





NHTSA

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

Office of Safety Programs

Christine Frank

NHTSA

Enforcement and Justice Services

1

**Impaired Driving
Curricula Updates**

2

DRE Data System

3

**NHTSA Research:
Drug Impaired Driving**

Curricula Update

1. *SFST/ARIDE/DRE*
 - *Two year venture*
 - *Currently conducting pilots*
 - *Released by early summer*
 - *Dry Lab videos/TTIITE*
2. *New Curricula*
 - *ARIDE refresher*
 - *Testifying in court as a DRE*



DRE Data System



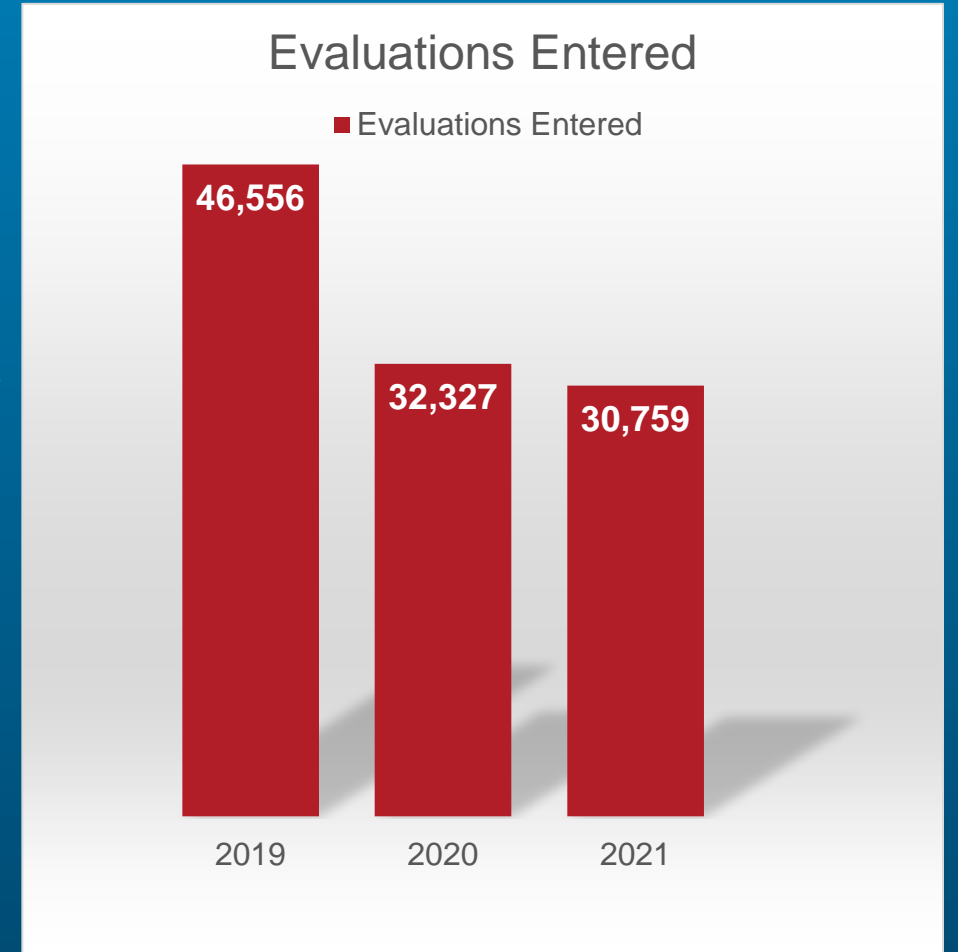
DRE Data System

- *DRE evaluations input*
- *Current users: 9854*
- *Run report queries*
- *Supports DRE SCs with administration*
- *Third party states*



DRE Evaluations

- *TOTAL since inception of all systems 735,374*
- *2019 - 46,556 evaluations*
- *2020 -32,327 evaluations*
- *2021 – 30,759 evaluations*



Impaired Driving Research





DUID

1

How prevalent is the problem?

2

Countermeasures to reduce incidents

Prevalence

- *Troubling trends*
- *2021 preliminary data show 38,824 lives were lost in traffic crashes nationwide. That number marks the highest number of fatalities since 2007- 2020 data released*
- *In 2020, 45% of fatal crashes the drivers were engaged in at least one of the following risky behaviors: speeding, alcohol impairment, or not wearing a seat belt.*

Positives by Drug Category for Drivers and Pedestrians

Drug Category	Drivers				Pedestrians			
	Before (N=1,157)		During (N=699)		Before (N=274)		During (N=142)	
	n	%	n	%	n	%	n	%
Alcohol	252	21.8	198	28.3*	67	24.5	43	30.3
Cannabinoids [†]	241	20.8	227	32.7*	51	18.6	44	31.0*
Stimulants	106	9.2	64	9.2	33	12.0	23	16.2
Sedatives	93	8.0	61	8.7	25	9.1	13	9.2
Opioids	87	7.5	97	13.9*	22	8.0	17	12.0
Antidepressants	26	2.2	3	0.4*	5	1.8	1	0.7
Over-the-Counter	25	2.2	10	1.4	8	2.9	6	4.2
Other Drugs	17	1.5	15	2.1	4	1.5	2	1.4
At Least 1 Category	588	50.8	452	64.7*	139	50.7	94	66.2*
Multiple Categories	204	17.6	177	25.3*	54	19.7	40	28.2

*Significantly different ($p < .05$) from Before period.

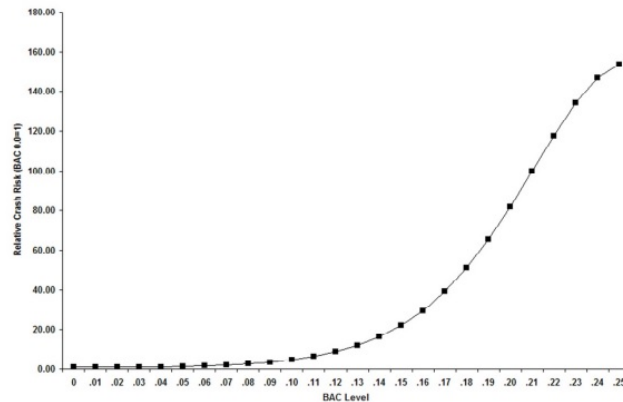
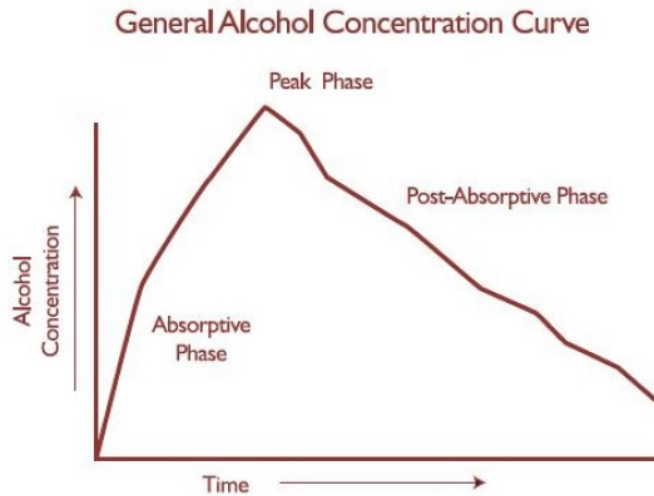
[†]Active THC (Δ -9-THC or 11-OH-THC)

THC/Drug positive does not mean THC/Drug impaired

Thomas, et al. 2020, Drug and alcohol prevalence in seriously and fatally injured road users before and during the COVID-19 public health emergency

Research Challenges

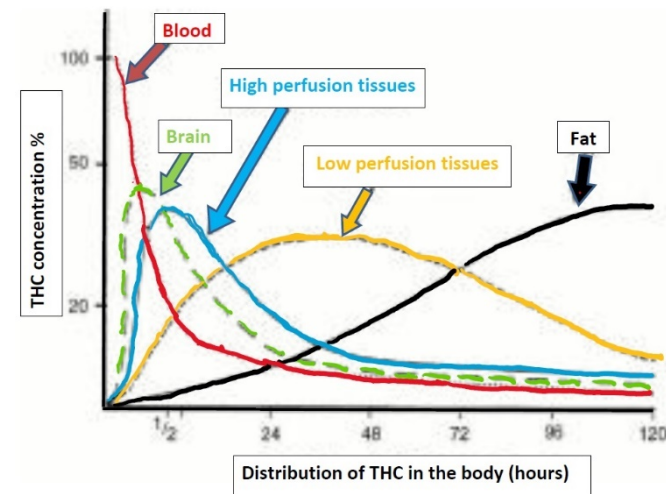
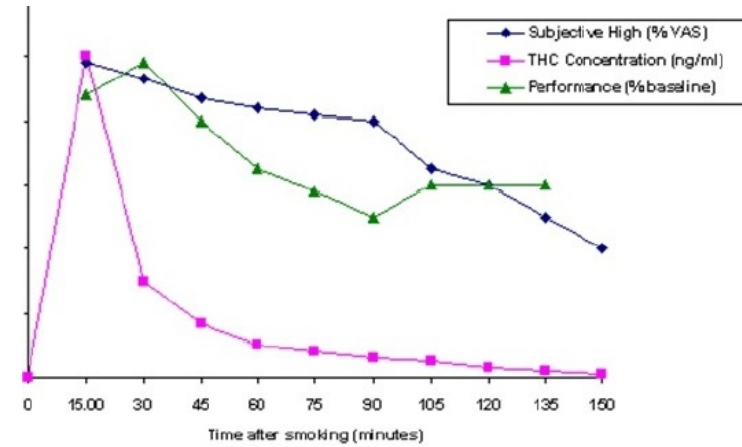
Alcohol



Source: Blomberg, Peck, Moskowitz, Burns, & Fiorentino (2005)



Cannabis



Impaired Driving Research Is Complex & Multifaceted

- Effects of alcohol on driving performance fairly well-known
- **50 years** of research and programmatic efforts on drugs
- The impact of polysubstance use on driving is understudied

	Alcohol	Other Drugs
Size of Effort	One type of drug	Many (illegal, OTCs, prescription)
Research Efforts	Well-studied	Many, disparate
Metabolism	Processes understood	Variable; many possibilities
Effect on Driving Behavior	Strong correlation to poor performance	Uncertain Correlation
Effect of High Doses	Greater decrements in performance	Unpredictable

- Specific drug concentration levels **cannot** be reliably equated with effects on driver performance

Impaired Driving Research Challenges

- *Large number of impairing substances that all act differently*
- *Measurable impairment vs. Driving impairment (Simulator studies vs on road)*
- *Approvals and clearance to conduct research*
- *Obtaining controlled substances for research*
- *Recruitment of subjects*
- *Human subject protections*

NHTSA's Office of Behavioral Safety Research DUID Research Program

Problem Identification

- ✓ Prevalence of Use in MVC Victims at Trauma Centers
- ✓ Determine Potential of Drugs to Impair Driving
- ✓ National Survey on Attitudes and Behaviors
- ✓ Drugs and Driving State of Knowledge
- ✓ Examining FARS Data Collection
- ✓ Analysis of DUID Investigations and Sanctions
- ✓ Examine Issues Prosecuting DUID Cases
- ✓ Characteristics of DUID Arrestees
- ✓ Examine Impact of Legalization and decriminalization on the DWI System
- ✓ Summary of *Per Se* Laws for marijuana
- ✓ Research on Forensic Toxicology Lab Testing and Data Processes

DUID

Countermeasures

- ✓ Examine Feasibility of SFST for Marijuana
- ✓ State-level Roadside Survey Methodology
- ✓ SBIR Oral fluid THC Detection Device
- ✓ SBIR Breath THC Detection Device
- ✓ Evaluation of On-site Oral Fluid Drug Screening Devices
- ✓ Drugs and Human Performance Fact Sheets
- ✓ Examine Clinical Research Evaluating Drug Effects on Behavioral Performance tests
- ✓ Examine who and how oral fluid drug testing devices are being used
- ✓ Toxicology Consultant

NHTSA DUID Research

Presence

- ✓ Prevalence of Use in MVC Victims at Trauma Centers
- ✓ National Survey on Attitudes and Behaviors
- ✓ Examining FARS Data Collection
- ✓ SBIR Oral fluid THC Detection Device
- ✓ SBIR Breath THC Detection Device
- ✓ Evaluation of On-site Oral Fluid Drug Screening Devices
- ✓ Drugs and Driving State of Knowledge
- ✓ Toxicology Consultant

National Roadside Survey of Driver Drug and Alcohol Use

Impairment

- ✓ Examine Feasibility of SFST for Marijuana
- ✓ Determine Potential of Drugs to Impair Driving
- ✓ Drugs and Human Performance Fact Sheets
- ✓ Examine Clinical Research Evaluating Drug Effects on Behavioral Performance tests
- ✓ Drugs and Driving SOK
- ✓ Toxicology Consultant

Alcohol and Drug Crash Risk Study

DUID

Examine the Feasibility of a Field Test for Marijuana Impairment: Laboratory Evaluations

- *NHTSA study conducted by Yale University*
- *Evaluated literature on tests for impairment*
- *Includes tests for cognitive ability, behavioral tests, tests of physical ability, physiological tests, driving skills tests*
- *Assessing the accuracy, feasibility, and utility of individual tests and combinations of tests*
- *Working toward development of test battery for cannabis*
- *This is basic laboratory testing. If there are promising tests, we will move on to additional lab testing and field testing*

Summary

- *DUID is a growing concern – still many unknowns*
- *Research on drug-impaired driving is very challenging*
 - *Other drugs differ from alcohol, and from each other*
 - *Drug concentration levels not reliable indicators of impairment*
 - *Safety concerns in research with human subjects*
- *NHTSA has a comprehensive DUID research program*
 - *Problem identification*
 - *Countermeasure development*

Resources

Research in Progress: <https://rip.trb.org/>

Final Reports: <https://rosap.ntl.bts.gov/>

<https://www.nhtsa.gov/behavioral-research>

Additional Notable Projects

DRE Demo Project

- *Currently in PRA clearance*
- *Tablets, ewarrants, callout systems, phlebotomy*
- *Evaluation component*

Regional Toxicology Liaisons

- *3 NHTSA Regions*
- *Designed to assist states with coordination of testing of impaired drivers*

Christine Frank
NHTSA
Enforcement and Justice
Services
Christine.Frank@dot.gov

