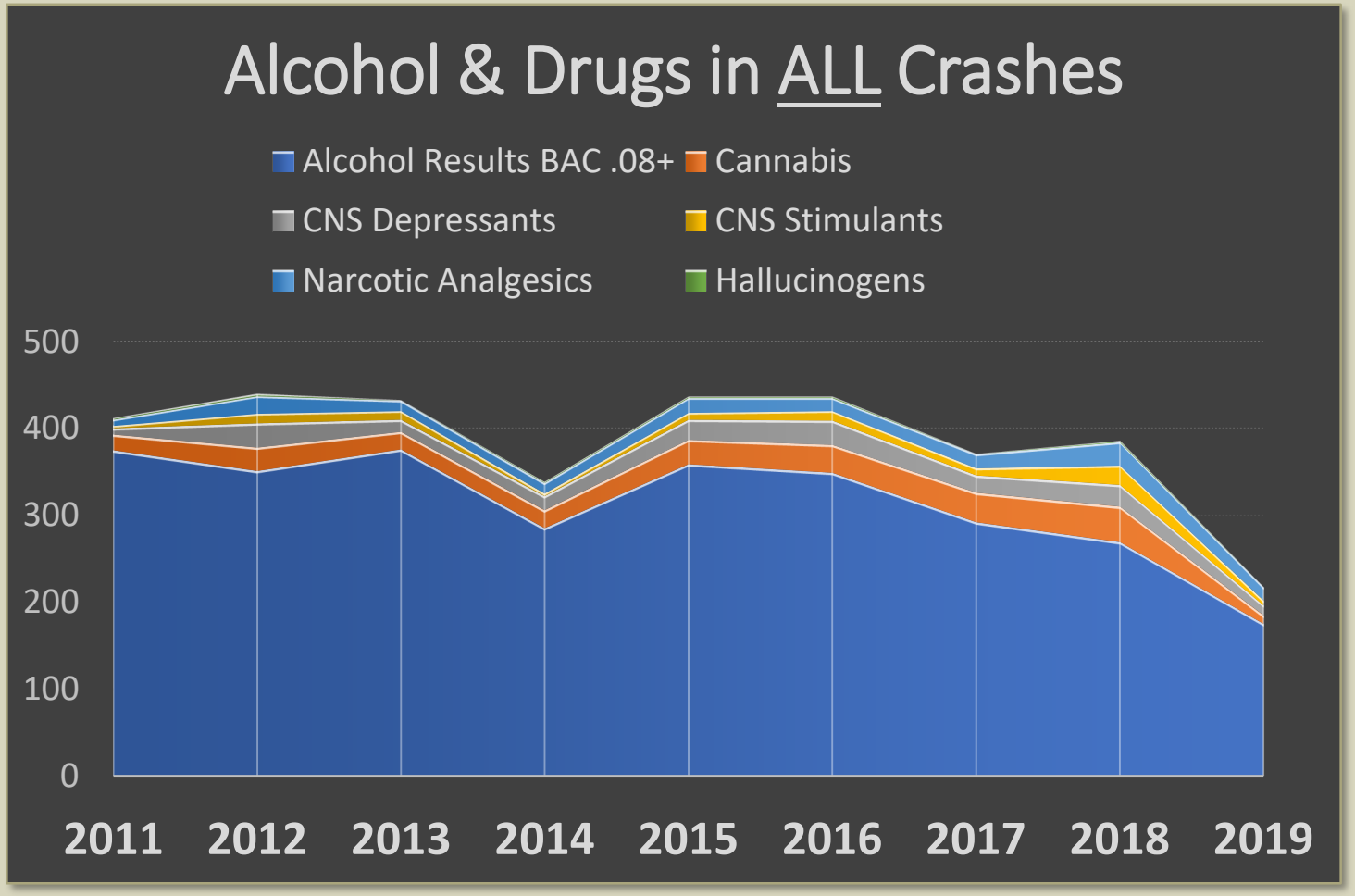
THC CONCENTRATIONS ≠ BLOOD LEVELS

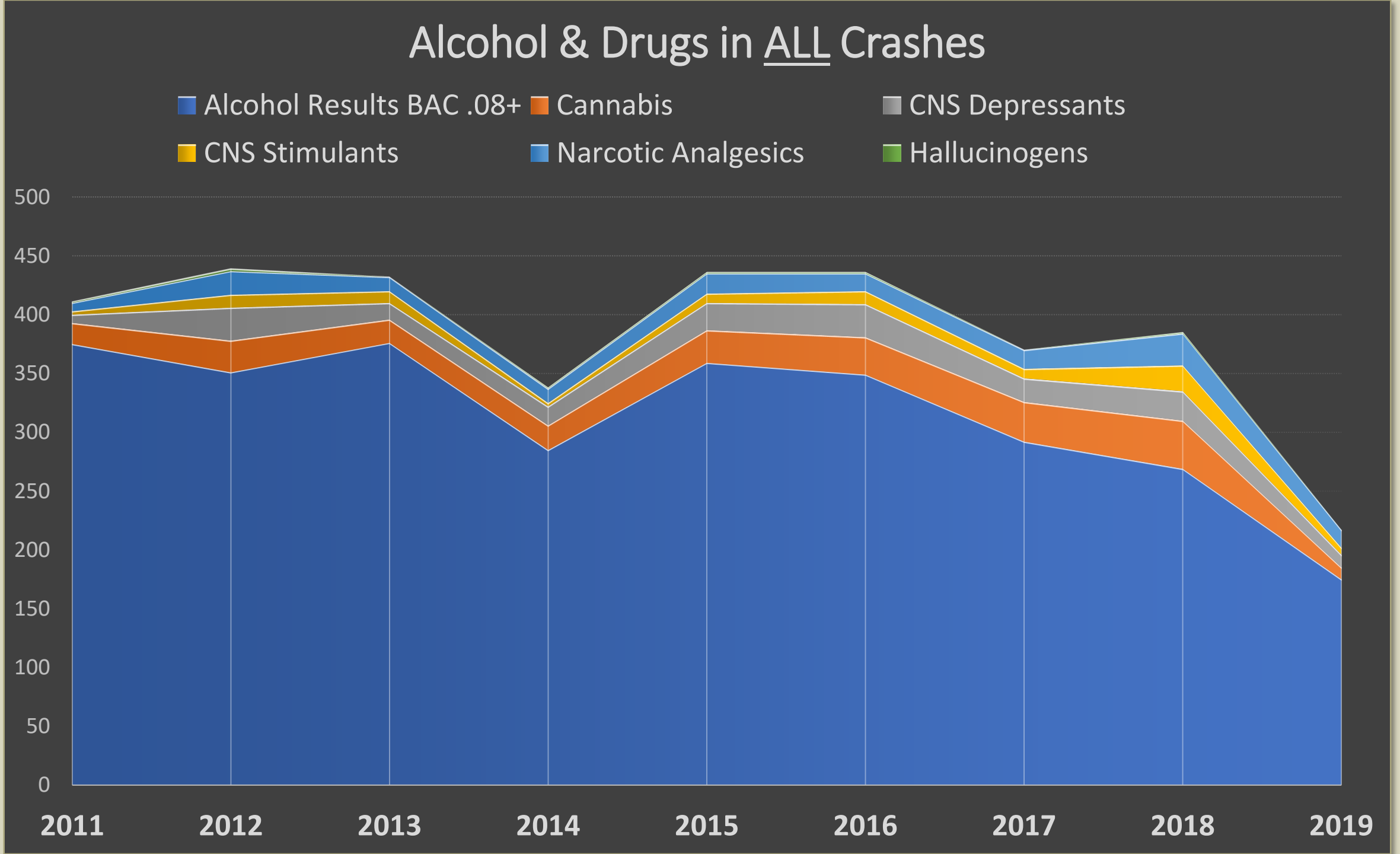


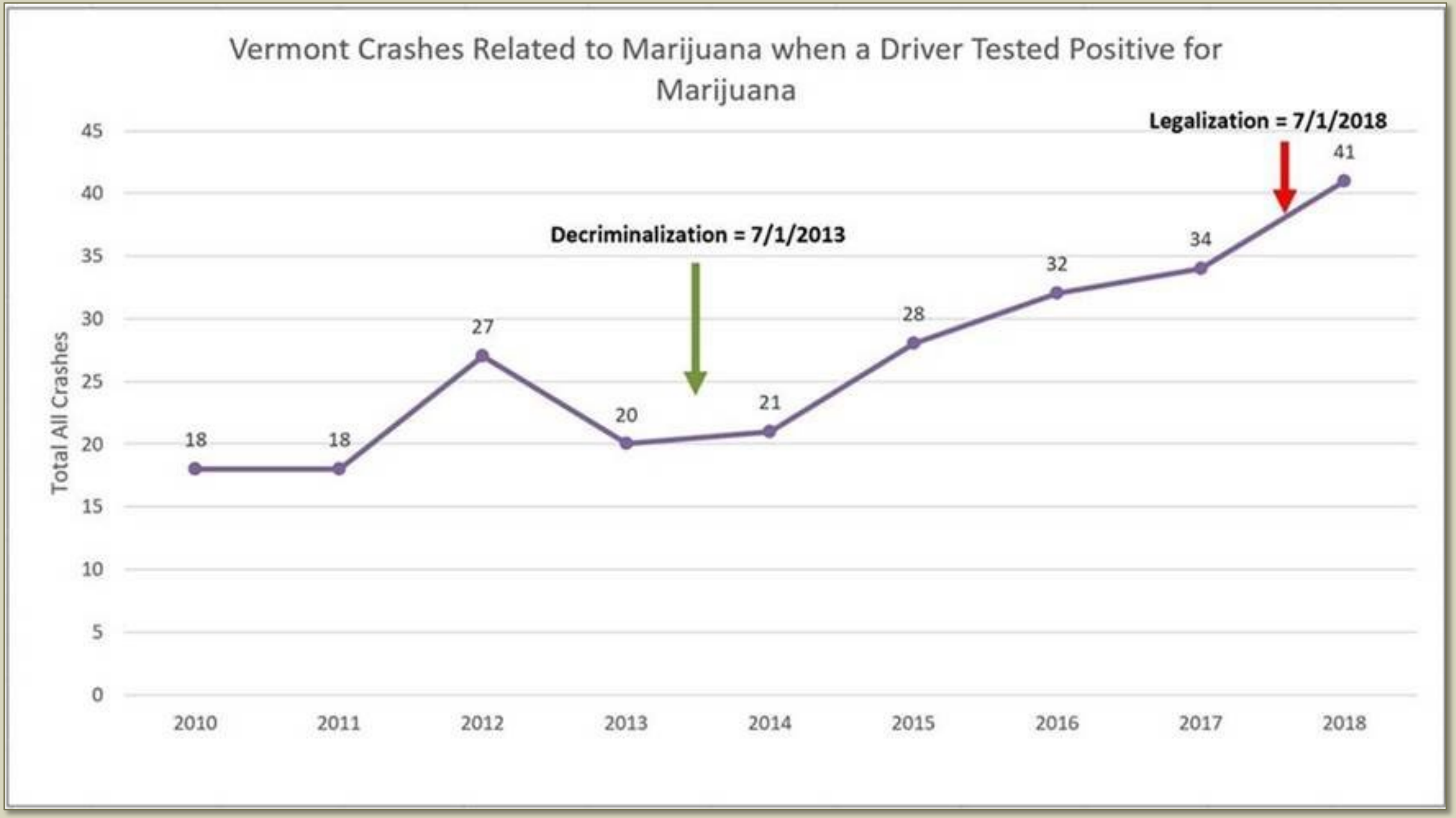
FEELING THE "THE GOOD DRUG EFFECT"



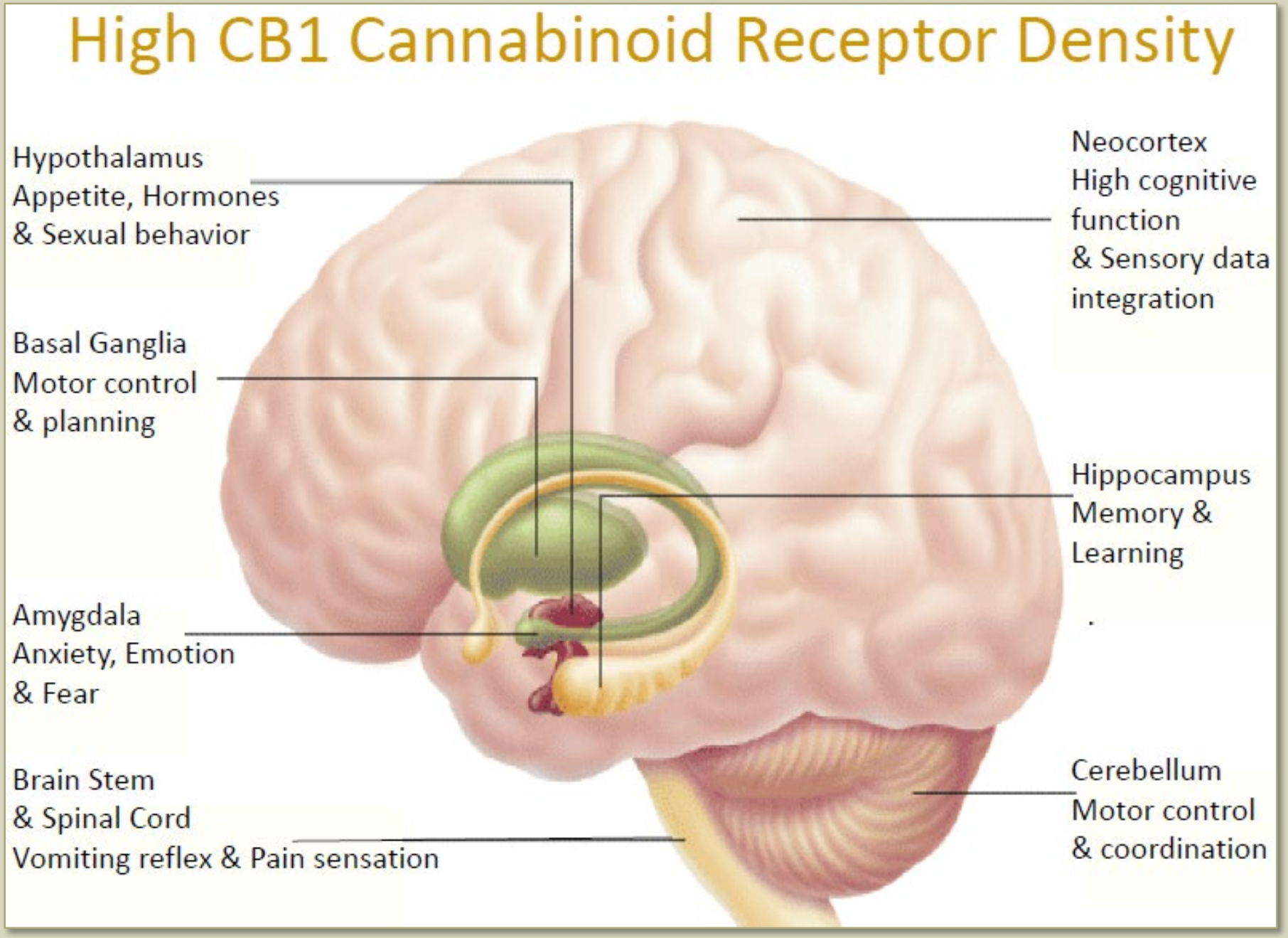
IMPAIRMENT IN ALL CRASHES




Alcohol & Drugs in ALL Crashes
Alcohol Results BAC .08+
Cannabis
CNS Depressants
CNS Stimulants
Narcotic Analgesics
Hallucinogens
500
450
400
350
300
250
200
150
100
50
0
2011
2012
2013
2014
2015
2016
2017
2018
2019


Vermont Crashes Related to Marijuana when a Driver Tested Positive for Marijuana
Total All Crashes
45
40
35
30
25
20
15
10
5
0
Decriminalization = 7/1/2013
Legalization = 7/1/2018
18
18
27
20
21
28
32
34
41
2010
2011
2012
2013
2014
2015
2016
2017
2018

High CB1 Cannabinoid Receptor Density

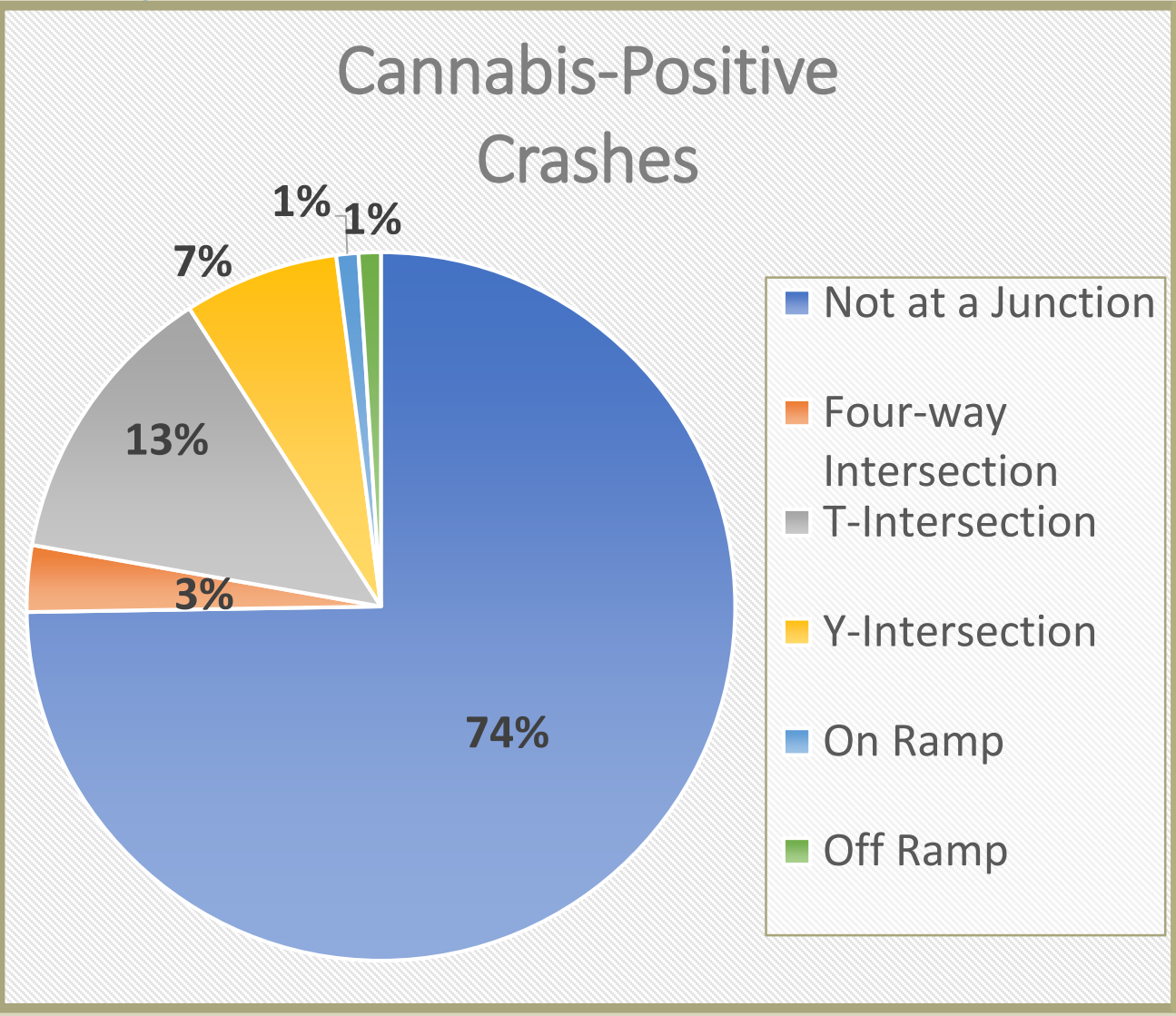


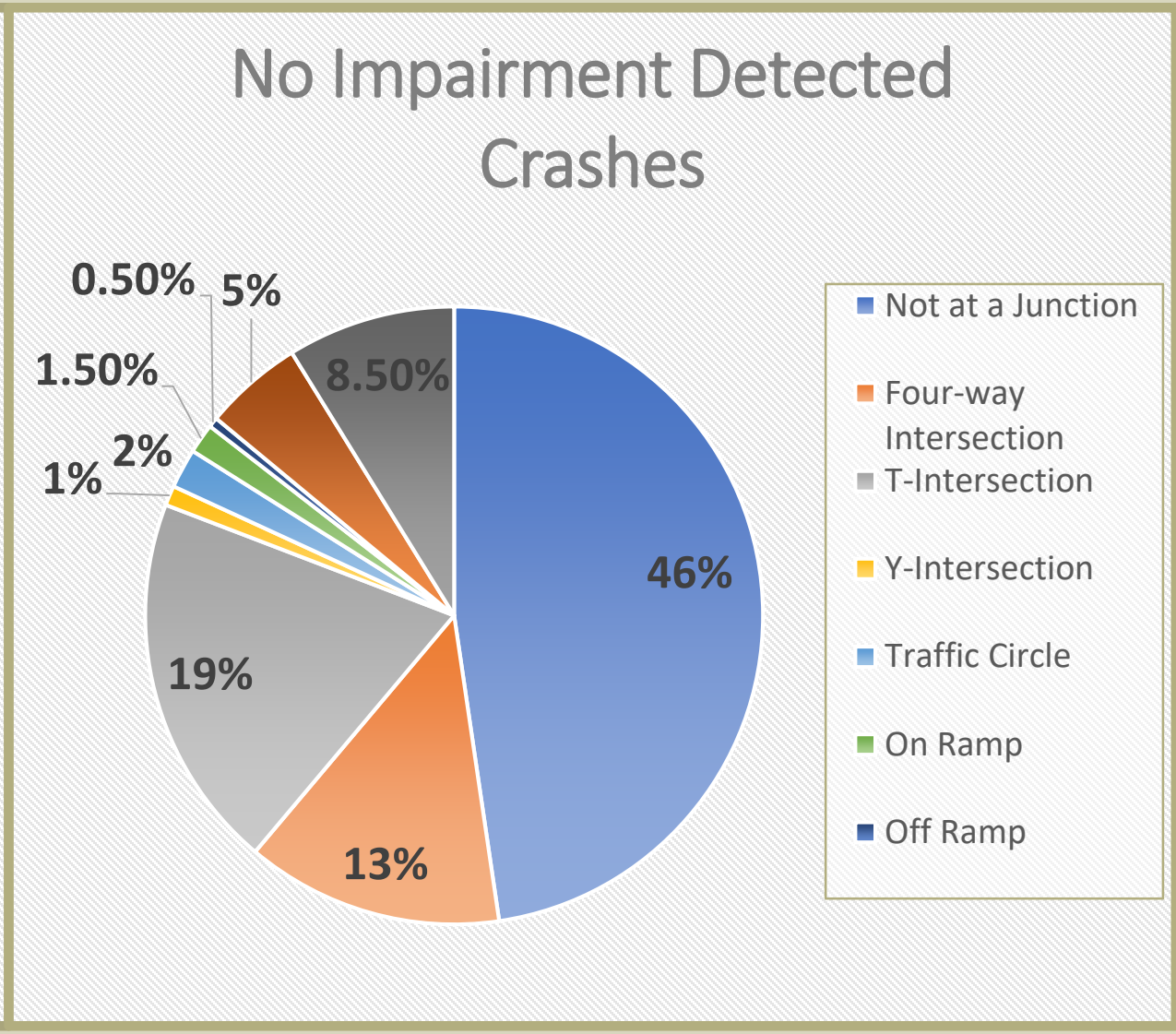
CANNABIS AND DRIVING STUDIES

- Cannabis produces dose-related driver impairment
- Cannabis increases SDLP during on-road driving
- Cannabis increases reaction time
  - *This is exacerbated by alcohol*

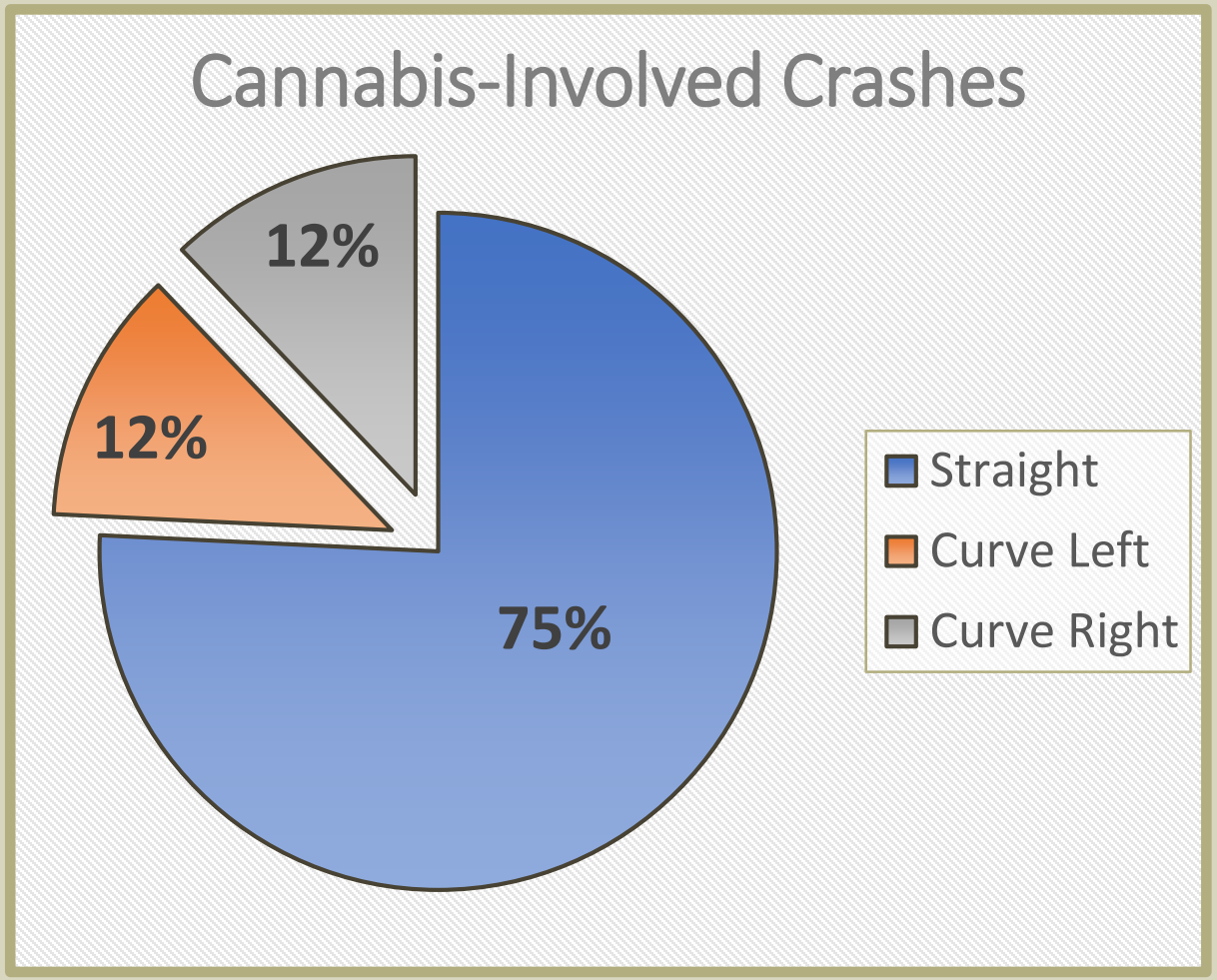
- **Low THC concentrations** and **low BAC (<.05)** produce no impairment when given alone, ***but impair driving when taken together***

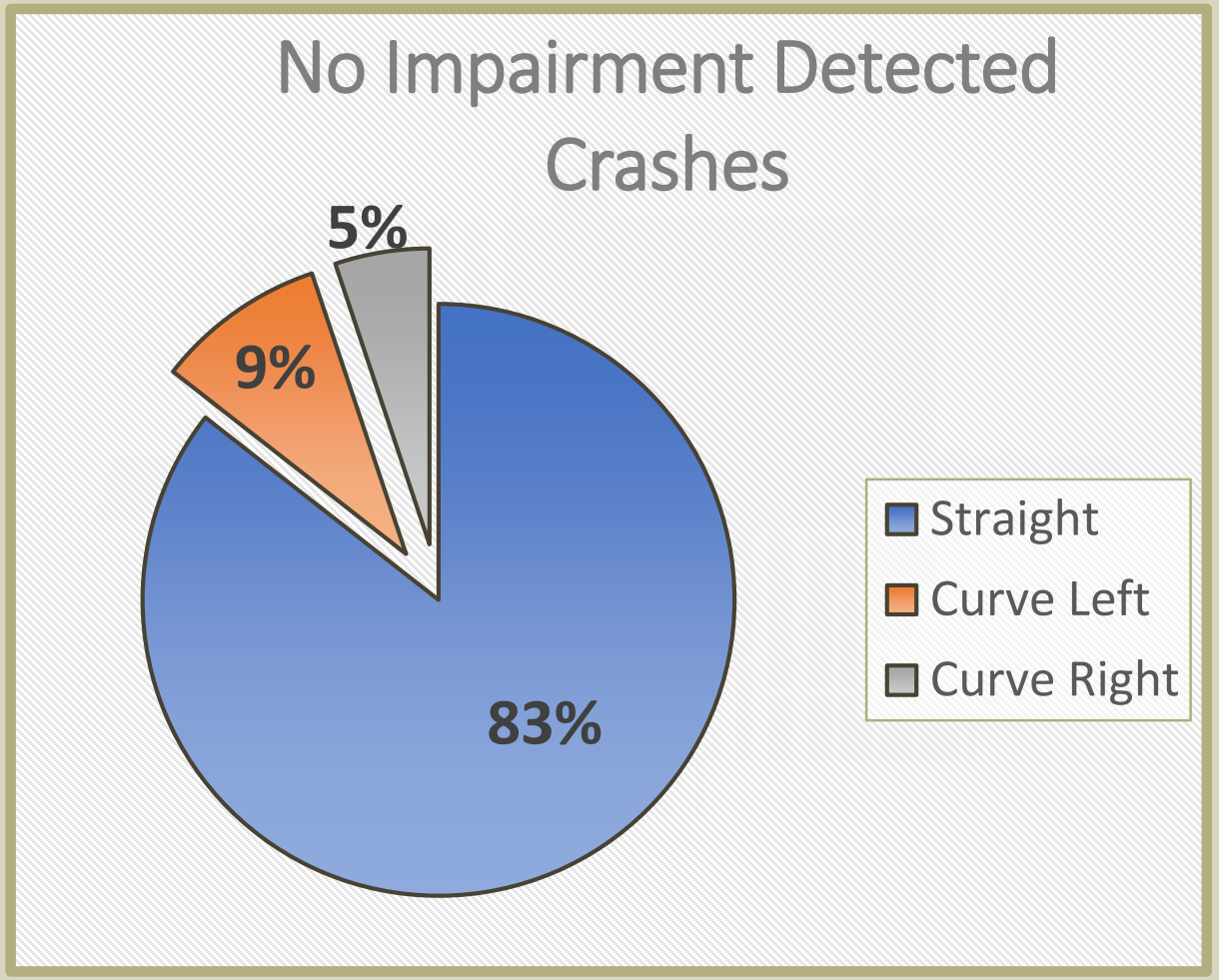
ROAD CHARACTERISTICS



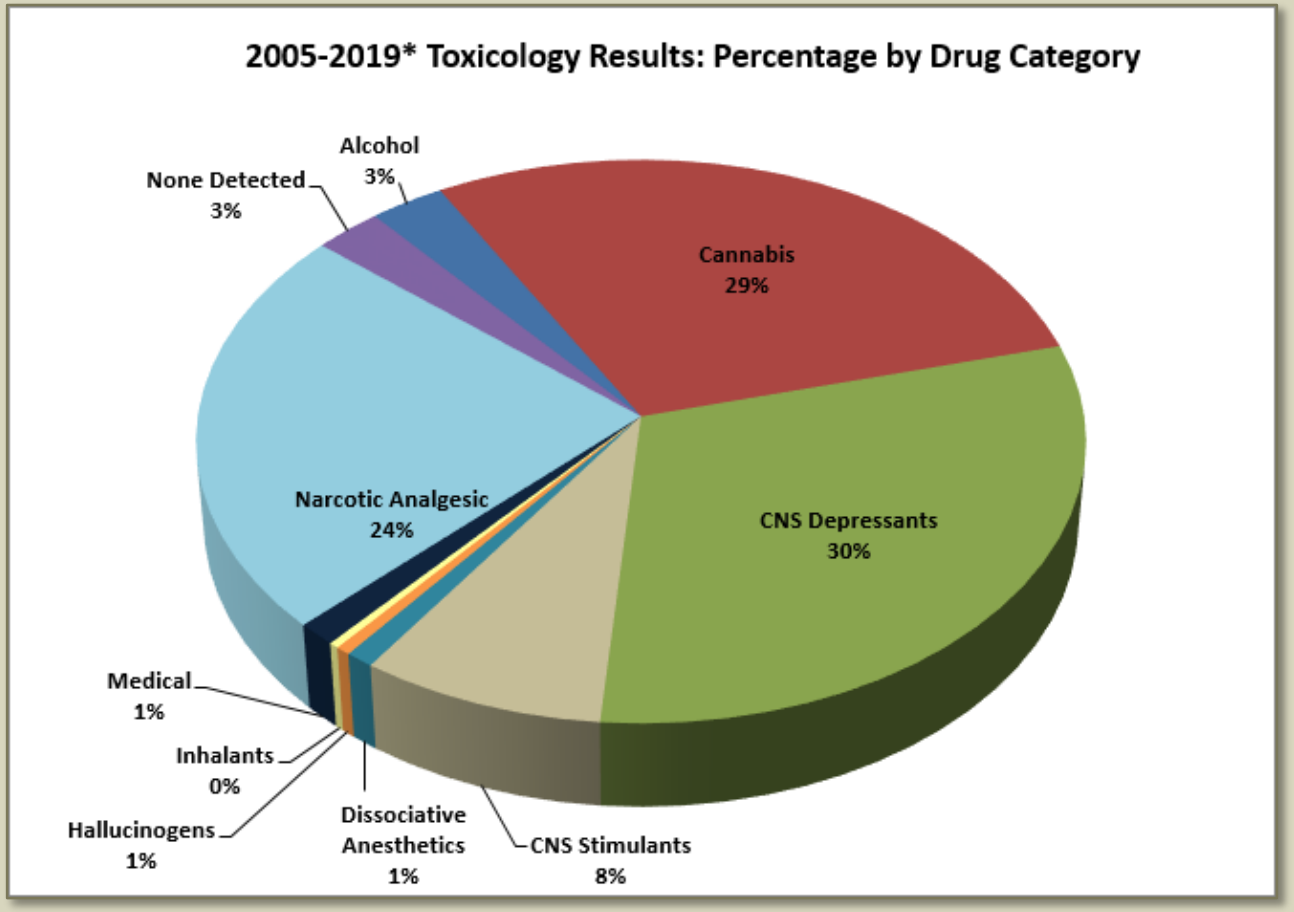


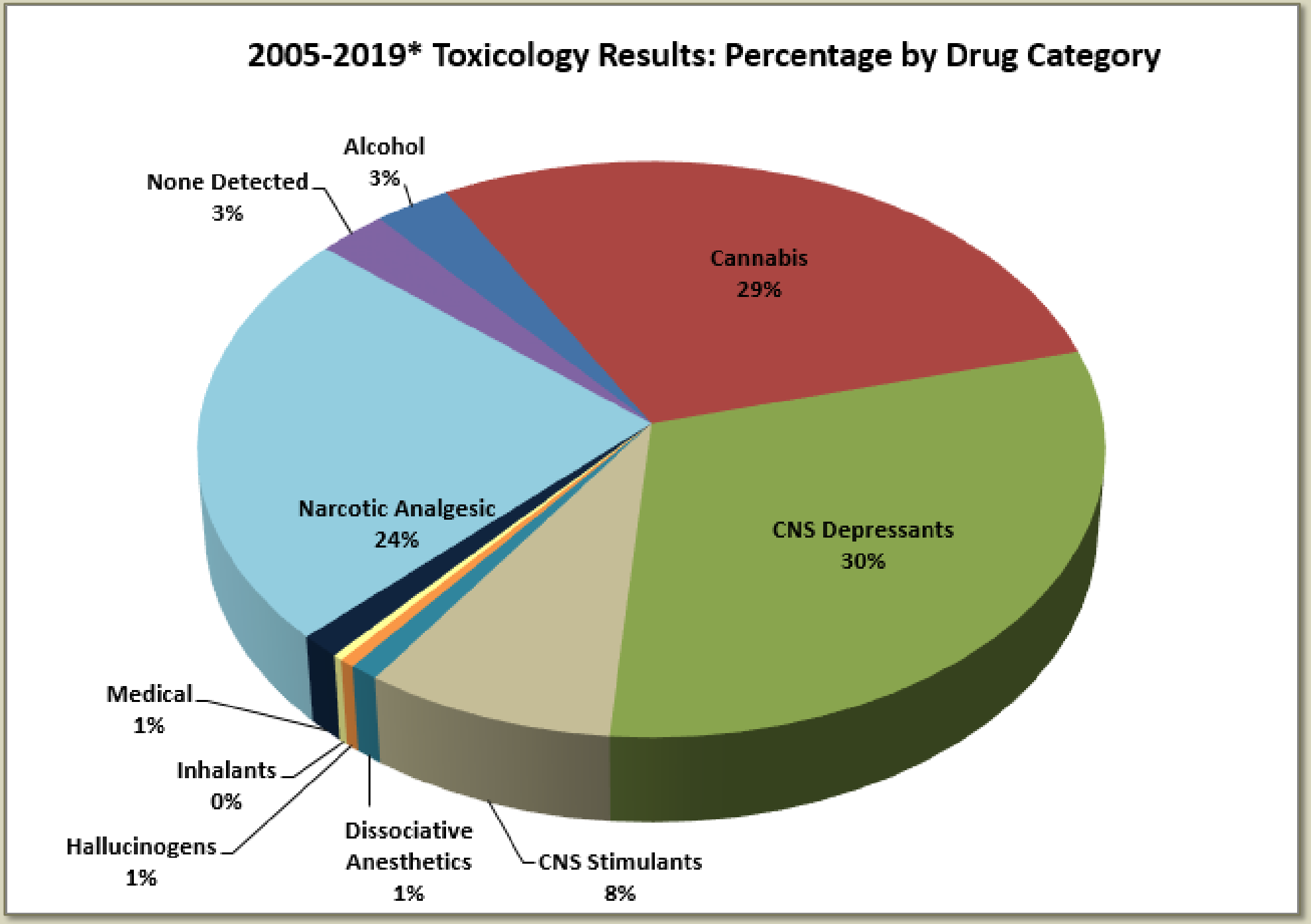
ROAD ALIGNMENT





VERMONT DRE PROGRAM:
LIFETIME DRUG CATEGORIES




2005-2019* Toxicology Results: Percentage by Drug Category
Alcohol
3%
None Detected
3%
Cannabis
29%
Narcotic Analgesic
24%
CNS Depressants
30%
Medical
1%
Inhalants
0%
Hallucinogens
1%
Dissociative
Anesthetics
1%
CNS Stimulants
8%

Questions?

email: jay.riggen@vermont.gov
cell: 802-585-0277

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