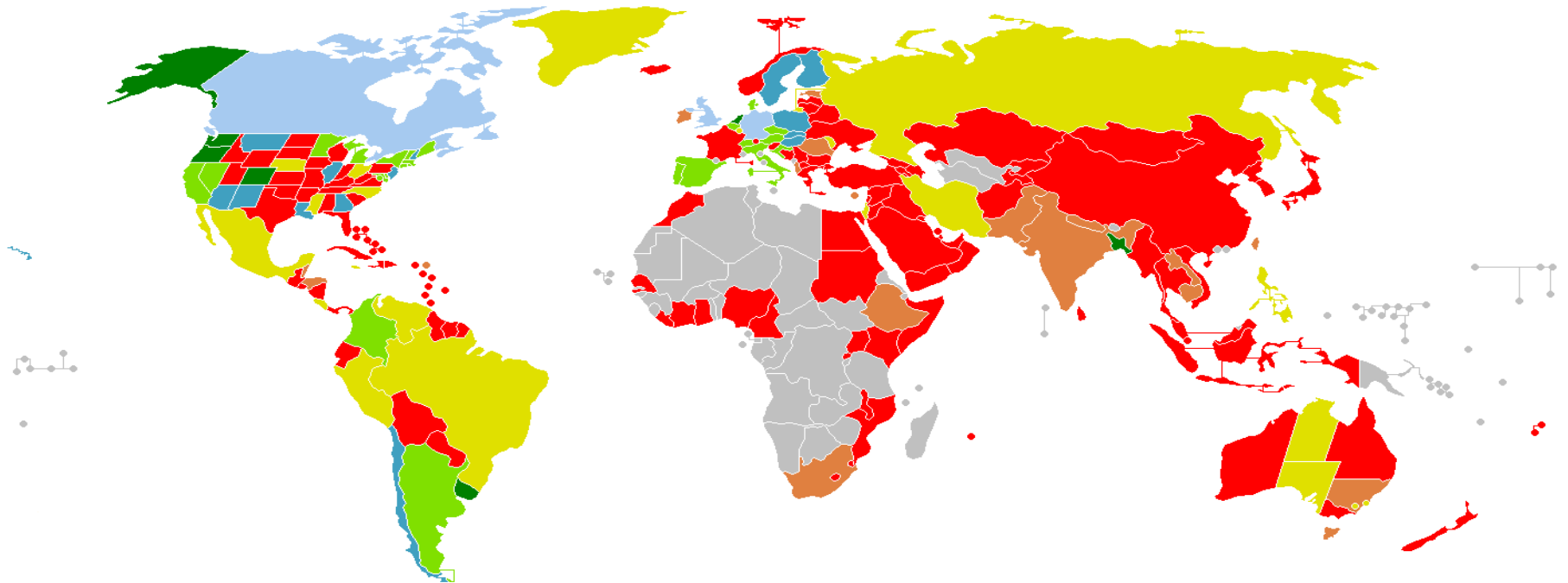


Decriminalization of Marijuana and Potential Impact on CMV Drivers



**Darrin T. Grondel,
Director
Washington Traffic Safety Commission
April 2, 2018
UMassSafe CV-STAC**

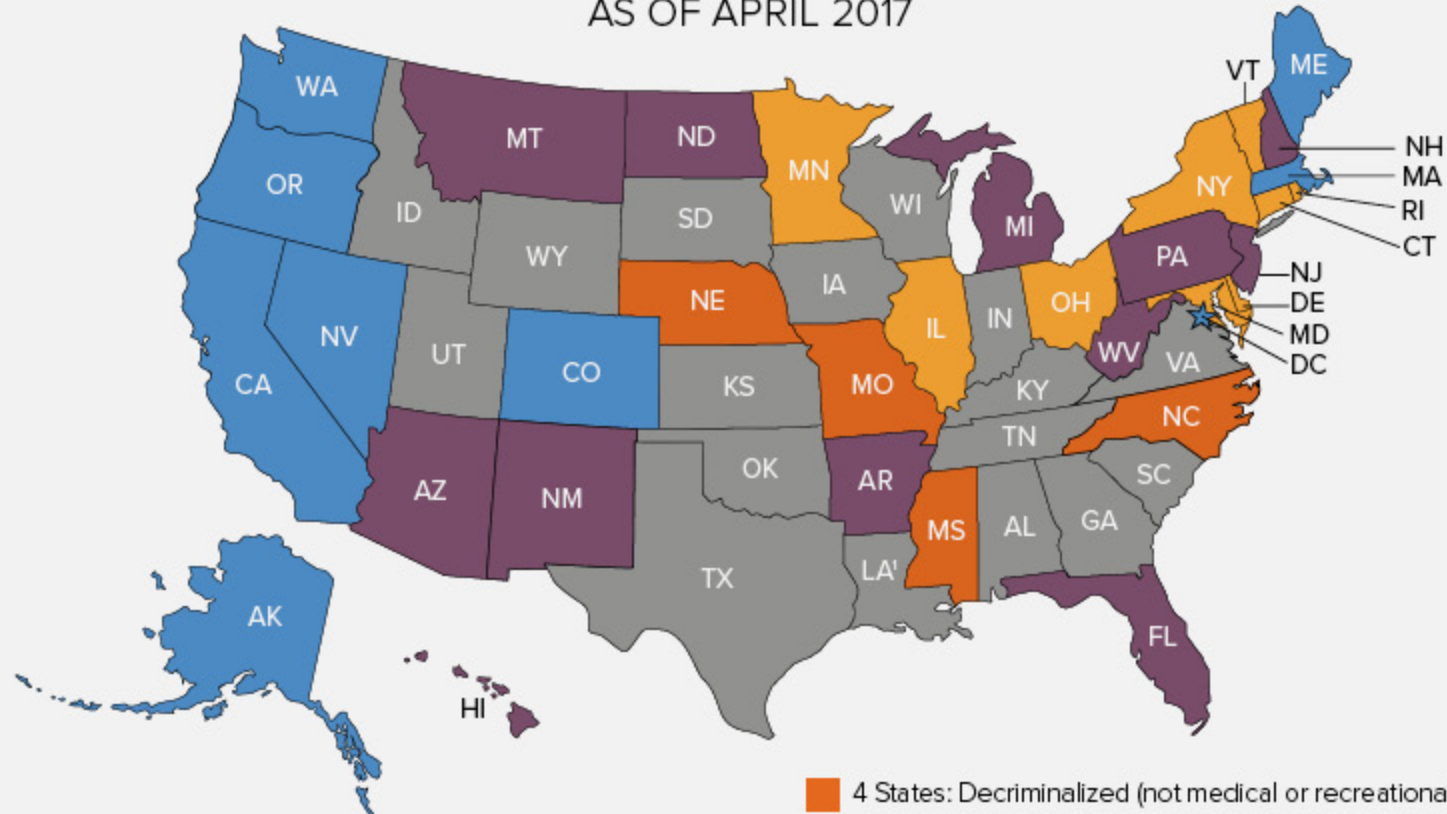
GLOBAL PERSPECTIVE



- Both medical and recreational use legal
- Medical use legal, recreational use decriminalized
- Medical use legal, recreational use illegal, but law is often unenforced
- Medical use legal, recreational use illegal
- Both medical and recreational use decriminalized
- Both medical and recreational use illegal, but law is often unenforced
- Both medical and recreational use illegal
- No information

STATE BY STATE: Marijuana Possession and Use Laws

AS OF APRIL 2017



1 Louisiana has a medical marijuana law but implementation is limited;
NCSL does not consider Louisiana a medical marijuana state.

Source: National Conference of State Legislatures

No More of These...





Inhaling - Pulmonary

Smoking



Vaporizing



Dabbing



Inhaler



Oral - Digestive

Edibles



Capsules



Raw Marijuana



Trans mucosal – sublingual, intranasal, rectal, ocular

Tincture



Lozenges



Spray - oral/nasal



Suppository

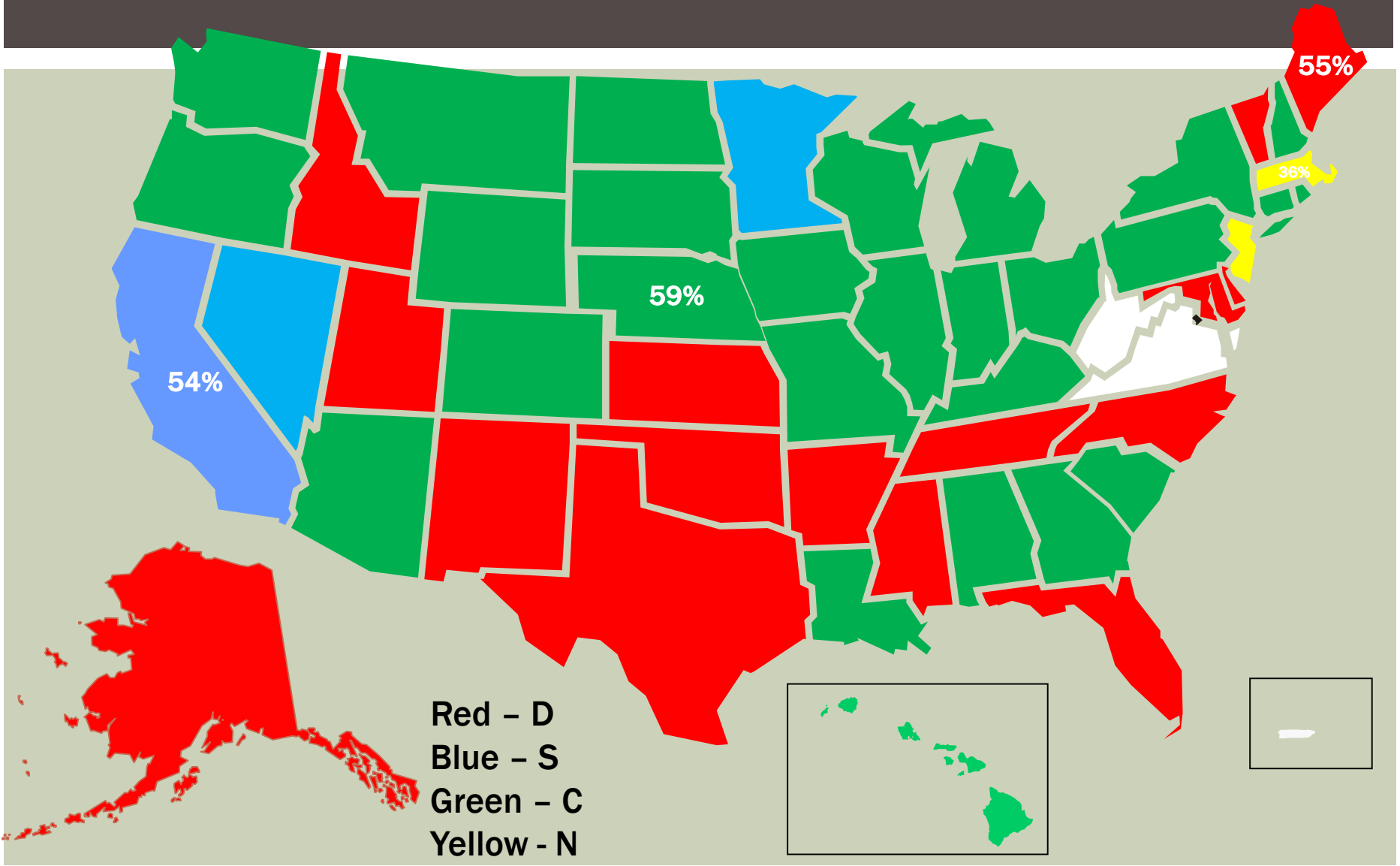


Transdermal

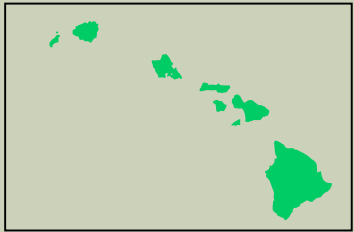


LEADING DRUG PER STATE / 2003-2012

SOURCE: SOBRIETY TESTING RESOURCE CENTER

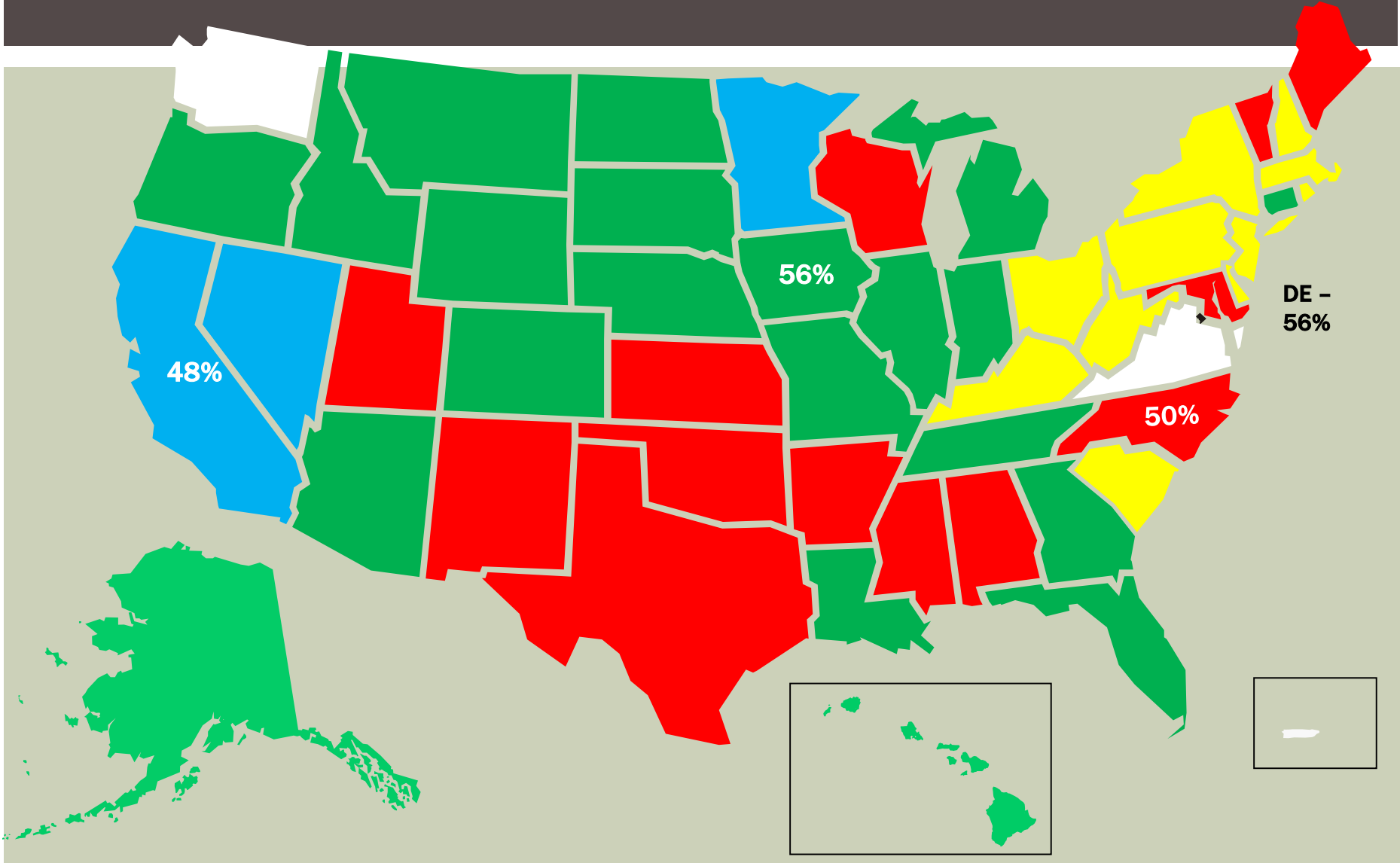


Red - D
Blue - S
Green - C
Yellow - N



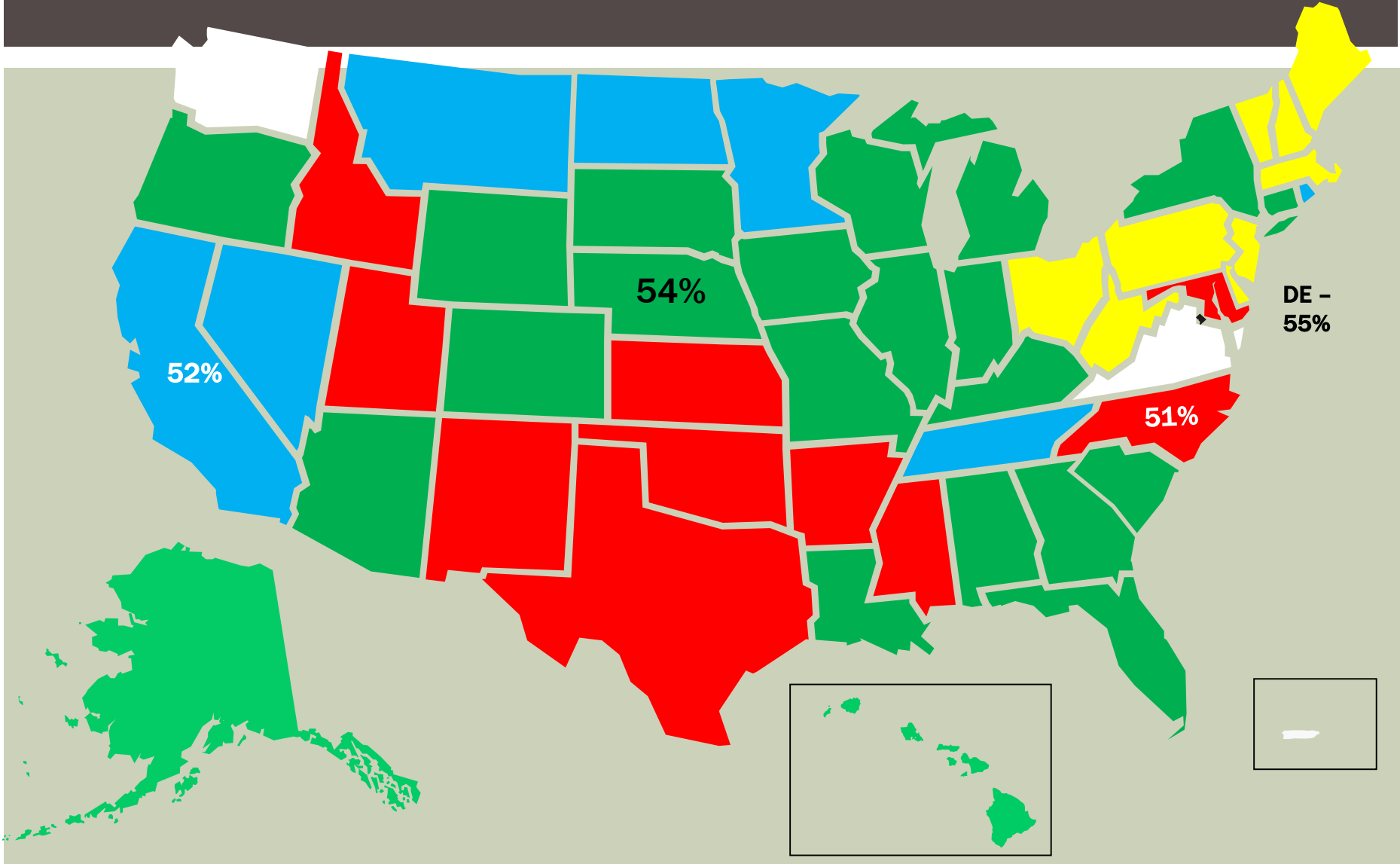
LEADING DRUG PER STATE / 2013-2014

SOURCE: SOBRIETY TESTING RESOURCE CENTER



LEADING DRUG PER STATE / 2015-2016

SOURCE: SOBRIETY TESTING RESOURCE CENTER



Collaboration and Research

Drugged driving is more complicated than drunk driving.

	DRUGGED DRIVING	DRUNK DRIVING
Number:	Hundreds of drugs	Alcohol is alcohol
Data on Use by Drivers & Crashes:	Limited	Abundant
Use by Drivers:	Increasing	Decreasing
Impairment:	Varies by type	Well-documented
Crash Risk:	Varies by type	Precise
Beliefs & Attitudes:	No strong attitudes – public indifferent	Socially unacceptable

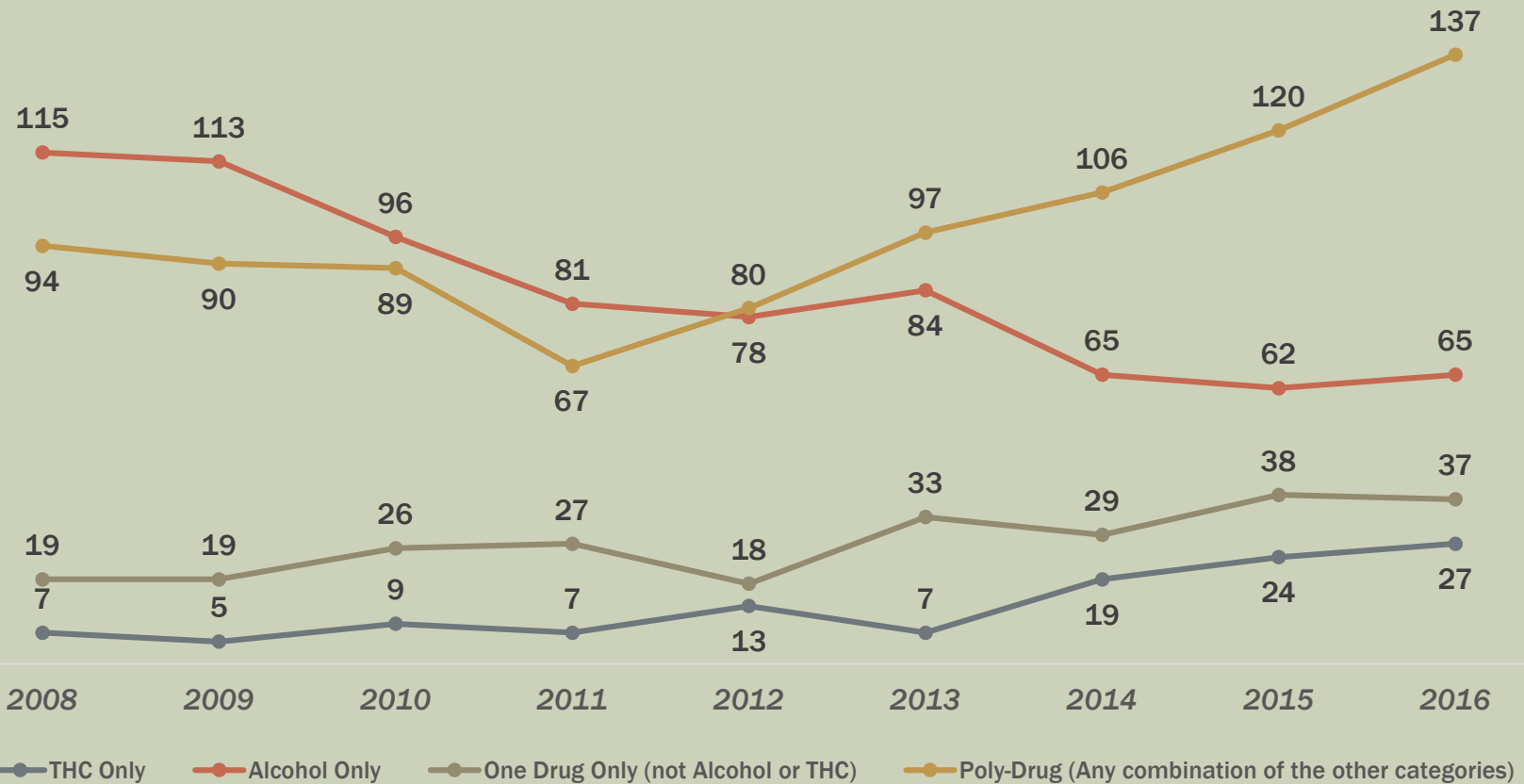


RESPONSIBILITY.ORG

MARIJUANA AND ALCOHOL USE IN WASHINGTON STATE

- Among all drivers involved in fatal crashes 2008-2016, one in three are positive for alcohol and/or drugs. This number is likely under-reported since not all drivers in fatal crashes are actually tested for alcohol and drugs (60 percent of fatal crash involved drivers were tested for alcohol and drugs 2008-2016).
- Among drivers in fatal crashes 2008-2016 that tested positive for alcohol or drugs, 44 percent tested positive for two or more substances (poly-drug drivers). The most common substance in poly-drug drivers is alcohol, followed by THC. Alcohol and THC combined is the most common poly-drug combination.
- Although research-based estimates of the risks posed by THC have varied greatly, all studies included in this review agree that giving alcohol to drivers who are already compromised by THC will only further inflate the level of impairment and crash risk. The deadly consequences of combining these two impairing substances and driving are already apparent in Washington fatal crash data.
- For the first time in 2012, poly-drug drivers became the most prevalent type of impaired drivers involved in fatal crashes. Since 2012, the number of poly-drug drivers involved in fatal crashes have increased an average of 15 percent every year.
- By 2016, the number of poly-drug drivers were more than double the number of alcohol-only drivers and five times higher than the number of THC-only drivers involved in fatal crashes.
- According to the biological results of Washington's Roadside Survey, nearly one in five daytime drivers may be under the influence of marijuana, up from less than one in ten drivers prior to the initiation of marijuana retail sales.

RISING FREQUENCY OF POLY-DRUG DRIVERS IN FATAL CRASHES

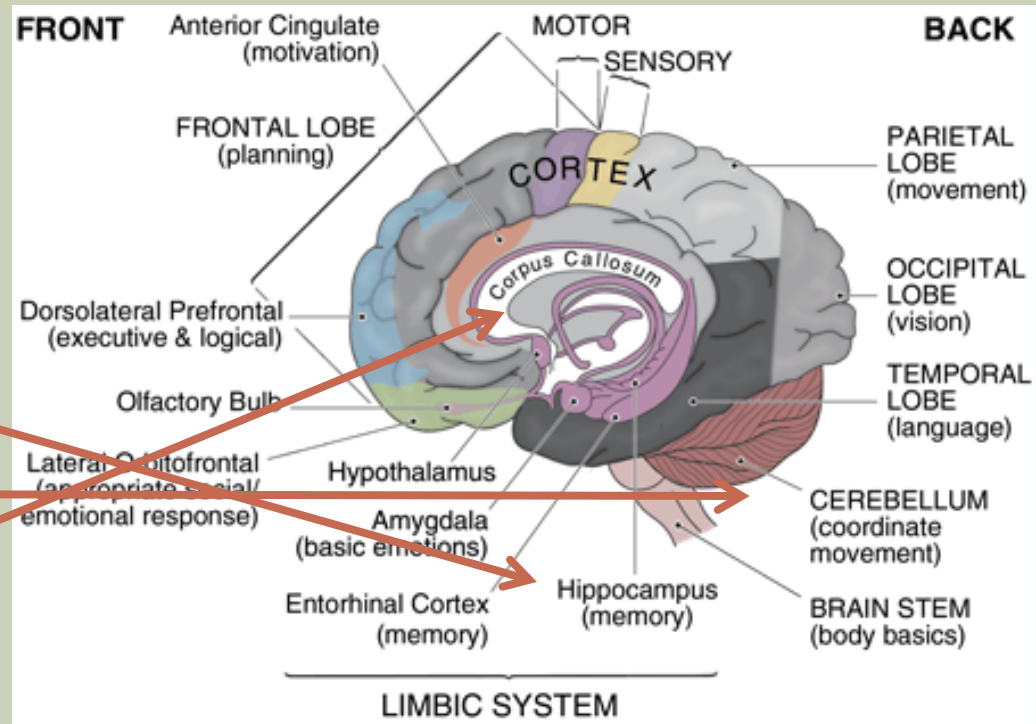


SIGNS AND SYMPTOMS OF MARIJUANA

- Relaxation
- Euphoria
- Relaxed Inhibitions
- Disorientation
- Altered time & distance perception
- Lack of Concentration
- Impaired Memory & comprehension
- Jumbled thought formation
- Drowsiness
- Mood changes, including panic and paranoia with high dose
- Heightened senses
- Body tremors (Major muscle groups: quads, gluts, and abs)
- Eyelid tremors
- Red, Bloodshot eyes
- Possible GVM or green coating on tongue
- Dilated pupils

SIGNS AND SYMPTOMS OF MJ IMPAIRMENT

THC and similar compounds bind with receptors (CB1 and CB2) in the brain and other parts of the body affecting the function of the **hippocampus** (short-term memory), **cerebellum** (coordination) and **basal ganglia** (unconscious muscle movements).



- Marijuana is a lipid (fat) soluble and tends to stay in the brain
- Alcohol is water soluble - blood

DEFINITIONS AND TERMINOLOGY

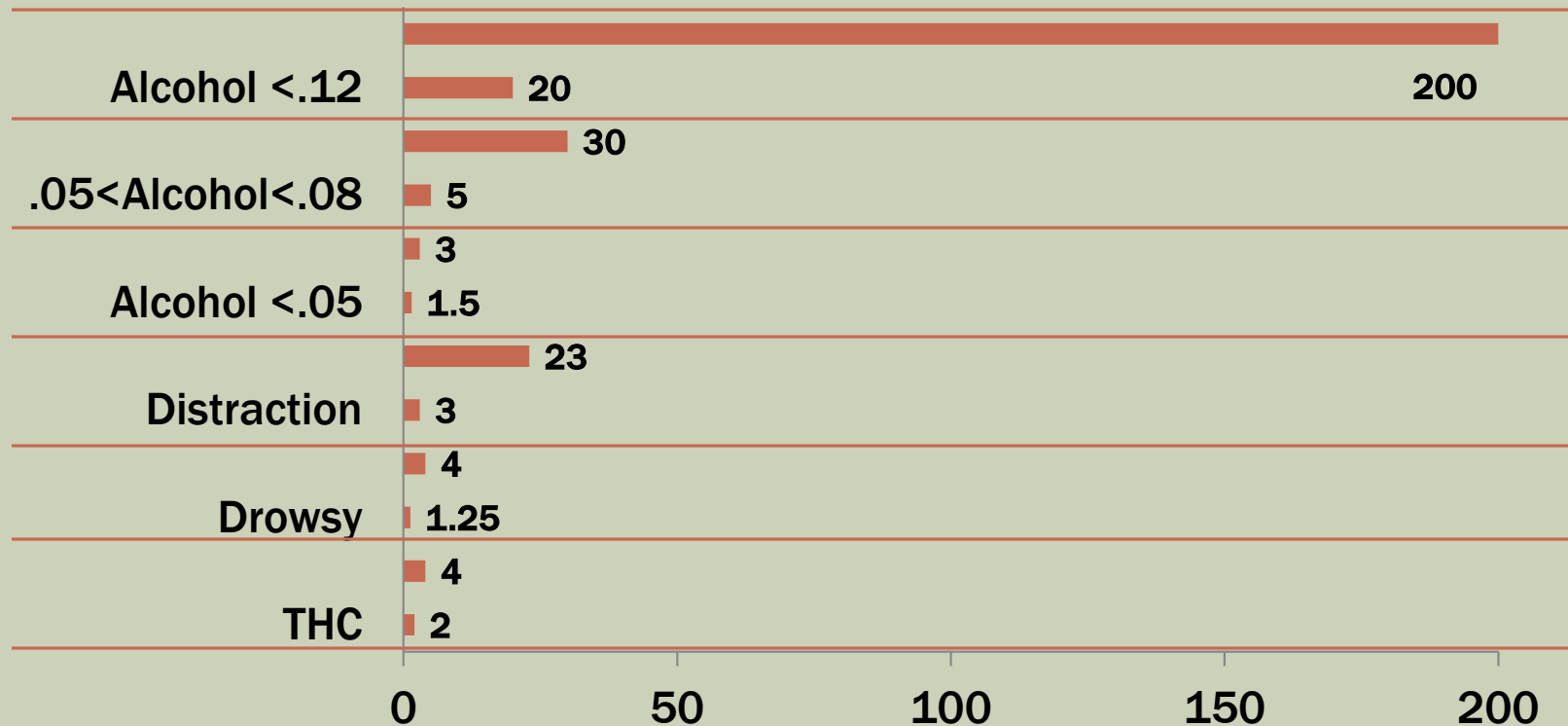
- **THC:** The main psychoactive substance found in marijuana; a/k/a delta-9tetrahydrocannabinol (Δ 9-THC), dronabinol (Marinol – FDA)
 - **Hydroxy-THC:** The main psychoactive metabolite of THC formed in the body after marijuana consumption; a/k/a 11-Hydroxy-THC or 11-OH-THC
 - **Carboxy-THC:** The main secondary metabolite of THC; formed in the body after marijuana is consumed. It is NOT active; indicative only of recent use; not useful for per se violations; a/k/a 11-or-9-Carboxy THC or THC-COOH
 - **Metabolite:** A chemical created in the body as part of the process of breaking down the parent compound
 - Active: has impairing qualities
 - Inactive: has no effect
 - **Psychoactive or Active:** Causes euphoric and impairing effects (THC and 11-HydroxyTHC)
 - **Cannabidiol (CBD)** – one of 113 active cannabinoids in cannabis devoid of psychoactive activity (euphoria or intoxication). Pre-clinical research shows promising therapeutic usefulness for anti-seizure, antioxidant, anti-inflammatory, analgesic, anti-tumor, anti-psychotic, and anti-anxiety (<https://www.drugabuse.gov/about-nida/legislative-activities/testimony-to-congress/2016/biology-potential-therapeutic-effects-cannabidiol>)
 - **Chronic Use:** Daily or almost daily use.
 - **“Per Se” law:** A statutory assignment of a blood concentration (5 nanograms/mL) above which it is an offense to drive
- *Not intended as a scientific resource, for basic explanation only**

ESTIMATED - DURATION OF EFFECTS AFTER SMOKING OR INGESTING THC

	Peak Effects (After last smoking episode)	Duration of Effects	Behavioral and psychological effects return to baseline	Residual Effects
Smoked	1-30 minutes	2-3 hours	3-5 hours	Up to 24 hours
Oral/Edible	1-3 hours	4-8 hours	Dose Dependent	Dose Dependent

Note: Additional research is needed to understand all methods of ingestion and the effects, durations, and long term-impacts

DOES MARIJUANA USE INCREASE CRASH RISK??



Review of literature revealed varying crash risk

“NOT YOUR DADDY’S WOODSTOCK WEED”

1973

3%

2008

10%

2014

Marijuana being sold in stores

20%

-

30%



THC POTENCY USED IN MOST GOVERNMENT STUDIES

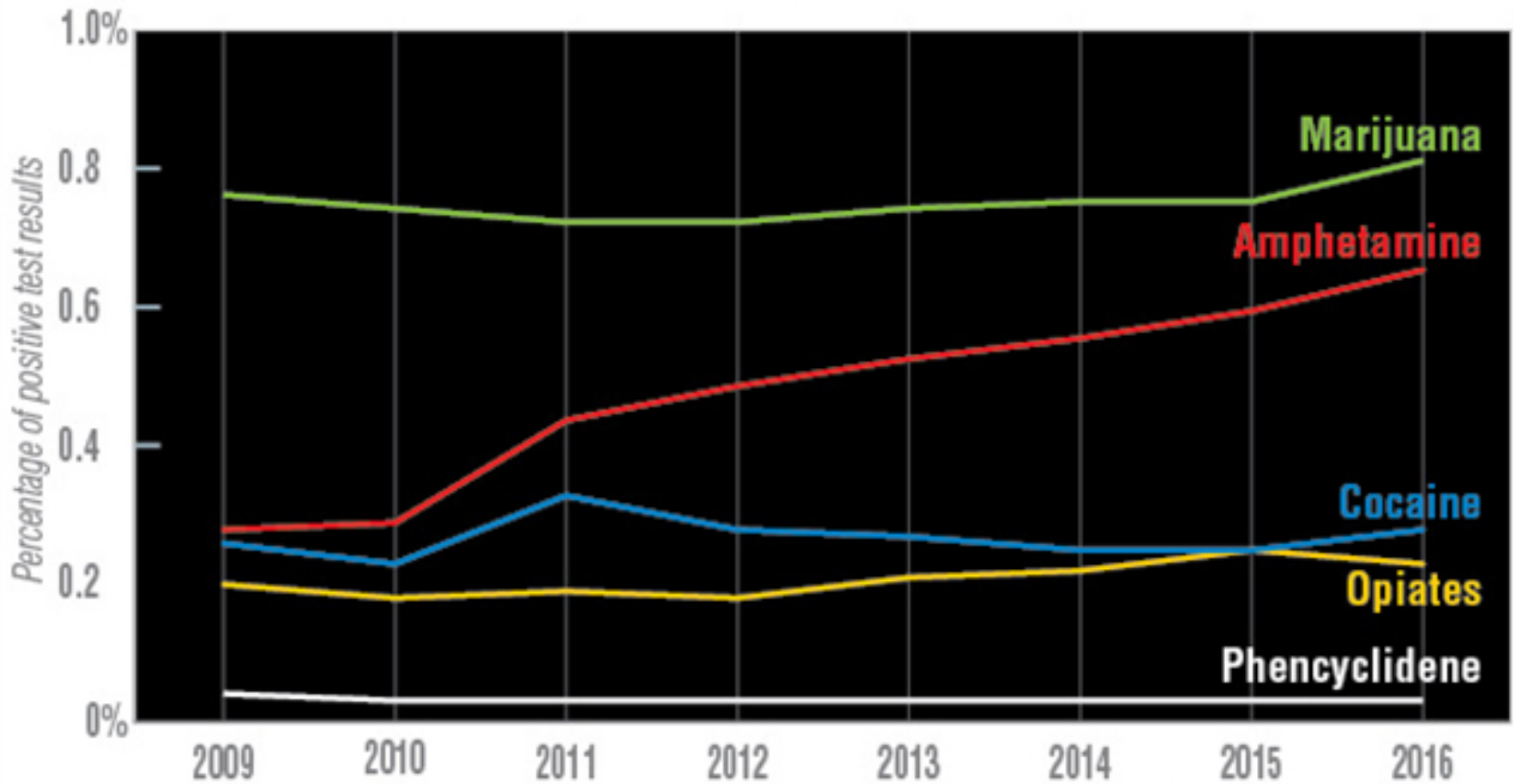
3 - 6 %
THC



CHALLENGES AND IMPACTS ON CMV

- Data – lack of good data on CMV crashes with DRE in WA and Nationally.
- Public indifference on the issue of drugged driving vs. Alcohol impairment
- Medical Marijuana– have all states adopted federal rules for Intrastate CMV operators?
- 49 CFR 382.60 – Supervisors required to attend 60 min of training for symptoms of alcohol abuse and another 60 min for controlled substances. A singular event no refresher.
 - Is this enough? Refresher? Compare to LE? This training should have considerations for expansion with high prevalence of drugged driving.
- CVEO – trained in signs and symptoms (ARIDE or modified DRE). Can they identify potentially impaired drivers?
 - Place a DRE at the scale house and have them interact with the drivers and do evaluations on suspected drivers.
- National studies are focused on PV with little to no attention on CMV operators.

U.S. DOT Drug Testing Data (2009-2016)*



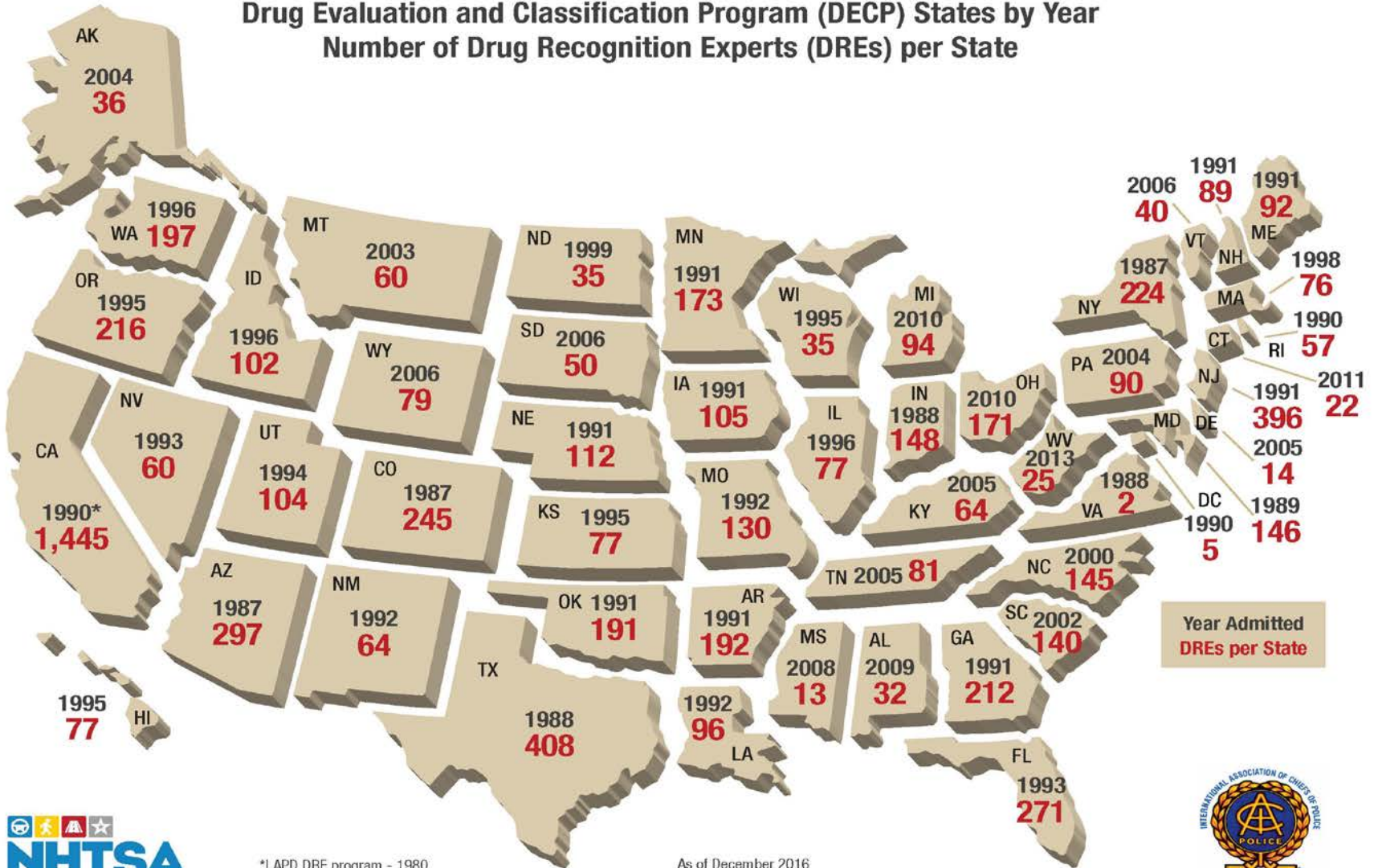
*Positive rates based on number of tests conducted each year, which can vary from year to year."

Source: U.S. DOT

This includes: random, pre-employment, post-crash, reasonable suspicion, and return-to-duty drug tests.

Transportation Topics – Eric Miller – Positive Drug-Test Rate up to 7-Year High, DOT Says June 2017

Drug Evaluation and Classification Program (DECP) States by Year Number of Drug Recognition Experts (DREs) per State



*LAPD DRE program - 1980

As of December 2016



DRE Evaluations on CMV

Tox	Total Number (Enforcement Evaluations from 01-01-2014 to 12-31-2016 where Vehicle Type is Commercial)
Stimulants	59
Cannabis	45
Narcotics, Depressants	28
Depressants	25
Narcotics	25
Stimulants, Cannabis	14

Source: NHTSA Sobriety Testing Resource Center - DRE Tracking Database

CMV ENFORCEMENT ALCOHOL VIOLATIONS WA

Year	Total stops	Drivers OOS
2012	47	44
2013	63	58
2014	68	61
2015	36	34
2016	64	64
2017	65	61

CMV DRUGS IN SYSTEM OR VEHICLE WA

Year	Total stops	Drivers OOS
2012	14	12
2013	13	12
2014	13	9
2015	21	18
2016	24	24
2017	47	47

*Due to data limitations cannot separate out

Saving lives
through research
and education



Prevalence of Marijuana Involvement in Fatal Crashes: Washington, 2010-2014

May 2016



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and education



An Evaluation of Data from Drivers Arrested for Driving Under the Influence in Relation to *Per se* Limits for Cannabis

May 2016



867 14th Street, NW, Suite 2011 | Washington, DC 20005 | AAAFoundation.org | 202-438-5944

Car crashes rank
among the leading
causes of death in
the United States.



Driving Under the Influence of Alcohol and Marijuana: Beliefs and Behaviors, United States, 2013-2015

May 2016



867 14th Street, NW, Suite 2011 | Washington, DC 20005 | AAAFoundation.org | 202-438-5944

Saving lives
through research
and education



Cannabis Use among Drivers Suspected of Driving Under the Influence or Involved in Collisions: Analysis of Washington State Patrol Data

May 2016



867 14th Street, NW, Suite 2011 | Washington, DC 20005 | AAAFoundation.org | 202-438-5944



A GUIDE FOR WHAT STATES CAN DO



<http://ghsa.org/html/publications/2015drugged.html>

Medical Marijuana – Qualifying Conditions

Under Section 16 of the Cannabis Patient Protection Act, the legislature finds that there is medical evidence that some patients with terminal or debilitating medical conditions may, under their healthcare professional's care, benefit from the medical use of marijuana.

<http://www.doh.wa.gov/YouandYourFamily/Marijuana/MedicalMarijuana>

Some of the conditions for which marijuana appears to be beneficial include, but aren't limited to:

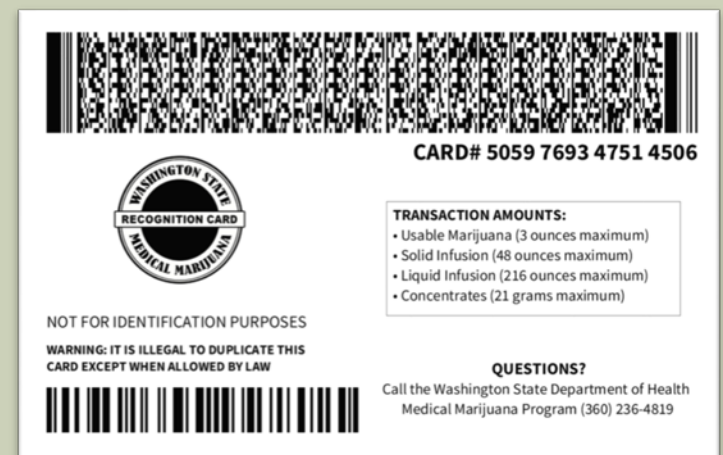
- Nausea, vomiting, and cachexia associated with cancer, HIV-positive status, AIDS, hepatitis C, anorexia, and their treatments;
- Severe muscle spasms associated with multiple sclerosis, epilepsy, and other seizure and spasticity disorders;
- Acute or chronic glaucoma;
- Crohn's disease; and
- Some forms of intractable pain.

Humanitarian compassion necessitates that the decision to use marijuana by patients with terminal or debilitating medical conditions is a personal, individual decision, based upon their healthcare professional's professional medical judgment and discretion.

Medical Marijuana Recognition Card

Under the new [medical marijuana law](#), recognition cards are required if patients and designated providers 21 and older wish to have access to the following benefits:

- Purchase products sales-tax free.
- Purchase up to three times the current legal limit for recreational users.
- Purchase high-THC infused products.
- Grow more than four plants in their residence.
- Have full protection from arrest, prosecution, and legal penalties, although patients will still have an affirmative defense.



ROAD SIDE STRATEGIES



- Electronic DUI packet
- Electronic Search Warrants
- LE Phlebotomy Program
 - Lakewood PD/Pierce County



WASHINGTON STATE
**REPORT OF BREATH / BLOOD TEST FOR ALCOHOL AND/OR THC OR
 REFUSAL TO SUBMIT TO BREATH TEST FOR ALCOHOL**

SUBJECT'S NAME (LAST, FIRST, MI) _____ DATE/TIME OF ARREST _____
 STREET ADDRESS _____ CITY/STATE/ZIP CODE _____
 DRIVER'S LICENSE NUMBER _____ DCJ ENDORSEMENT (CHECK IF YES) _____ STATE _____ COUNTY OF ARREST _____ CASE/CRATION NUMBER _____

BAC Readings - DataMaster 1st Sample _____ 2nd Sample _____ Refused Test _____
 BAC Readings - Draeger 1st Sample (R) _____ Blood Alcohol _____
 2nd Sample (EC) _____ Blood THC _____

The subject was lawfully arrested. At that time, there were reasonable grounds to believe that the arrested person had been driving or was in actual physical control of a motor vehicle within this state while under the influence of intoxicating liquor or drugs, or both, or was under the age of twenty-one years and had been driving or was in actual physical control of a motor vehicle while having an alcohol or THC concentration in violation of RCW 46.61.503.

After receipt of any applicable warnings required, the person refused to submit to a test of his or her breath, or a test was administered and the results indicated that the alcohol concentration of the person's breath or blood was 0.08 or more, or the THC concentration of the person's blood was 5.00 or more, if the person is age twenty-one or over, or that the alcohol concentration of the person's breath or blood was 0.02 or more, or the THC concentration of the person's blood was above 0.02, if the person is under the age of twenty-one.

Driver's Hearing Request Information was given to the arrested person.

Notice of Right to Hearing: I have been given written notice of my right to a hearing, including the steps required to obtain a hearing, and understand that the notice of suspension, revocation, or denial of license will be mailed to the address of record on file with the Department of Licensing.

SIGNATURE OF DRIVER _____ DATE _____

Complete this box ONLY if the arrested person was driving a commercial motor vehicle as defined in Chapter 46.25 RCW at the time of the accident.

Operating a Vehicle Requiring a Commercial Driver's License

There are reasonable grounds to believe that the driver was driving a commercial motor vehicle while having alcohol, marijuana, or any drug in his or her system or while under the influence of alcohol, marijuana, or any drug. The driver was informed that refusing the breath test would result in disqualification from operating a commercial motor vehicle under RCW 46.25.020. A breath test was administered and the result indicated an alcohol concentration of 0.04 or more OR the person refused the breath test OR a blood test was administered pursuant to a search warrant, a valid waiver of the warrant requirement, when exigent circumstances exist, or under any other authority of law AND the blood test indicated an alcohol concentration of 0.04 or more or any measurable amount of THC concentration.

VEHICLE MAKE _____ MODEL _____ LICENSE PLATE NUMBER _____ STATE _____ HAZARDOUS MATERIAL? YES NO

NOTE: If applicable, sign and date this page after technology report is received.

I certify (or declare under penalty of perjury under the laws of the state of Washington) that the foregoing and the accompanying reports/topics of documents and the information contained therein are true, correct, and accurate. (RCW 9A.72.085)

LAW ENFORCEMENT AGENCY _____ OR NO. (if 911) _____ OFFICER'S SIGNATURE _____ DATE SIGNED _____
 WANTED STATUS _____ PRINTED NAME OF OFFICER _____ BADGE NUMBER _____
 CITY _____ STATE _____ ZIP _____ PLACE SIGNED (DD / MM / YYYY) _____ CONTACT PHONE NUMBER FOR HEARING (include area code) _____

OFFICER'S E-MAIL ADDRESS _____ Department of Licensing
 Driver Records
 SeverReports@COL.WA.GOV
 Fax: (360) 575-7020

Number of pages _____

OFFICERS: Fax or e-mail complete report, test result document, and supplemental reports to _____



STATE OF WASHINGTON
 COUNTY _____ COURT _____

STATE OF WASHINGTON,
 Plaintiff,
 v.
 Defendant.

NO.
 SEARCH WARRANT FOR EVIDENCE OF A CRIME, TO WIT:

VEHICULAR HOMICIDE, RCW 46.61.520
 VEHICULAR ASSAULT, RCW 46.61.522
 DRIVING WHILE UNDER THE INFLUENCE, RCW 46.61.502
 DRIVER UNDER TWENTY-ONE CONSUMING ALCOHOL OR MARIJUANA, RCW 46.61.503
 PHYSICAL CONTROL OF VEHICLE WHILE UNDER THE INFLUENCE, RCW 46.61.504

TO ANY PEACE OFFICER IN THE STATE OF WASHINGTON:

WHEREAS, upon the sworn complaint heretofore made and filed and/or the testimonial evidence given in the above-entitled Court and incorporated herein by this reference, it appears to the undersigned Judge of the above-entitled Court that there is probable cause to believe that, evidence of intoxicating liquor, marijuana, or any drug as defined by RCW 46.61.540, in violation of the laws of the State of Washington, evidence of the crime(s) of:

Vehicular Homicide, RCW 46.61.520
 Reckless Manner Under the Influence of Liquor or Drugs
 Disregard for the Safety of Others

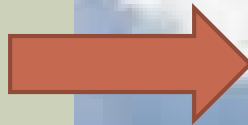
USE THIS PAGE AS COVER SHEET

Traffic Safety Culture

Thoughts on drivers' attitudes and behaviors and why we need to change them.



Impaired Driving messaging



TRAFFIC SAFETY CULTURE



- **Values** – ideals to which we aspire that guide our goals and direct the formation of our beliefs.
- **Attitudes & Beliefs** – our feelings and beliefs about a behavior. Beliefs include expected consequences, expectations by others, what is typical, and our sense of control about the behavior.
- **Willingness & Intention** – Likelihood of engaging in a behavior in various circumstances.
- **Behavior** – An action performed by a specific person in a context (place and time).
- **Health Outcomes** – Change in health of an individual or group.

JUNE 2014 DATA COLLECTION

- Six counties, 5 locations
- 926 drivers eligible
- 97% (917) breath tests
- 96% (902) saliva
- 74% (711) blood
- 95% K & A surveys



**Male drivers age 20 – 34
over-represented:**

- * **21% population**
- * **45% survey sample**



“Have you ever, even once, used marijuana?”

69% – yes	T= 615	
31% – no	T= 273	T= 888 respondents



Those who said they used marijuana in the last year were also asked: **“Have you used marijuana within two hours of driving?”**

44% – yes	T= 97	
56% – no	T = 123	T =220 respondents



The drivers who said they'd used marijuana within two hours of driving were also asked: when you used marijuana and drove, how do you think it affected your driving?

	Percentage of drivers:	Total number:	
Did not make any difference in my driving:	62%	60	
Made me a better driver:	25%	24	T = 84 (87%)
I don't know:	10%	10	
Made my driving worse:	3%	3	

Among the drivers surveyed, 877 answered the question: “How likely do you think it is that marijuana impairs a person’s ability to drive safely if used within two hours of driving?”

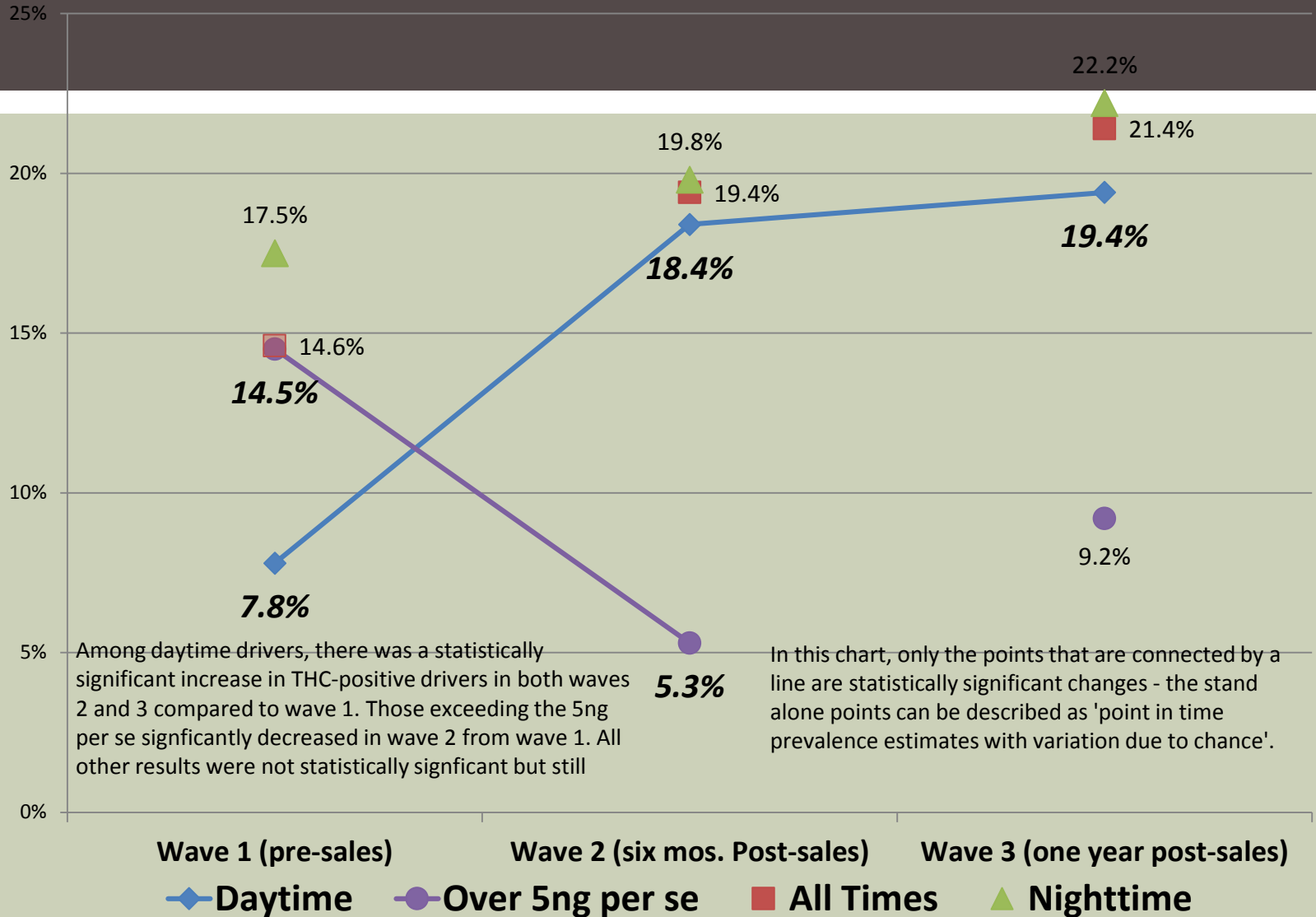
	Percentage:	Number of Respondents:	T= 877
Very likely	47%	409	
Likely	19%	162	
Somewhat likely	22%	197	T= 768 (88%)
Not at all likely	12%	109	



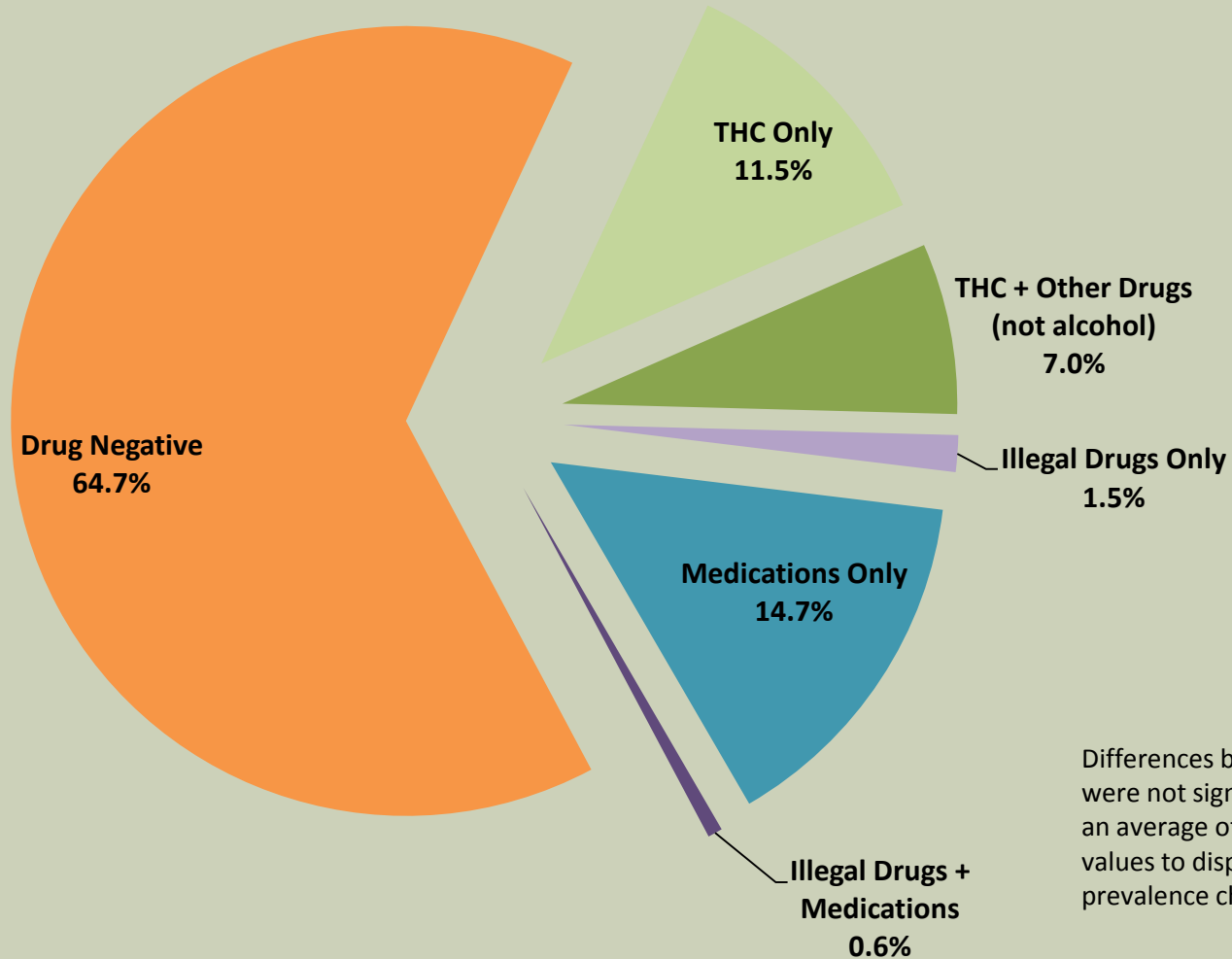
881 Survey respondents answered the question: “How likely do you think it is that a person could be arrested for impaired driving after using marijuana within two hours of driving?”

	Percentage:	Number of Respondents:	T= 881
Very likely	41%	360	
Likely	23%	204	
Somewhat likely	25%	219	T= 783 (89%)
Not at all likely	11%	98	

Percentage of Washington Drivers THC-positive Before and After Recreational Marijuana Sales

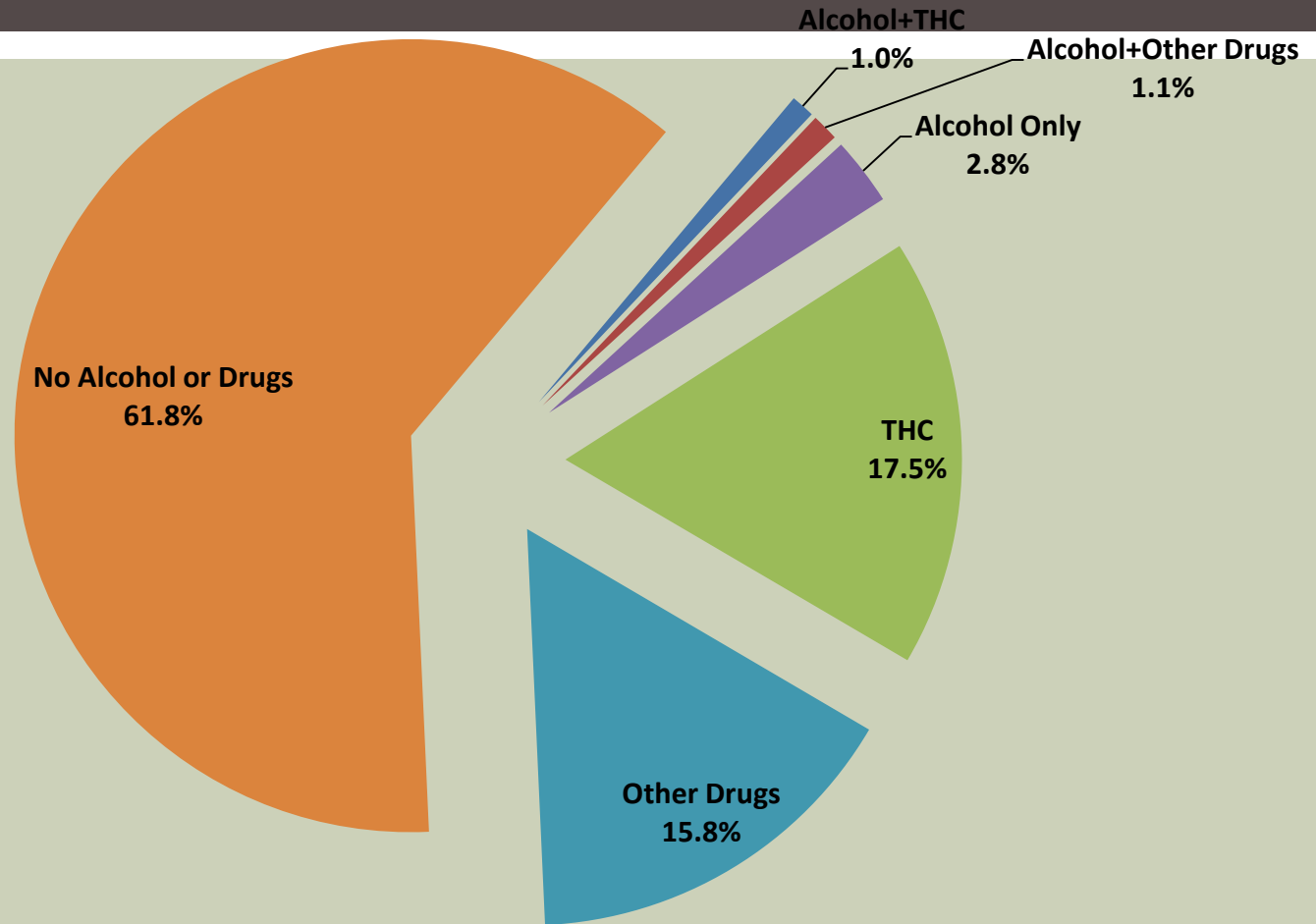


Drug-Positive Drivers in Washington State (Average Prevalence Estimates Wave1 - Wave3)



Differences between waves were not significant so we took an average of the three different values to display this general prevalence chart for drugs.

Alcohol and Drug-Positive Drivers in Washington State (Average Prevalence Estimates Wave1 - Wave3)



Perceptions or Realities...



DRIVER'S HIGH ON WEED - SPEED

2014 FARS data revealed that speeding occurs in 35.8% of all fatal marijuana driving cases compared to 25.9% of no-alcohol or drugs cases.



Source: Crancer & Drum, *The Mercury News*, April 2016

“DRUG RECOGNITION EXPERT (DRE) EXAMINATION CHARACTERISTICS OF CANNABIS IMPAIRMENT” ACCIDENT ANALYSIS AND PREVENTION, APRIL 2016

Accident Analysis and Prevention 90 (2016) 219–228



Contents lists available at ScienceDirect

Accident Analysis and Prevention

journal homepage: www.elsevier.com/locate/aap



Drug Recognition Expert (DRE) examination characteristics of cannabis impairment



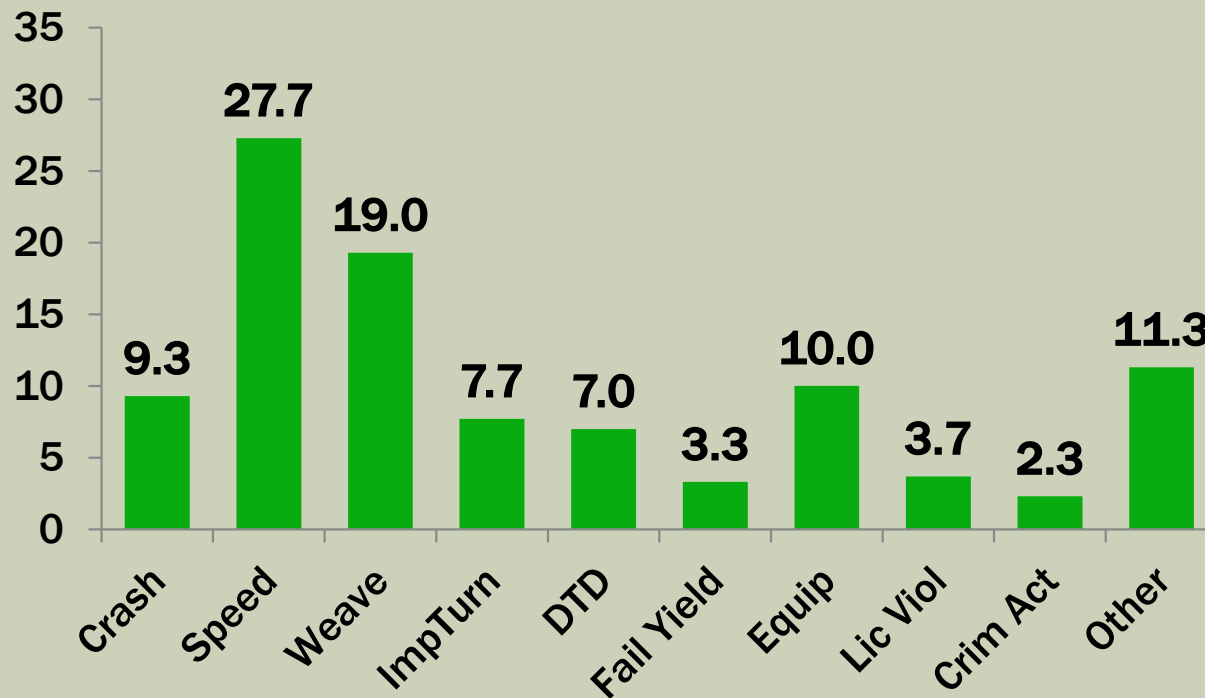
Rebecca L. Hartman^a, Jack E. Richman^b, Charles E. Hayes^c, Marilyn A. Huestis^{a,*}

^a Chemistry and Drug Metabolism, Intramural Research Program, National Institute on Drug Abuse, National Institutes of Health, 251 Bayview Boulevard Dr 200 (Rm 02472), Baltimore, MD, 21224, USA

^b Hingham Police Department, 212 Central Street, Hingham, MA 02043, USA

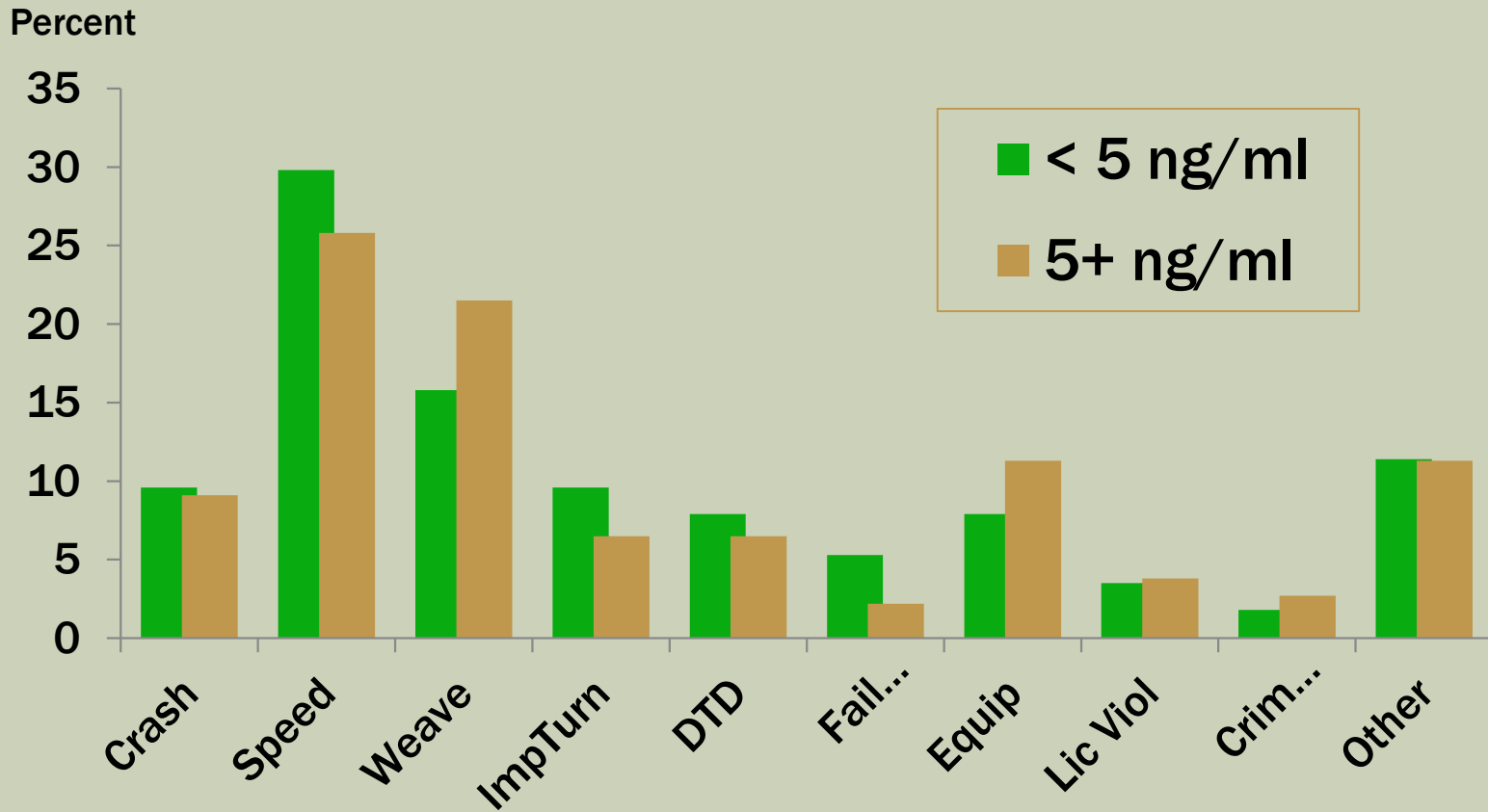
^c International Association of Chiefs of Police, 44 Canal Center Plaza, Suite 200, Alexandria, VA 22314, USA

REASON FOR THE TRAFFIC STOP

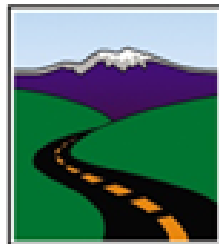


72% of cases involved one or more moving violations. (DTD – Disobeyed Traffic Device)

REASON FOR THE TRAFFIC STOP



Darrin T. Grondel
Director
Washington Traffic Safety
Commission
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dgrondel@wtsc.wa.gov



WASHINGTON
Traffic Safety
COMMISSION