

# Commercial Vehicle Safety Research Summit

## Decriminalization of Marijuana and Potential Impact on CMV Drivers

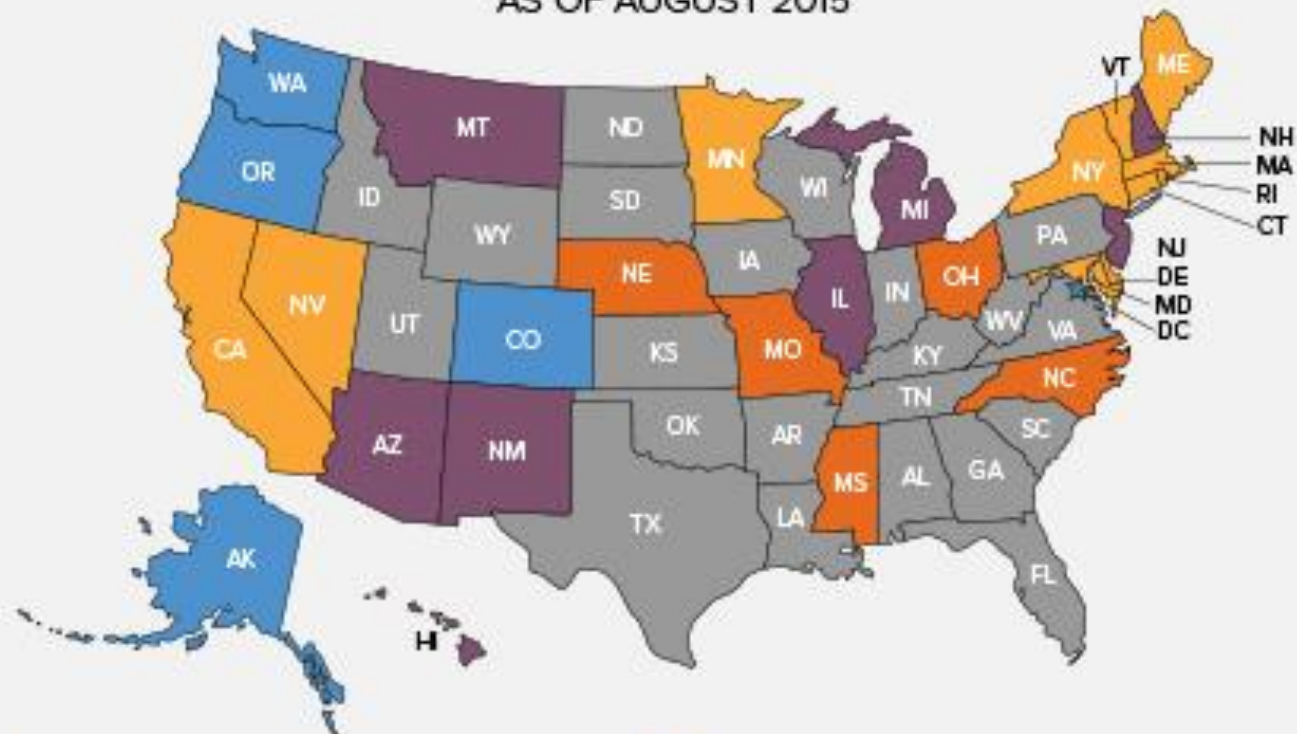


**Darrin T. Grondel,**  
**Director**  
**Washington Traffic Safety Commission**  
**November 09, 2016**



# STATE BY STATE: Marijuana Possession and Use Laws

AS OF AUGUST 2015



- 5 States: Decriminalized (not medical or recreational)
- 8 States: Medical (not decriminalized or recreational)

- 11 States: Decriminalized and medical but not recreational
- 4 States + DC: Everything— recreational, decriminalized, and medical

Source: National Conference of State Legislatures



RESPONSIBILITY.ORG

# Collaboration and Research

**Drugged driving** is more complicated than drunk driving.

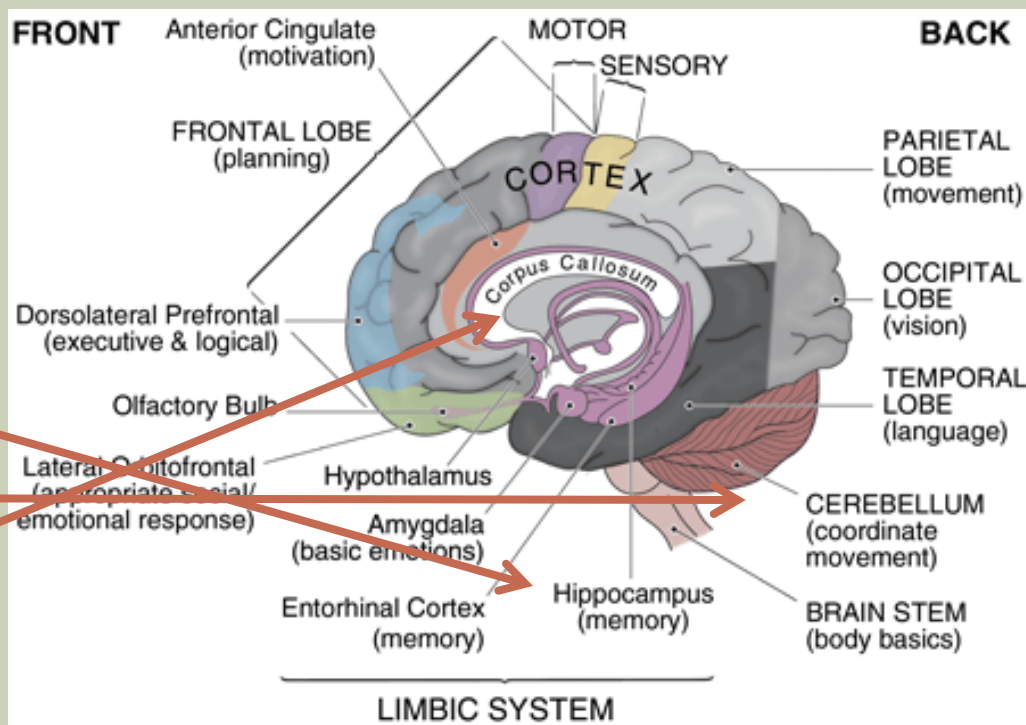
	DRUGGED DRIVING	DRUNK DRIVING
Number:	Hundreds of drugs	Alcohol is alcohol
Data on Use by Drivers & Crashes:	Limited	Abundant
Use by Drivers:	Increasing	Decreasing
Impairment:	Varies by type	Well-documented
Crash Risk:	Varies by type	Precise
Beliefs & Attitudes:	No strong attitudes – public indifferent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



**RESPONSIBILITY.ORG**

# 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

# 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



# 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?
- National studies are focused on PV with little to no attention on CMV operators.

# DRE Evaluations on CMV 20013-2015

Vehicle Type	Number of enforcement evals
<b>1–Automobile/Pickup Truck</b>	<b>45965</b>
<b>2–Motorcycle</b>	<b>243</b>
<b>3–Commercial</b> (12M CMVs – 300 B miles 750 k Companies)	<b>410</b>

Source: NHTSA Sobriety Testing Resource Center - DRE Tracking Database

# RESPONSIBILITY.ORG AND GOVERNORS HIGHWAY SAFETY ASSOCIATION - **GRANT**

- Responsibility.org/GHSA grants for Drugged Driving training efforts
- Grants awarded to four states in 2016—FL, IL, NV and TX—and most projects are in process. By the end of the year, the grants are expected to certify approximately 70 DRE officers and 450 ARIDE officers. Supplemental grants
- Responsibility.org is **continuing** the grant program with GSHA in 2017 for DRE and ARIDE
- Grant solicitations will go out in late **November 2016** and grants will be awarded by early **April 2017**.
- Anticipating a large number of grants – solid problem statements with data and information to support the need for funds.



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

May 2016



601 14th Street, NW, Suite 2011 Washington, DC 20005 | AAAFoundation.org | 202-438-1944

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

May 2016



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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



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

May 2016



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

# DEFINITIONS AND TERMINOLOGY

- **THC:** The main psychoactive substance found in marijuana; a/k/a delta-9tetrahydrocannabinol ( $\Delta^9$ -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***

# FIRST COMES “MEDICAL”



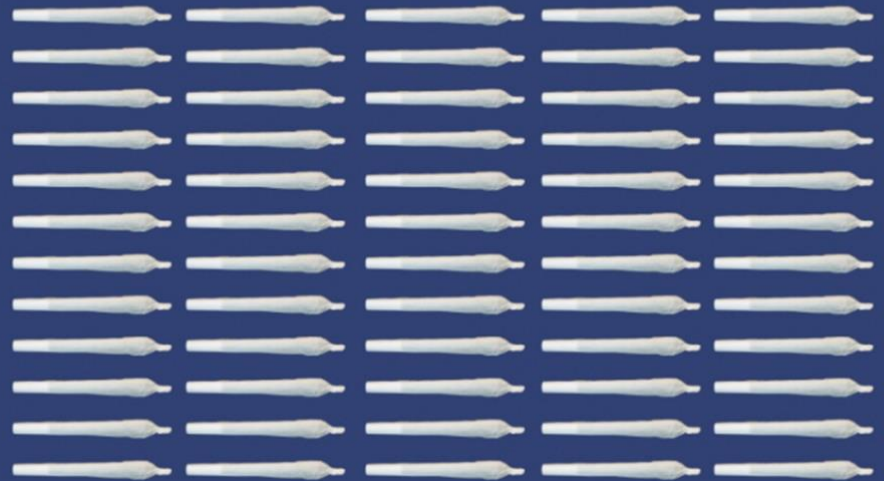
- Approved by voter Initiative 692 in 1998
  - Granted:
    - Affirmative defense to criminal prosecution for:
      - Qualifying patients and primary caregivers who possess no more than a “sixty-day supply”
        - (what is a 60 day supply?)
- Key events:
  - 2007 - Definition of sixty-day supply SB 6032 - 24 oz. and **15 plants**
  - 2009 - Change in federal government’s enforcement policy
  - 2010 - Physician assistants, advanced registered nurse practitioners and naturopaths added as authorizers
  - 2011 - SB 5073 passes but is partially vetoed by Gov. Gregoire
    - Made it legal if participant in data base – vetoed
  - 2011 - Change in City of Seattle’s enforcement policy



*This is what  
an ounce  
looks like.*



**1 OUNCE**



**60 JOINTS**

DRUG POLICY RESEARCH CENTER



**Imagine 15 of these...**





# THEN COMES “RECREATIONAL”



- I-502, Nov. 6, 2012
- ACLU, Rick Steves & Peter Lewis
- \$6 million Campaign Fund



Originally published November 6, 2012 at 10:26 PM | Page modified November 7, 2012 at 5:16 PM

## Voters approve I-502 legalizing marijuana

Washington state voters made history Tuesday by legalizing the recreational use of marijuana.

By [Jonathan Martin](#)  
Seattle Times staff reporter

Washington enthusiastically leapt into history Tuesday, becoming the first state, with Colorado, to reject federal drug-control policy and legalize recreational marijuana use.

Initiative 502 was winning 55 to 45 percent, with support from more than half of Washington's counties, rural and urban.

The vote puts Washington and Colorado to the left of the Netherlands on marijuana law, and makes them the nexus of a new social experiment with uncertain consequences. National and international media watched as vote counts rolled into I-502's election-night party in Seattle amid

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ERIKA SCHULTZ / THE SEATTLE TIMES  
A 30-year-old female smokes marijuana in a street party after the election in Seattle.

**Disclaimer** – presentation is for historical and instructional purposes and is not intended to be pro or con on the issues.

# RECREATIONAL VS. MEDICAL MARIJUANA

## Recreational:

- Amount limits, up to either:
  - 1 oz “useable” MJ (bud)
  - 16 oz infused product (brownies)
  - 72 oz liquid (soda pop)
  - 7 grams concentrate (hash oil)
- Illegal to grow your own
- Lab tested, controlled pesticide use
- Age 21+
- Taxed

**Provide MJ to a minor: felony**

## Medical **pre**-2015:



- Up to 24 oz “useable” MJ
- Can grow up to 15 plants
  - Double that if you are an MJ provider and patient
- No dispensaries, but “cooperatives”
- No lab test, pesticide controls
- Age 18+ (even providers)
- Not taxed (1/3 – 1/4 the cost)
- Need MJ card (not prescription) – tamper resistant
- Doctor, naturopath, PA, nurse practitioner, osteopath

**DUI – 5 ng/ml – Penalties for illegal grows, quantities**

# MARIJUANA REGULATORY PROCESS

I-502 – Liquor & Cannabis Board sets up regulatory system  
Department of Health establishing rules for medical marijuana  
Regulations govern growing, processing, distribution, sales, pesticides  
and testing of marijuana

**258** stores reporting sales of **449** with approved licenses (as of November 4, 2016)

**904** producers & or processors

Current grow canopy: 13.8 million square feet

- New Medical Market could expand the canopy



**Sales** (as of November 4, 2016):

**\$ 3.7 – 4.5 million average daily sales**

FY 2015 – \$259,785,729 – tax obligation \$65 million

FY 2016 – \$972,729,675 – tax obligation \$185 million

FY 2017 – \$539,039,875 – tax obligation \$100 million

<http://lcb.wa.gov/marijuana/dashboard>



# 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.



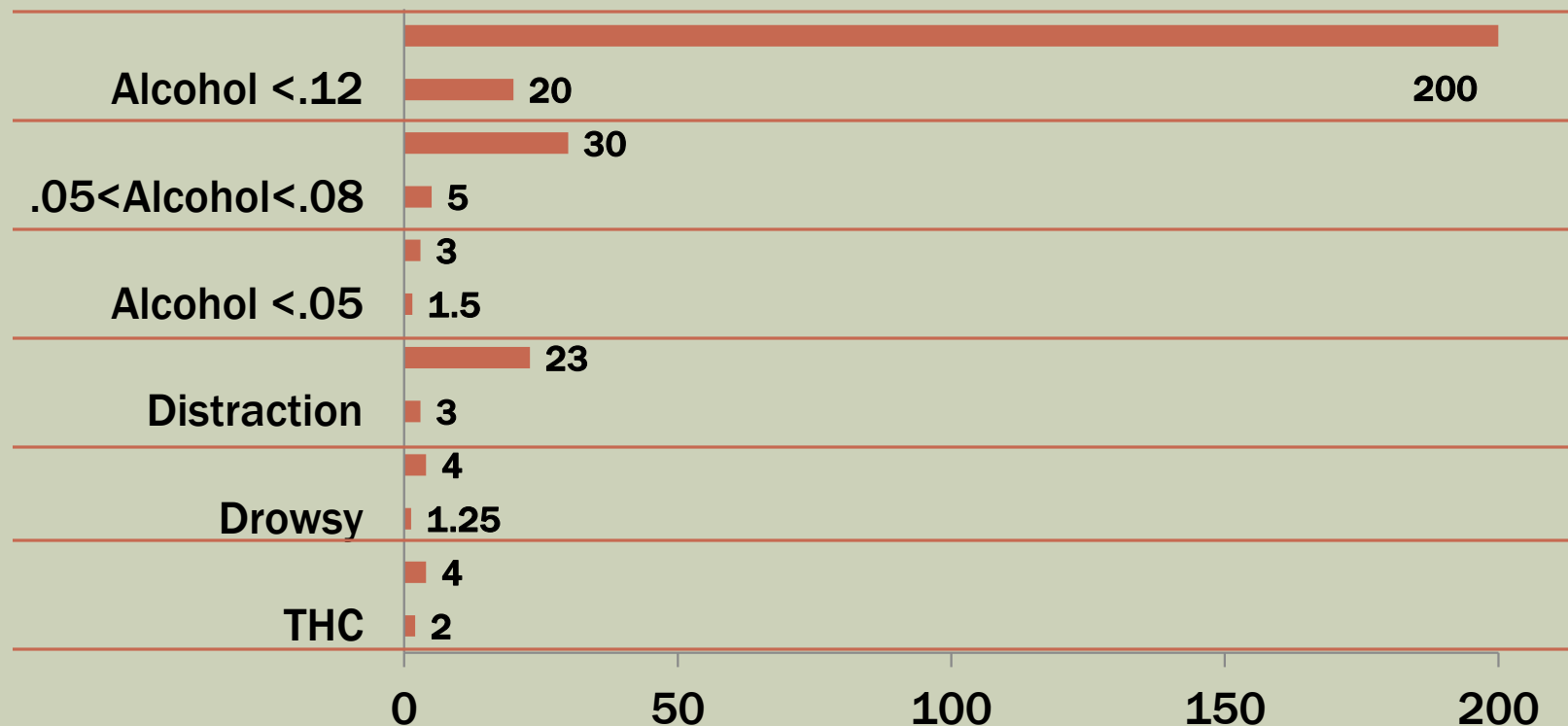


# MARIJUANA IMPAIRED DRIVING:

- Recent meta-analyses shows driving high doubles crash risk
- Affects focus, motor coordination, drowsiness and concentration
- Drivers involved in fatal crashes show a high frequency of combining pot & alcohol = synergistic effect
- Marijuana drug levels/specific type not shown in national FARS crash data
- DUI citations are down in Washington State



# 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%**



Washington Traffic  
Safety Commission

# THC POTENCY USED IN MOST GOVERNMENT STUDIES

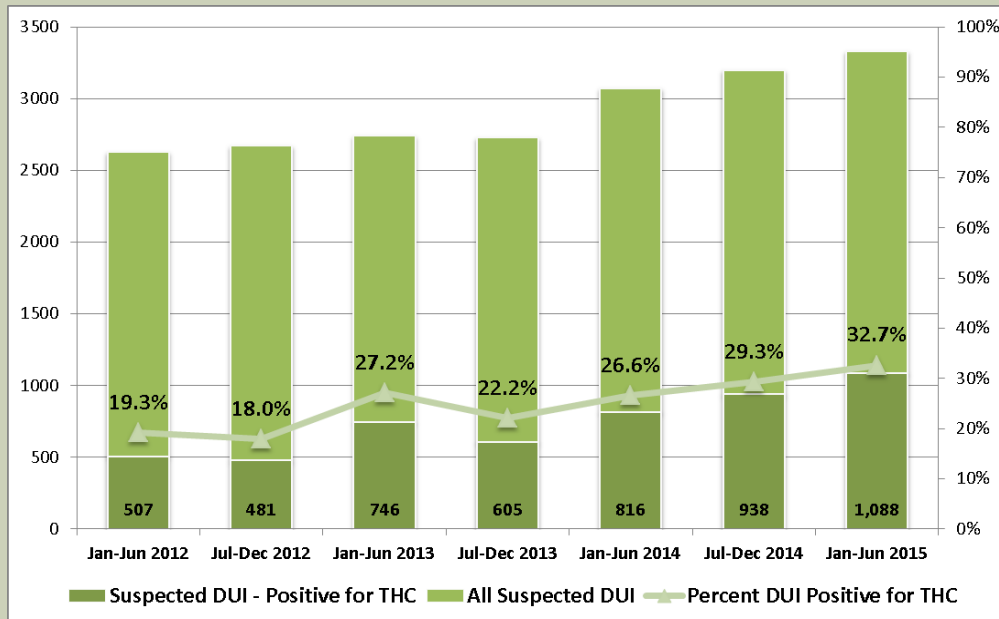
3 – 6 %  
THC



# INCREASE IN MARIJUANA-IMPAIRED DRIVING?

## 2012-2015Q2 WSP Toxicology Lab Samples:

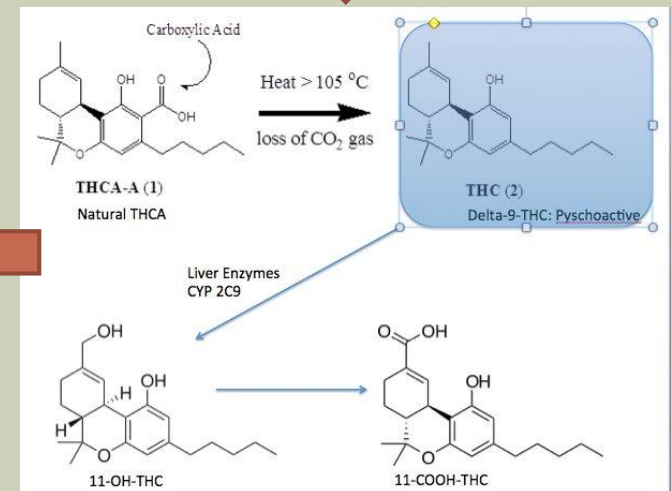
- Full panel testing on all samples since January 2013
- Marijuana DUI increasing



# THE PROBLEM WITH FATAL CRASH DATA



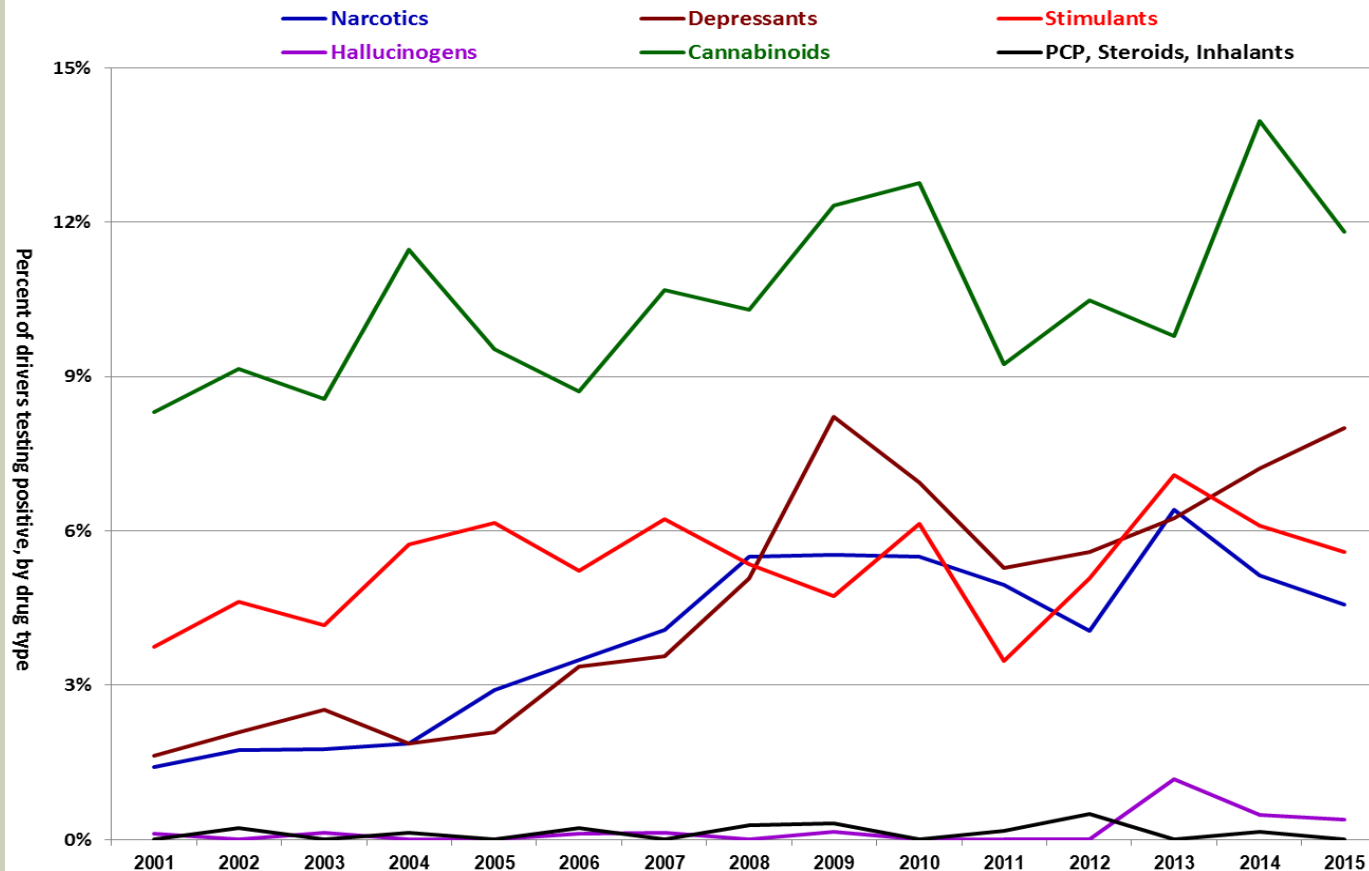
Delta 9
Hashish Oil
Hashish
Marijuana/Marihuana
Marinol
Tetrahydrocannabinols (THC)
Cannabinoid (Type Unk)



# MARIJUANA HAS ALWAYS BEEN THE DOMINATE DRUG IN FATAL CRASHES

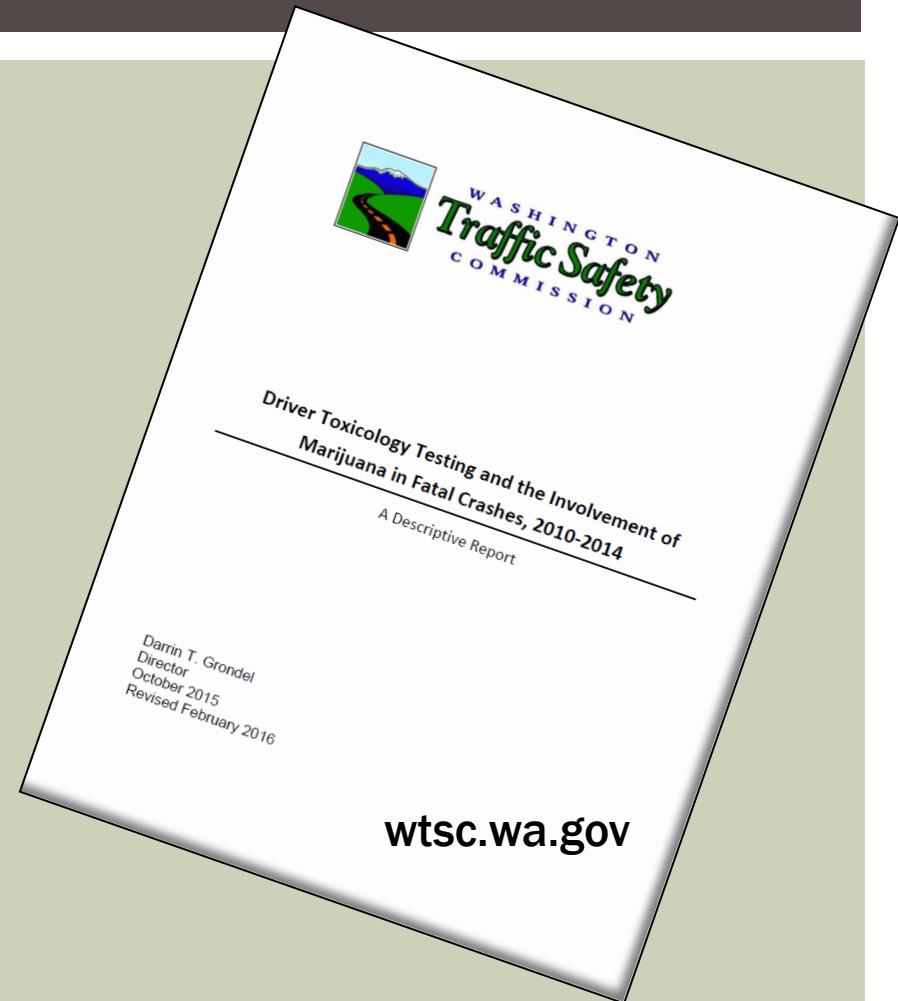
Drug-Test Results of Drivers in Fatal Crashes, 2001-2015pre

By Year and Drug Class



# WTSC DESCRIPTIVE REPORT

- Reviewed all WA toxicology paper reports and manually entered full toxicology outcomes into a spreadsheet
- Worked with Dr. Couper to abstract the information for surviving drivers
- Abstracted full toxicology for everyone in fatal crashes who had toxicology testing (drivers, occupants, non-motorists)
- Married to the original FARS record for in-depth fatal crash analysis
- Initial report focused on data years 2010-2014, DRIVERS



# 2015 FATALITIES

- A 23% increase in total traffic fatalities from 2014 (462 to 567 lives lost in 2015)

	2014	2015	%Change, 2014-2015
Driver Alcohol >.08	112	113	0.9%
Drug Positive Driver	178	203	14.0%
Marijuana Positive Driver	99	98	-1.0%
Speeding	162	156	-3.7%
<b>Distracted Driver</b>	<b>130</b>	<b>170</b>	<b>30.8%</b>
Unrestrained Passengers	108	113	4.6%
Unlicensed Driver	95	111	16.8%
Drowsy Driver	16	19	18.8%
Motorcycles	69	75	8.7%
Pedestrians	78	86	10.3%
<b>Drivers 70+</b>	<b>62</b>	<b>87</b>	<b>40.3%</b>
Heavy Trucks	36	44	22.2%
<b>Bicyclists</b>	<b>7</b>	<b>14</b>	<b>**Small #s, 100%</b>
Young Driver Ages 16-17	18	22	22.2%
Young Driver Ages 18-20	47	50	6.4%
Young Driver Ages 21-25	85	109	28.2%
Young Driver Ages 16-25	147	176	19.7%



# DRIVERS IN FATAL CRASHES WITH THC

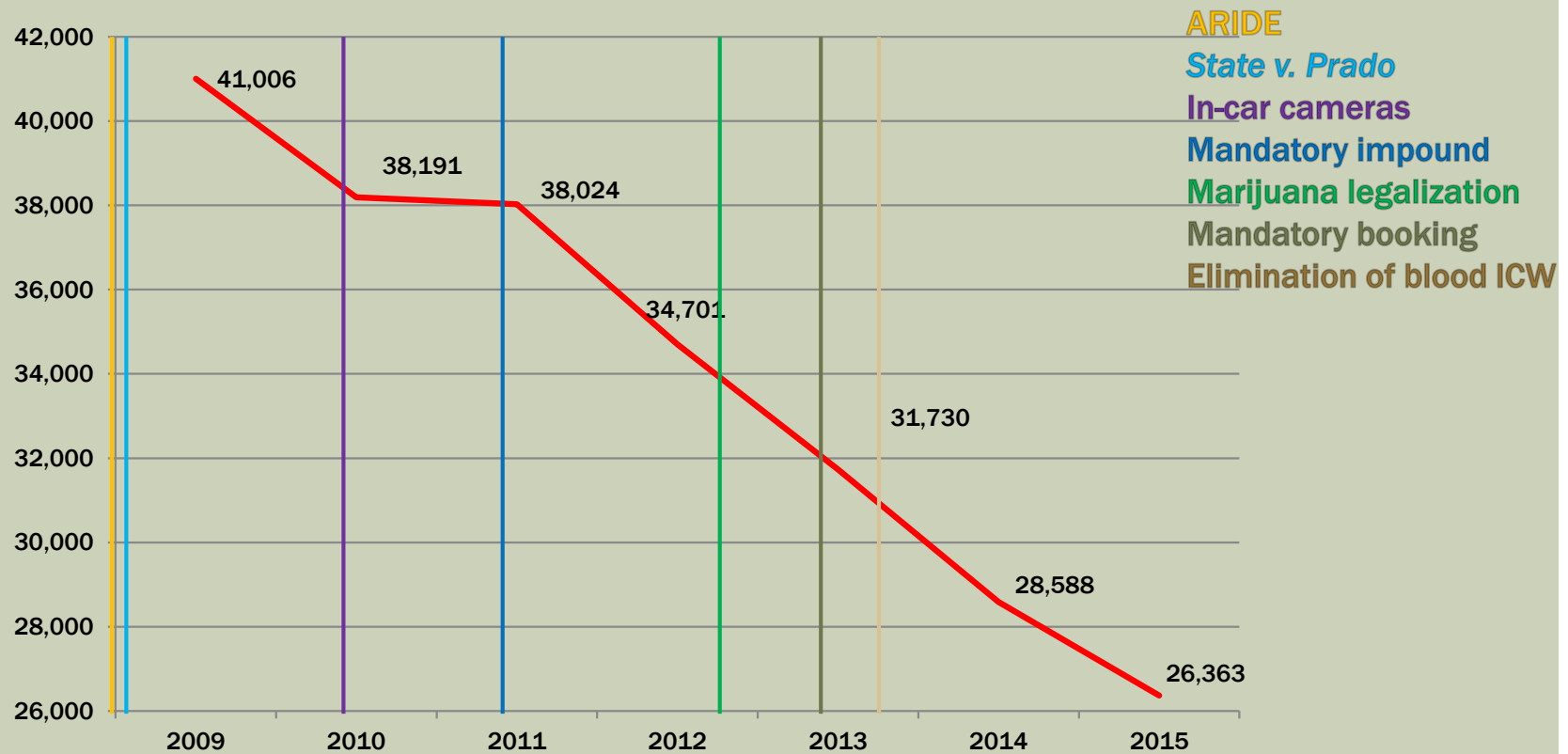
Toxicology Outcomes	2010	2011	2012	2013	2014	2015pre
Not Tested	219	226	224	212	272	375
No Drugs, No Alcohol	147	151	151	147	116	155
Alcohol Only <.079	15	8	6	7	10	10
Alcohol Only >.080	67	67	60	69	51	47
THC Only	9	7	13	7	20	24
Carboxy-THC Only	11	10	7	3	6	4
THC + Alcohol <.079	3	1	0	3	6	5
THC + Alcohol >.080	16	16	12	16	23	26
Carboxy-THC + Alcohol	12	6	11	9	3	1
THC + Drugs + Alcohol <.079	0	0	1	2	3	5
THC + Drugs + Alcohol >.080	2	5	2	3	6	10
Carboxy-THC + Drugs + Alcohol	10	2	5	2	0	1
THC + Drugs	6	3	8	5	17	12
Carboxy-THC + Drugs	10	5	3	7	5	4
Other Drugs Only	47	42	46	71	52	77
Other Drugs + Alcohol Only	20	18	19	20	24	18

# INCREASES IN 2014...

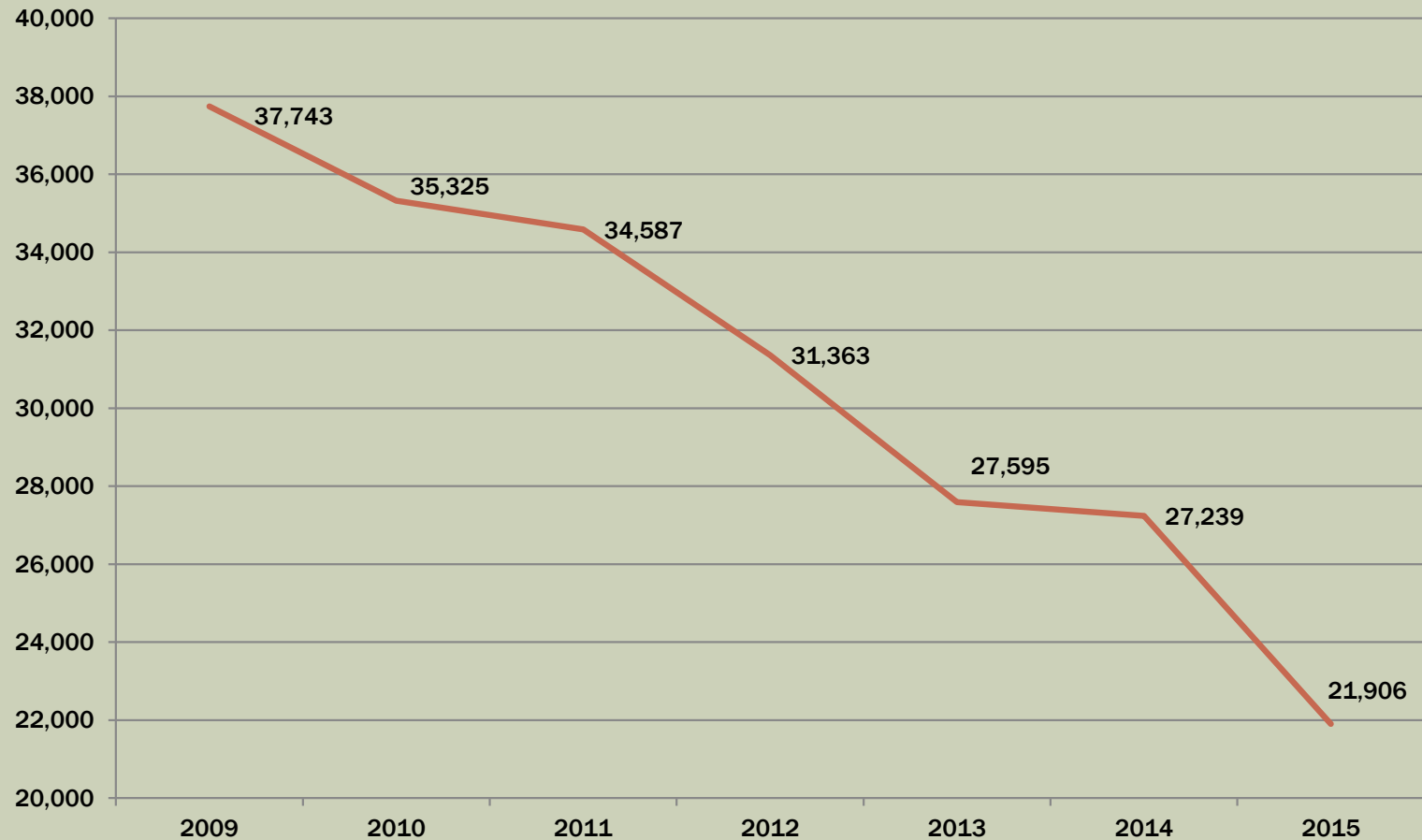
- **Still too soon for answers/impact on traffic safety**
  - The frequency of drivers in fatal crashes that tested positive for active THC, alone or in combination with alcohol or other drugs, was highest in 2014 (75 drivers) compared to the previous four-year average (36 drivers).
  - The frequency of drivers tested with alcohol greater than/equal to BAC .08 and no other drugs was lowest in 2014 (51 drivers) compared to the previous four-year average (98 drivers).
  - In 2014, 84.3 percent of drivers positive for cannabinoids were positive for active THC, compared to only 44.4 percent of cannabinoid-positive drivers in 2010.
  - In 2014, among the 75 drivers involved in fatal crashes positive for active THC, approximately half (38) exceeded the 5 ng/ml THC per se limit.



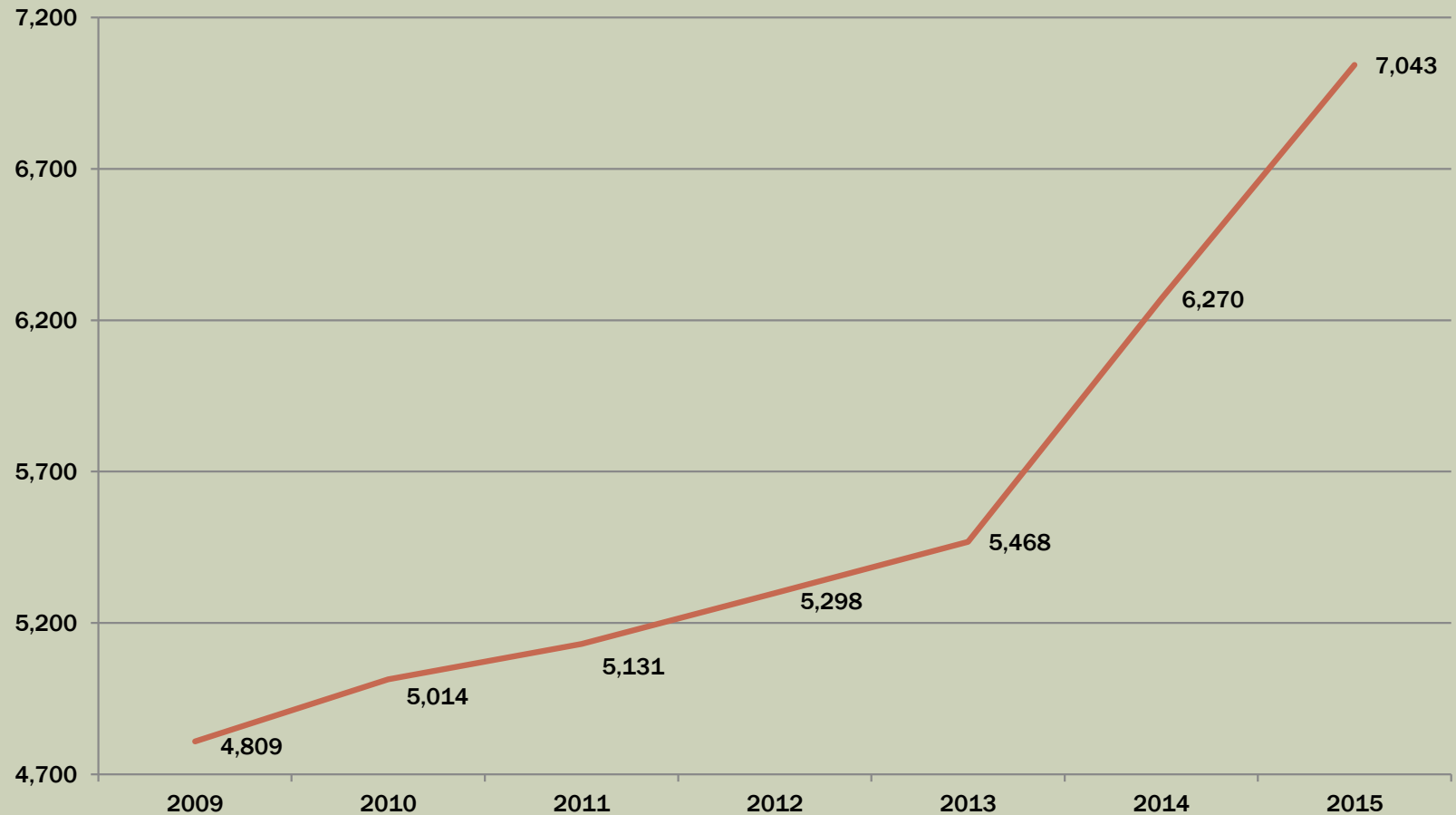
# IMPAIRED DRIVING CASES FILED



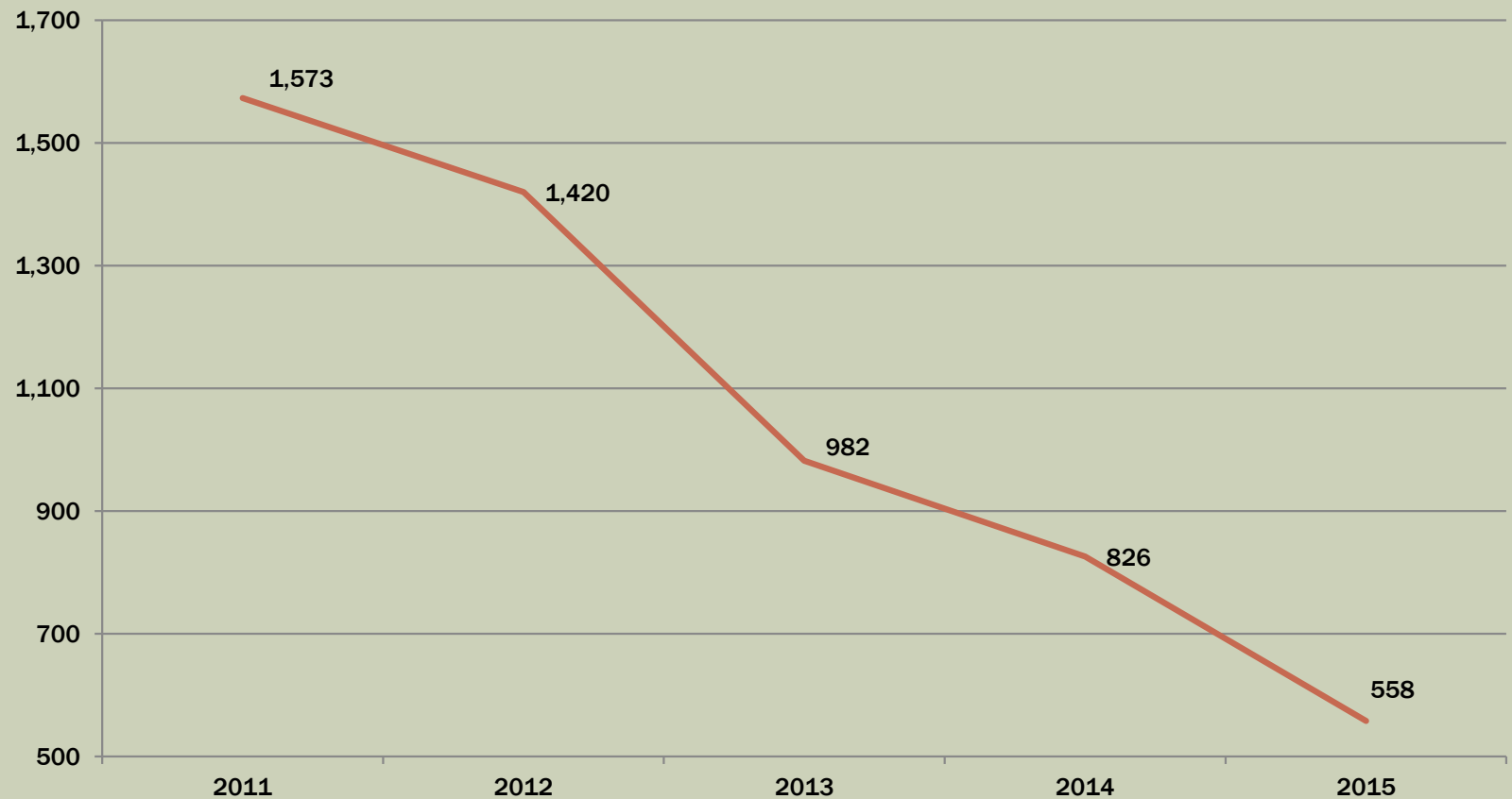
# STATEWIDE BREATH TESTS



# STATEWIDE BLOOD TESTS

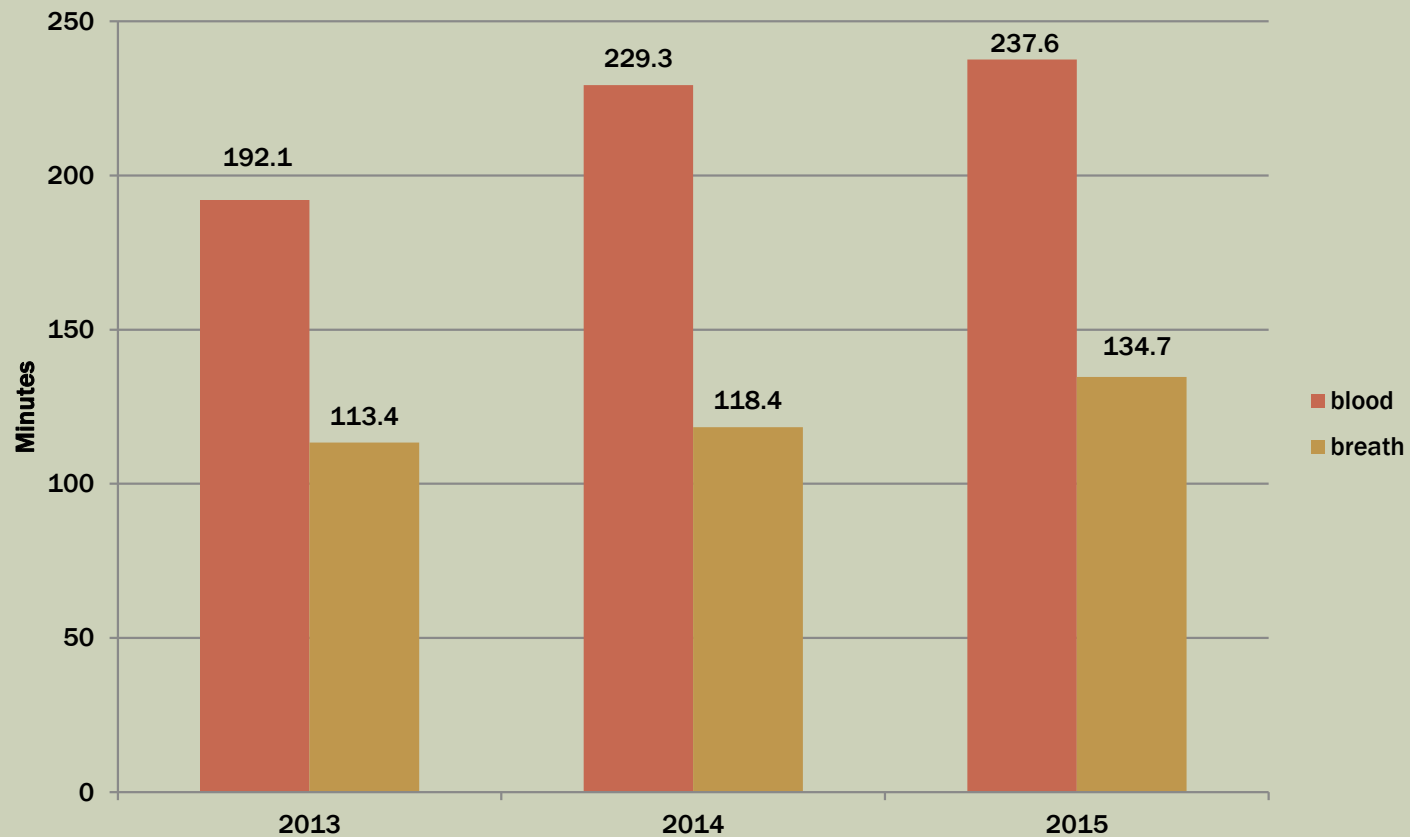


# DRE EVALUATIONS



# PROCESSING TIMES

## NOT INCLUDING PAPERWORK





# ROAD SIDE STRATEGIES



- Electronic DUI packet
- Electronic Search Warrants
- Forensic Phlebotomy
- Lakewood PD

WASHINGTON STATE  
DUI ARREST REPORT  
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 OF BIRTH \_\_\_\_\_ DATE OF ARREST \_\_\_\_\_  
STREET ADDRESS \_\_\_\_\_ CITY / STATE / ZIP CODE \_\_\_\_\_  
DRIVER'S LICENSE NUMBER \_\_\_\_\_ DC# ENDORSEMENT (CHECK IF YES) ☐ STATE \_\_\_\_\_ COUNTY OF ARREST \_\_\_\_\_ CASE / CITATION NUMBER \_\_\_\_\_  
☐ M ☐ F  
☐ 1<sup>st</sup> Sample \_\_\_\_\_ 2<sup>nd</sup> Sample \_\_\_\_\_ Refused Test \_\_\_\_\_  
 BAC Readings - DataMaster 1<sup>st</sup> Sample (IR) \_\_\_\_\_ 2<sup>nd</sup> Sample (IR) \_\_\_\_\_ Blood Alcohol \_\_\_\_\_  
 BAC Readings - Draeger 1<sup>st</sup> Sample (EC) \_\_\_\_\_ 2<sup>nd</sup> 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 0.05 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 0.00, 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 incident.  
☐ Operating a Vehicle Requiring a Commercial Driver's License

There were 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 46.25.090. 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.

SEX \_\_\_\_\_ AGE \_\_\_\_\_ HAIR \_\_\_\_\_ EYES \_\_\_\_\_ SKIN \_\_\_\_\_  
 HEIGHT \_\_\_\_\_ WEIGHT \_\_\_\_\_ BUILD \_\_\_\_\_  
 LICENSE PLATE NUMBER \_\_\_\_\_ STATE \_\_\_\_\_ HAZARDOUS MATERIAL? ☐ YES ☐ NO



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

# PIRE ROADSIDE SURVEY

## PACIFIC INSTITUTE FOR RESEARCH AND EVALUATION

- Data collection: June, 2014; Nov. 2014 and June, 2015
- Statewide sample -- six counties, five areas within each (Spokane, Yakima, King, Whatcom, Snohomish, Kitsap)
- Alcohol and drugs (75 types, with levels)



# 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?”**

<b>69% – yes</b>	<b>T= 615</b>	
<b>31% – no</b>	<b>T= 273</b>	<b>T= 888 respondents</b>



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

<b>44% – yes</b>	<b>T= 97</b>	
<b>56% – no</b>	<b>T = 123</b>	<b>T =220 respondents</b>



**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	



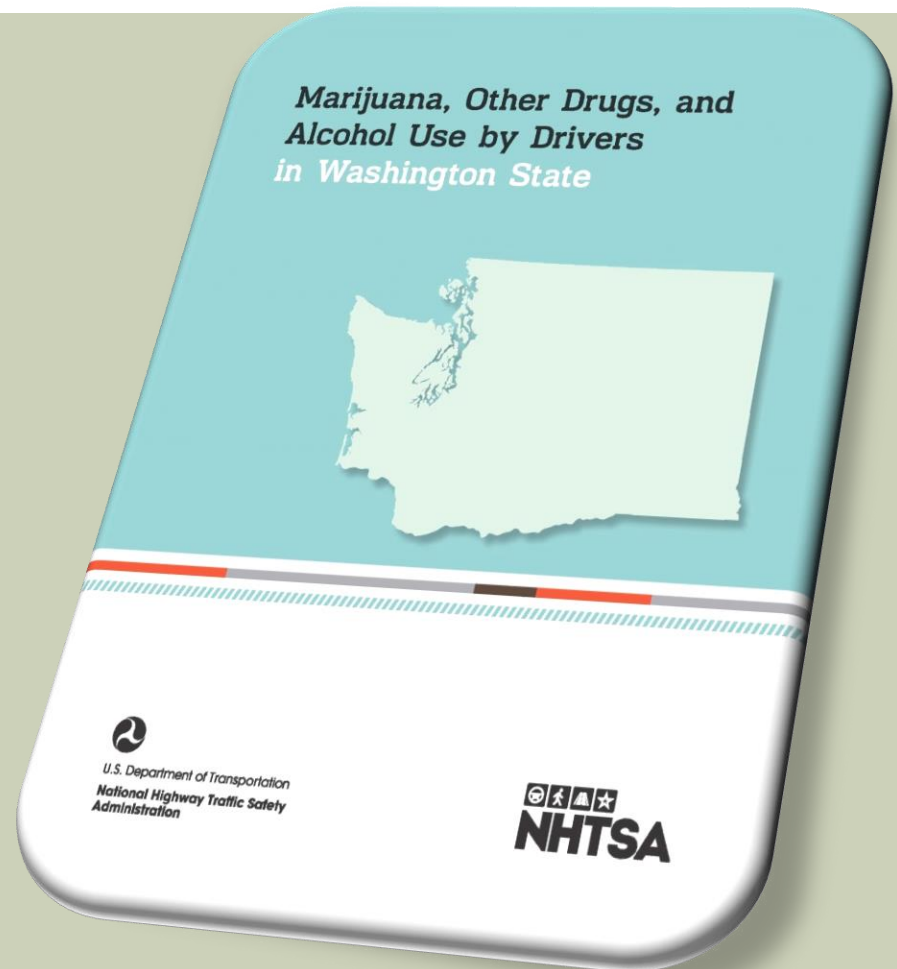
**881** Survey respondents answered the question: **“How likely do you think it is that a person could be arrested for impaired driving after using marijuana within two hours of driving?”**

	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	

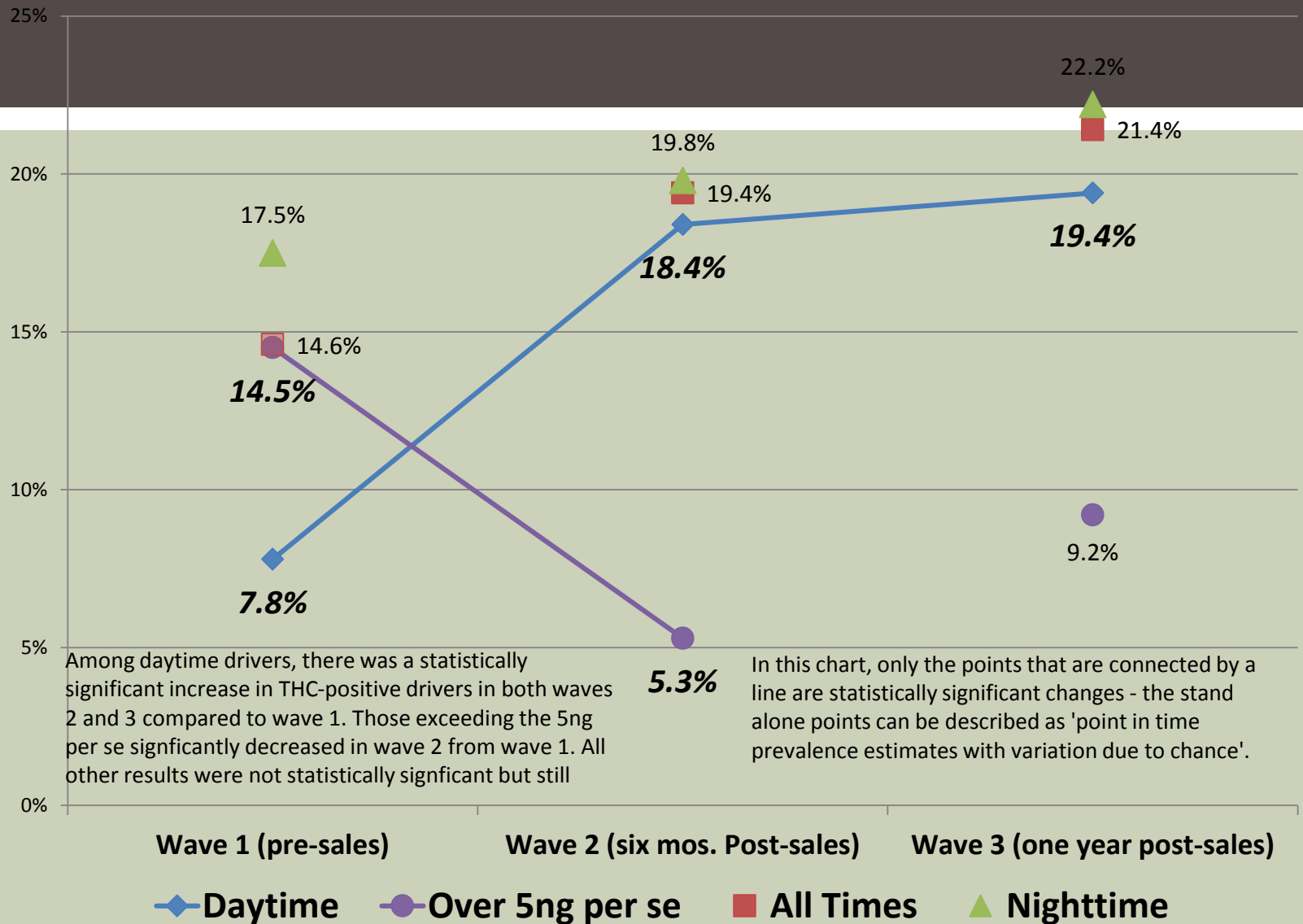


# ROADSIDE SURVEY (PIRE/NHTSA)

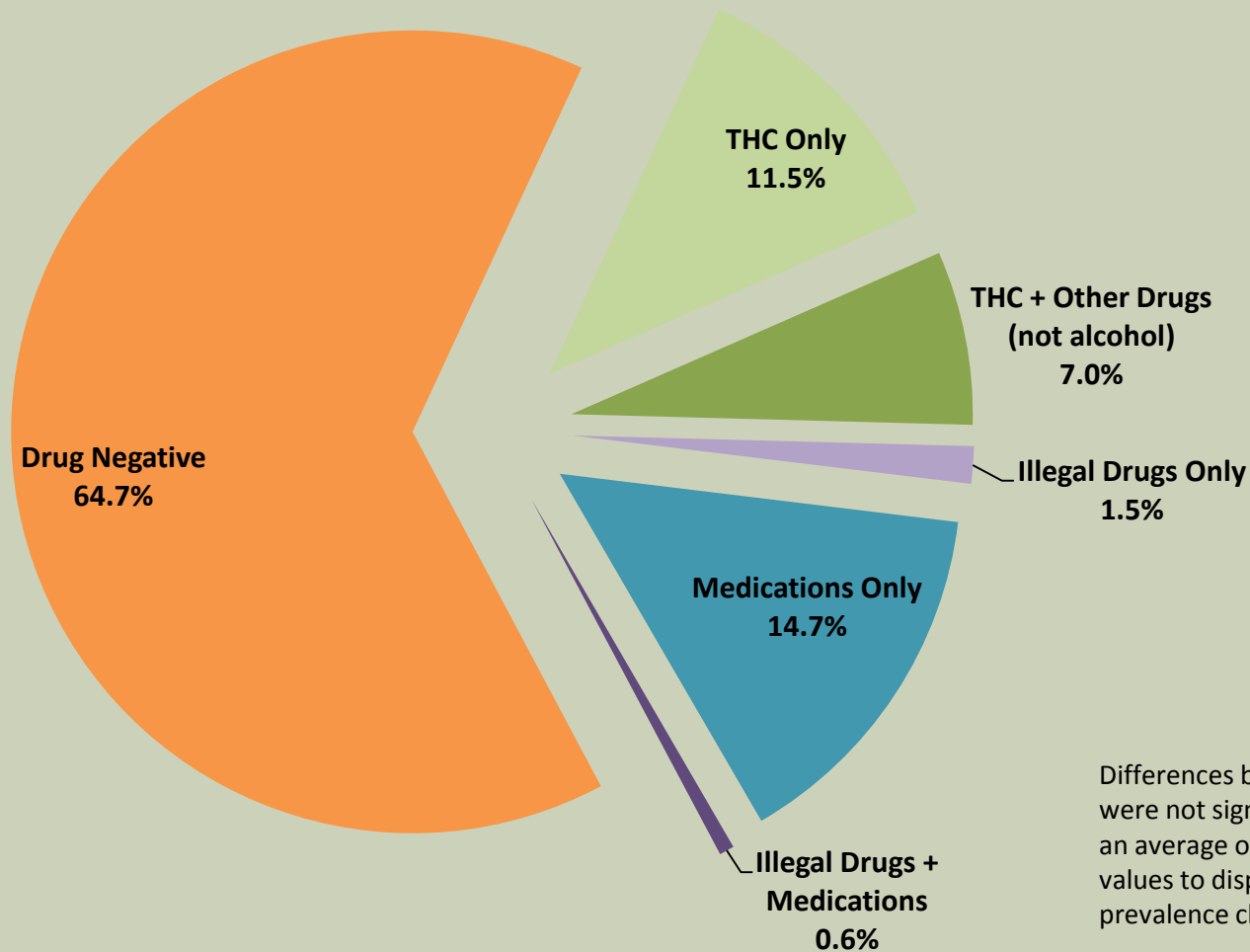
- Prevalence of drugs/alcohol among drivers prior to legal sales of marijuana; measured again 6 and 12 months post-sales.
- Almost 2,400 randomly selected participants between the three waves.



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

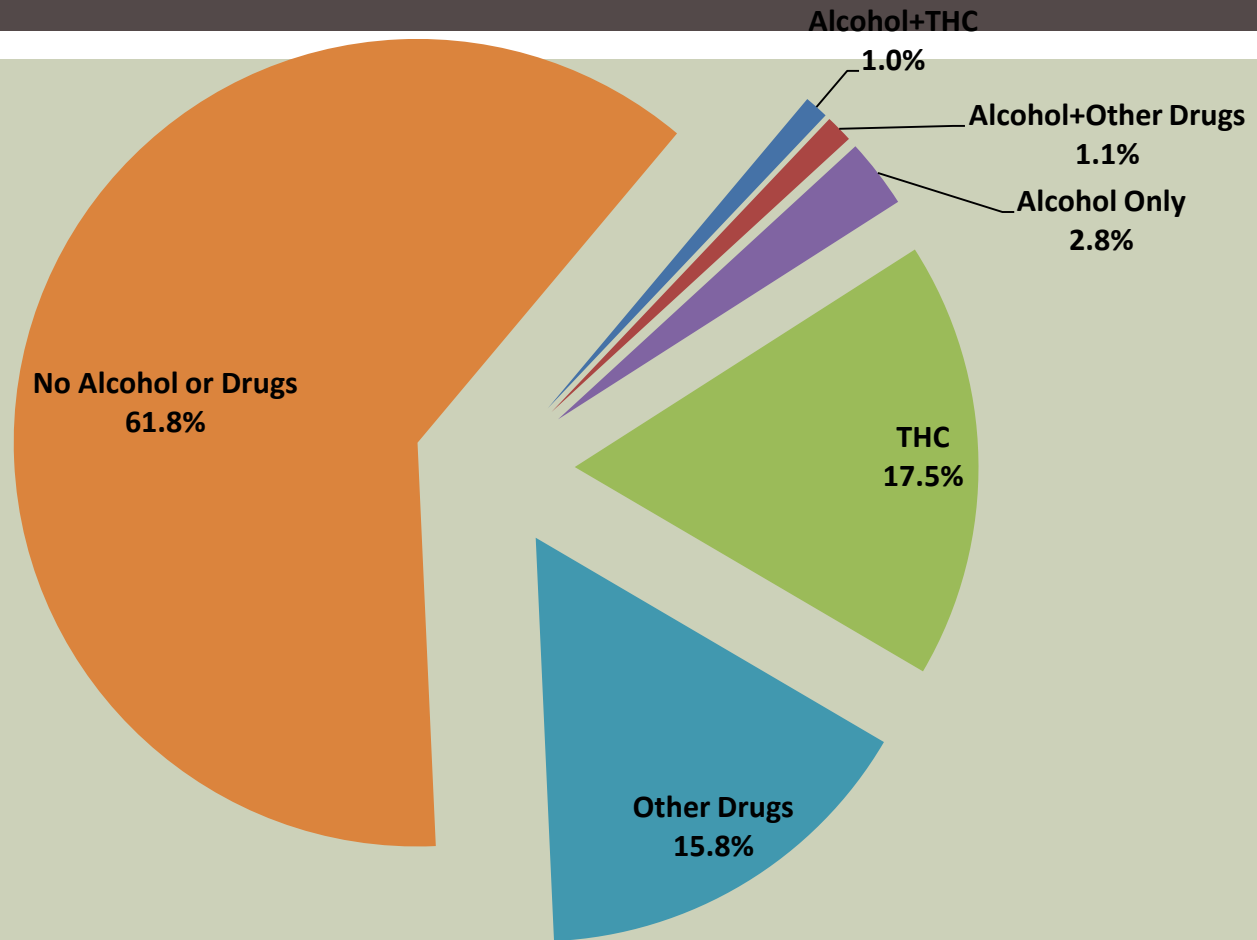


## Drug-Positive Drivers in Washington State (Average Prevalence Estimates Wave1 - Wave3)



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)



# UPCOMING PROJECTS

- Analysis of self-report marijuana use and driving collected during the Roadside Survey
  - BRFSS marijuana use after driving 2014-2015
- WSU blood-breathe validation of roadside marijuana detection
  - Pullman PD participating in evaluation of using SFST for identifying impairment by marijuana, ARIDE vs. non-ARIDE trained officers
- WSU analysis of PTCR narrative and diagram of fatal crashes involving THC drivers – culpability assignment, co-occurrences, risk factors
- THC driver data requests – AAA, IIHS, WSU, WSU Vancouver, DOL, WSIPP, NIH Evaluators

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