



Technical Working Group for Advanced Impaired Driving Prevention Technology

Jeff Michael, Johns Hopkins University



Members

- **Nat Beuse**, Vice President of Safety, Aurora
- **Kadija Ferryman, PhD**, Assistant Professor, Johns Hopkins Bloomberg School of Public Health
- **Shannon Frattaroli, PhD**, Director, Johns Hopkins Center for Injury Research and Policy
- **Kelly Funkhouser**, Program Manager, Vehicle Technology, Consumer Reports
- **Shaun Kildare, PhD**, Director of Research, Advocates for Highway and Auto Safety
- **Anders Lie, PhD**, retired, former Board Member, European New Car Assessment Program (Euro NCAP); former Traffic Safety Specialist, Swedish Transport Administration
- **Stephanie Manning**, Chief Government Affairs Officer, Mothers Against Drunk Driving (MADD)
- **Jeffrey Michael, EdD**, Distinguished Scholar, Johns Hopkins Center for Injury Research and Policy
- **Stephen Oesch**, retired, former Senior Vice President, Insurance Institute for Highway Safety
- **Roger Saul, PhD**, retired, former Director, Vehicle Research and Test Center, National Highway Traffic Safety Administration (NHTSA)
- **Ken Snyder**, Executive Director, Shingo Institute, Utah State Huntsman School of Business; MADD volunteer and victim of drunk driving
- **Don Tracy**, retired, former Vice President, Denso North America

Views Statement

Principles

1. Deliberate progress is essential.
2. Comprehensive function is our target.
3. Public benefit and public support is integral to design.

Pathways

1. Start with pre-start BAC intervention.
2. Include non-BAC measure.
3. Encourage rolling impairment detection measures.



Technical Working Group

Advanced Impaired Driving Prevention Technology

Questions?

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August 2023

DADSS State Partnerships

The Driven to Protect Initiative and the vital role states are playing to help invent a world without drunk driving

GHSA Annual Meeting | New York City | August 15, 2023

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Agenda

1. The DADSS technology
2. The vital role states can play
3. Five ways your state can become a part of the initiative

August 2023

The DADSS technology

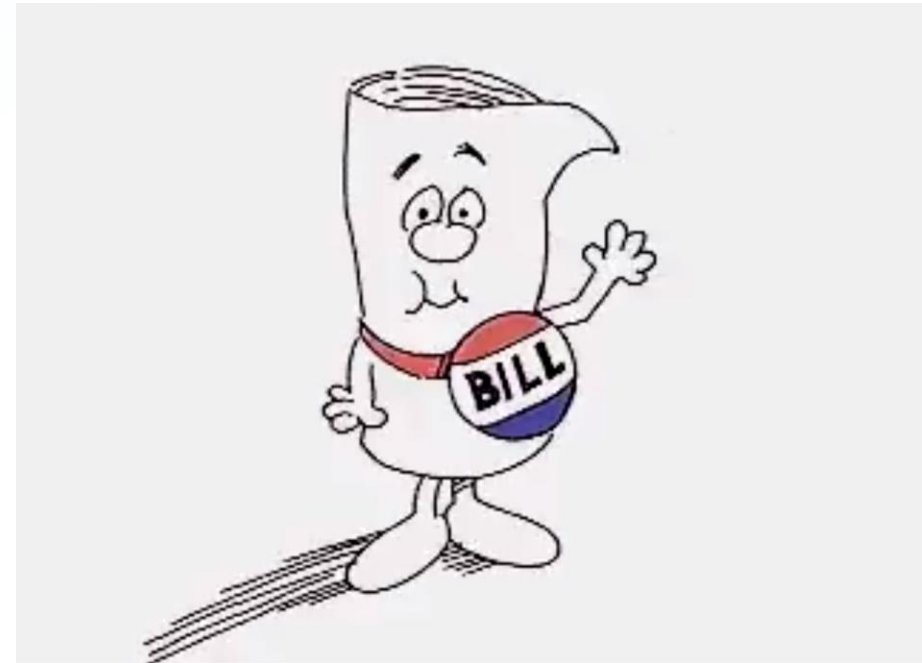
The Driver Alcohol Detection System for Safety is a passive alcohol monitoring system that will seamlessly detect when a driver's blood alcohol concentration is at or above the legal limit (.08%) and prevent the vehicle from moving.

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Policy Considerations

The 2021 Infrastructure and Jobs Act (IIJA) requires the department of transportation to issue a rule creating a drunken-driving technology safety standard within three years.

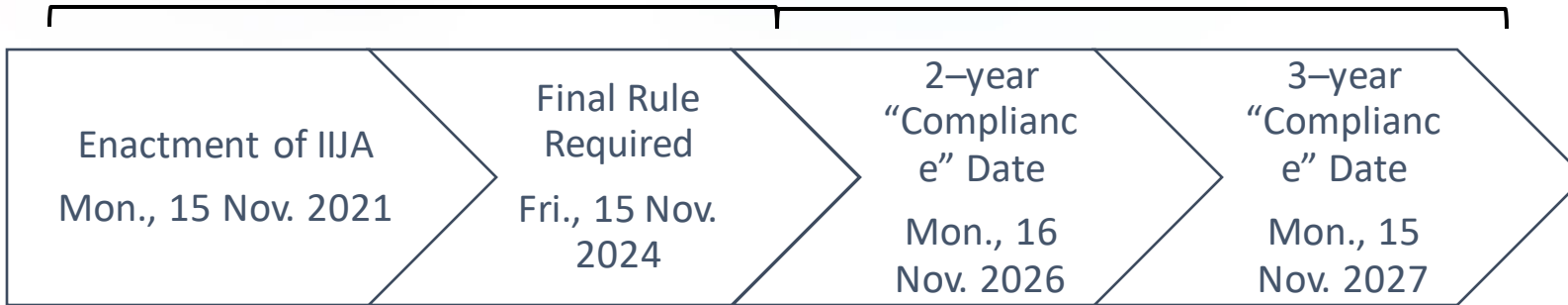
If successful, the law could eliminate nearly 9,400 of the more than 10,000 drunken-driving deaths in the U.S. each year.



Advanced drunk and impaired prevention tech IJA mandated rulemaking timeline

Final Rule required no later than 3 years after enactment

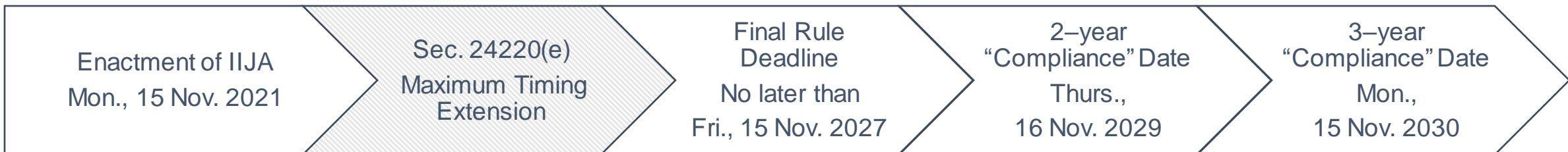
"Compliance" Date shall be no earlier than 2 years, but no later than 3 years after the issuance date of the Final Rule



NOTES:
[1] An FMVSS prescribed pursuant to 49 U.S.C. 30111 may not become effective before the 180th day after the standard is prescribed or later than one year after it is prescribed. The effective date is not the standard's issuance date.
[2] IJA's use of the phrase "compliance date" without an explicit allowance for a phase-in implies that 100% conformance on or after the "compliance date" is required.

If the Secretary extends rulemaking proceeding, the Final Rule must be issued no later than 6 years after enactment

"Compliance" Date shall be no earlier than 2 years, but no later than 3 years after the issuance date of the Final Rule



August 2023

The vital role states can play

Driven to Protect is an initiative of the DADSS Research Program, which empowers states to expand their fight against drunk driving by advancing lifesaving safety technology.

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Five ways your state can become a part of the initiative

1. Expanding fleet partnerships and trial deployments

- Value of data
- Real world experience



“This has been so easy for our team to use. The seamless integration of the sensors in the vehicle make it very easy for fleet managers to implement this technology in their own fleets.”

— James River Transportation Driver

2. Building awareness and acceptance amongst vehicle owners



Fort Belvoir Safety Day



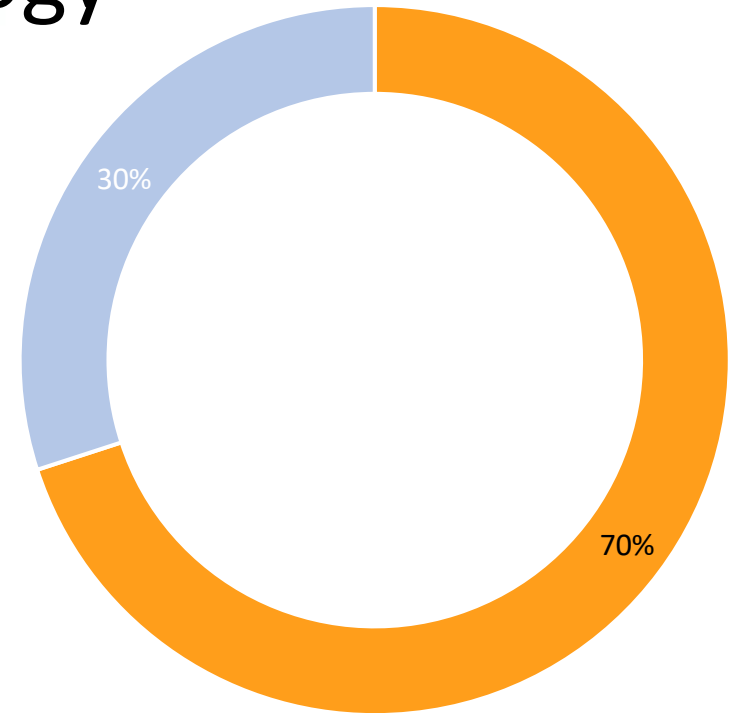
Virginia Black Business Expo



Katie's Cars and Coffee

Favorability for the DADSS Technology

- 70% of Virginia drivers have a favorable view of the DADSS technology
- 73% of Virginia drivers who admit to drinking after driving hold a favorable view of the DADSS technology
- 38% of Virginia drivers say they would be “very” or “somewhat” likely to want the DADSS technology in their next vehicle



■ % Of Virginians with a favorable view of the DADSS technology
■ Other

3. Mobilizing key messengers and stakeholders

- State government leadership
- Local transportation leaders
- Virginia traffic safety nonprofits
- Educators
- Press



Stakeholder events



Virginia Highway Safety Summit



Washington Auto Show



Insurance Institute for Highway Safety (IIHS)

Seminars and webinars

Human Subject Driving

In mid-2019, we began controlled on-road evaluations with vehicle-integrated sensors. We gave passengers an alcoholic beverage to drink in order to test the prototypes in real-world driving scenarios.

419	Total Days
78,451	Total Samples
48,509	Total Zero BrAC Samples
29,942	Total Positive BrAC Samples
11,585	Total Miles Driven
6	Total Vehicles
1,266	Total Sensor Operation Hours

Data from August 4, 2020. Dashboard is updated as data become available.

2020 “Ask the Experts” Webinar

Breath System For Fleet Application

Intended for use as:

- Directed-breath, contactless, alcohol detection sensor
- Zero tolerance policy to screen vehicle operators for the presence of alcohol

by blowing into a tube or a, for an extended duration.

2021 “Ask the Experts” Webinar

Safe Driving and Technology

Resources for Educators & Students from Driven to Protect | Virginia

VADETS 2022 Virtual Conference | October 6, 2022

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2022 VADETS Presentation

4. Educating young drivers



Technosphere



VW Future Leaders in Mobility

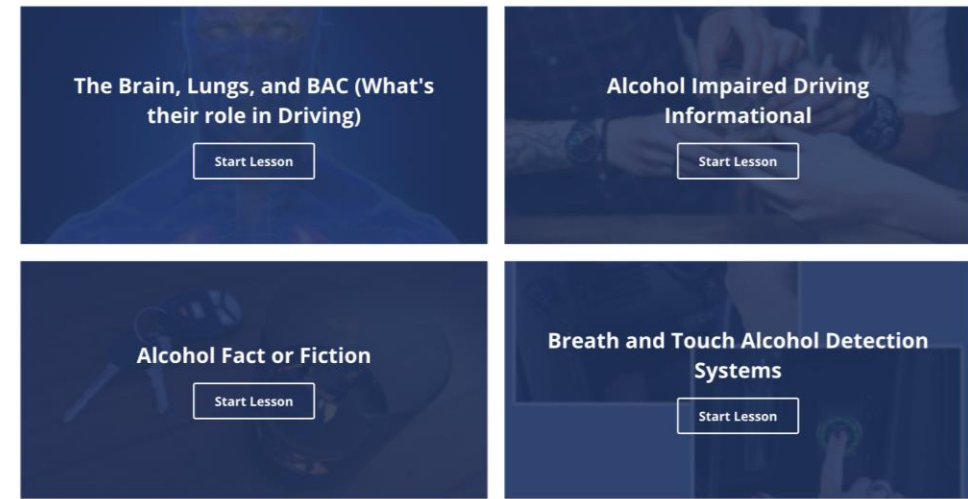


Skills USA

The Driven to Protect Discovery Hub



General Education Modules



5. Earned media coverage

Virginia DMV and Trucking Company to Test New Alcohol Detection System

Va. launches largest commercial test of alcohol detection technology

Maryland joins pilot for technology that aims to prevent drunk driving

Schneider first truckload carrier to test alcohol-detection technology



DADSS Program Profiled on CNBC Show "Advancements TV" with Ted Danson

Here's how a new program is being implemented to protect Maryland drivers

Virginia becomes testing ground for new drunken driver sensor

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Dare to dream it. Work to achieve it.



Now is the time to end drunk driving.

Email gbishop4@gmail.com to discuss how your state can join the Driven to Protect Initiative

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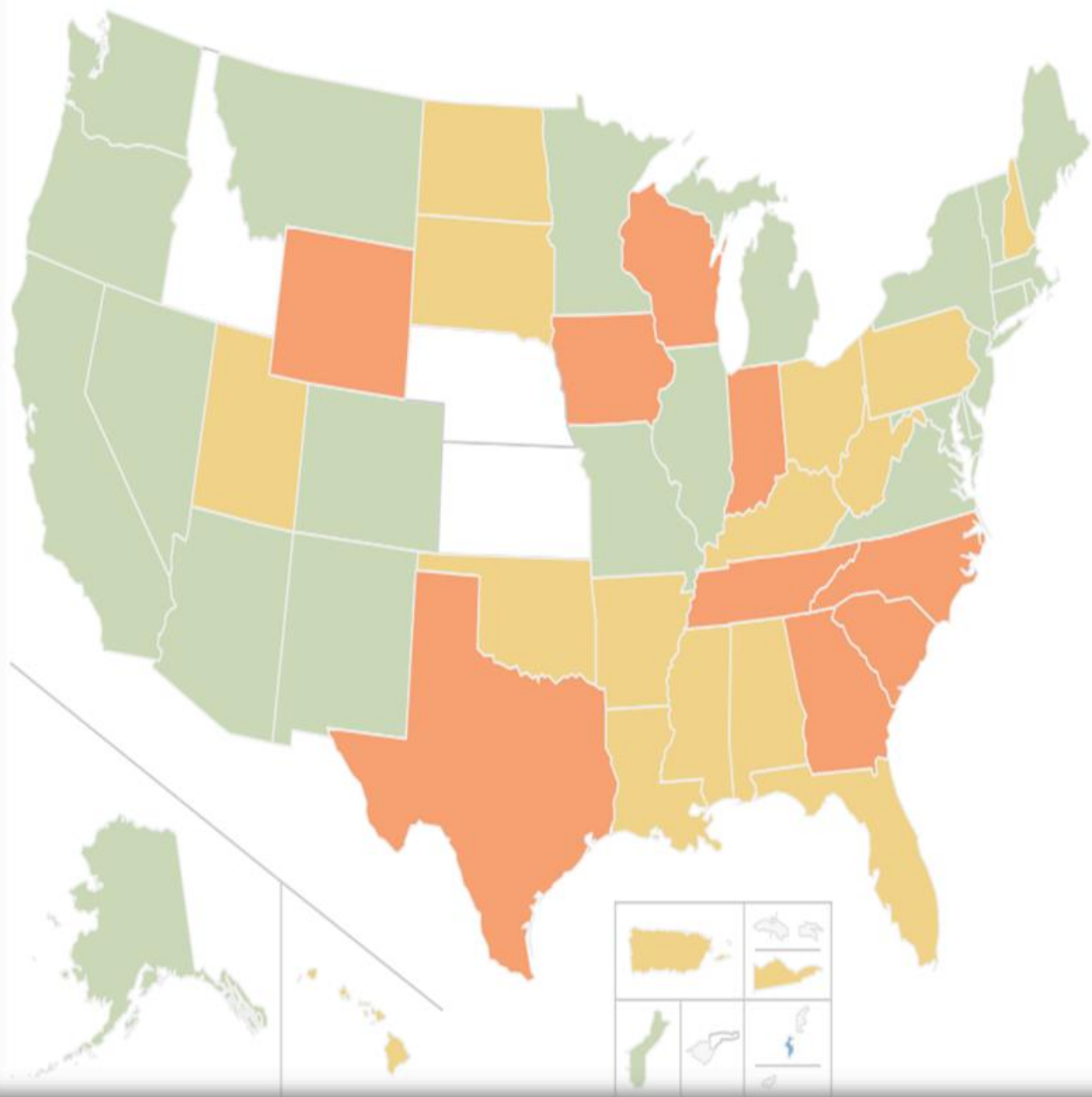
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Thank you!

GREEN LABS

GHSA Conference 2023





- No public cannabis access program
- Adult & medical use regulated program
- Adult use only, no medical regulated program
- Comprehensive medical cannabis program
- CBD/low THC program

Cannabis Across the Nation

- 23 states, two territories, and the District of Columbia have enacted laws to regulate non-medical (adult/recreational) use of cannabis
- 38 states, three territories, and D.C. allow for medical use of cannabis on some level
- Number of POS and location make a difference. D.C. has no regulated production or sales, but allows limited possession and growing

Green lab elements



Who-30 students (primarily law enforcement) & 10 volunteer consumers-include auditors as well

What-Classroom and workshop cannabis focused lecture. Field test review, ARIDE discussion, new tools.

When-Quarterly. Focus around holidays (cannabis holidays 4.20 & 7.10) and other holidays

Where-Police academy, barrack, private venue.

Why-Improve patrol officer's ability to recognize cannabis impairment, familiarize with new laws, and...because it's needed.

Agency Applicability

Maryland State
Police (~1400
sworn)



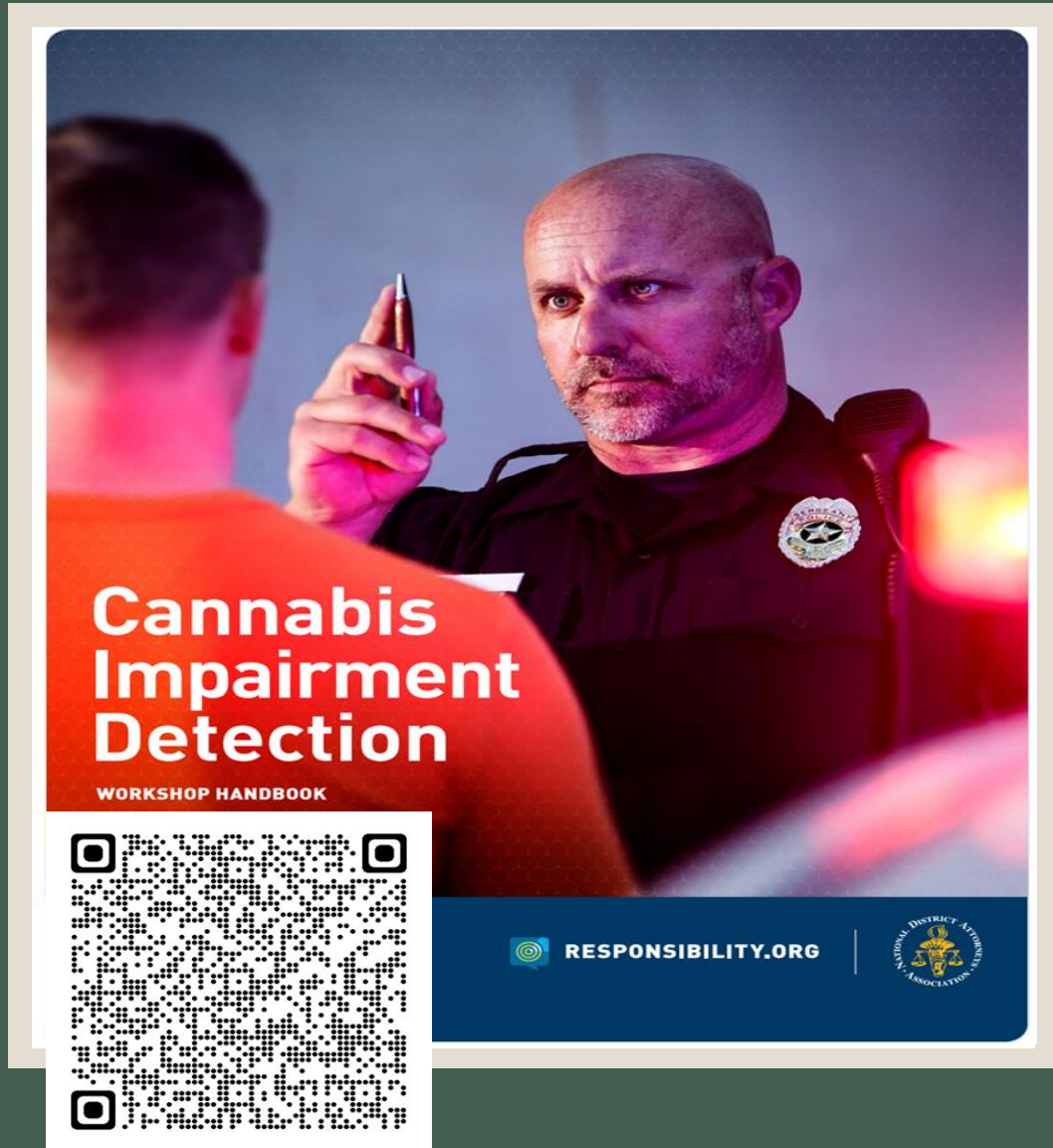
Montgomery
County PD
(~1200 sworn)



Frederick City PD
(~140 sworn)



Resources & Partnerships



HIGHWAY SAFETY OFFICE SUPPORT

- Supports training:
 - Email blasts announcing the training
 - Includes discussion of the Green Lab venues in conferences with management and chiefs statewide
 - Promotes the importance of conducting these venues across the state and not just within one area
 - Promotes beyond LE (prosecutors and others)
- Manages grant funding provided for the Green Lab initiative
- Helps with media involvement
 - The Wall Street Journal
 - The Washington Post
 - Brute Media
 - Orlando news outlets
- Involvement in the relationship building-tours of grows, interaction with the cannabis community to enhance understanding



ZERO
DEATHS
MARYLAND

Notable accomplishments

- Hundreds of law enforcement trained
- Numerous prosecutors throughout Maryland trained
- Legislators and traffic safety experts as auditors
- Over 100 cannabis consumers involved
 - Cannabis community as educators and assistance in spreading the message
- Opportunity to explore venues outside of green labs (go-karts)
- Looking at behavioral aspect of cannabis impaired driving
- Analyzing potential cognitive testing, new technologies, and potential lab OF analysis
- Simulator based driving analysis
- Opportunity to be involved on a research basis





THANK YOU!

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301-512-4422

ORAL FLUID TESTING TO SUPPORT DUID INVESTIGATIONS AND IMPROVE DRUGGED DRIVING DATA

- CHUCK DEWEESE
- CONNECTING CLIENTS CONSULTING LLC.
- ON BEHALF OF RESPONSIBILITY.ORG ABBOTT LABS
- CONNECTINGCLIENTSLLC@GMAIL.COM



RESPONSIBILITY.ORG

518-727-3203

GHSA Annual Meeting

New York – August 2023

2007 National Roadside Survey Results

- ❖ 3,276 blood and oral fluid paired samples collected VOLUNTARILY from drivers
 - ❖ Not stopped for a driving offense
- ❖ 16.3% of drivers tested positive for drugs
 - ❖ Almost 50% for THC
- ❖ Paired positive samples in both blood and oral fluid
 - ❖ 75.7% were an exact drug match across all classes
 - ❖ 21.4% had at least one drug class match
 - ❖ **97.1% CORRELATION RATE FOR PAIRED SPECIMENS**

Oral fluid is a viable alternative to blood, providing similar information on drug intake

Drug Impaired Data-(Continued)

- 2014 National Roadside Survey:
 - 15.2 % tested positive for illicit drugs.
 - 7.3% tested positive for the presence of prescription OTC meds
 - 12.6% tested positive for THC, a 48% increase from the 2007 NRS
- 2017 Study - 13% of HS respondents admitted to driving one or more times after using Cannabis during the 30 days before the survey, in contrast with only 5.5% who reported driving after drinking (CDC).
- A 2012 Washington State survey conducted 1 mo. prior to legalization and 5 and 11 months post legalization, found positive THC measurements at 14.6 %, 19.4% and 21.4%.

Alcohol Data:



- 100 + YEARS OF RESEARCH – WE KNOW THE EFFECTS ON THE BODY
- PER-SE OF .08 BASED ON SCIENCE
- IT IS ONE SINGULAR SUBSTANCE
- STANDARDIZED TESTING AND REPORTING

- WHAT WE KNOW WITH CERTAINTY – FATALITIES IN CRASHES INVOLVING ALCOHOL IMPAIRED DRIVING CONTINUE TO REPRESENT 1/3 OF TOTAL FATALITIES IN THE UNITED STATES!!

Drug Impaired Data:



- Historically, much less research on drug impaired driving compared to alcohol.
- Hundreds of impairing drugs and poly-substance use
- Complicating the issue is the difference between presence and impairment.
- Differences in definitions: Per se limits vs any amount, vs impairing amount.
- Lack of data: Who is tested?- Some officers fail to test for drugs if the motorist has a BAC at .08 or above.
- Insufficient number of DRE and/or ARIDE trained officers.
- Poor drugged driving laws in states (ie. NY/FL - need to name the impairing substance to charge).
- Inconsistency – Drug panel being tested for, cutoff levels, delay in sample collection, etc
- **NO CERTAINTY/UNIFORMITY WITH STATE OR NATIONAL DRUGGED DRIVING DATA**

How Can Roadside Oral Fluid Testing Improve Drugged Driving Data and Improve DUI Investigations?



Countries that have implemented oral fluid testing

- ❖ Australia: THC, Methamphetamine
- ❖ Canada: THC, Cocaine, Methamphetamine
- ❖ Argentina, Austria
- ❖ Belgium, Brazil
- ❖ Chile, Columbia
- ❖ France, Germany
- ❖ Ireland, Italy
- ❖ Netherlands, New Zealand
- ❖ Poland, Portugal
- ❖ South Africa, South Korea
- ❖ Spain, Sweden
- ❖ Turkey, UAE
- ❖ United Kingdom (arrests up 600% since implementation in 2015)
- ❖ Vietnam
- ❖ United States

Screening vs. Confirmation testing

Oral fluid screening	Confirmation test
Investigative tool used to support probable cause	Evidential test
Sample collected at roadside	Sample collected post-arrest (unless evidential OF)
Analysis conducted at roadside	Analysis conducted in forensic laboratory
Limited test panel (6+ drugs)	Significantly larger test panel (lab dependent)
Qualitative result (+/-)	Quantitative result (ng level)
Real-time information	Analysis can take months
Not used in court proceedings*	Key piece of evidence in court proceedings

Oral fluid screening technology



- Analyzer devices use lateral flow immunoassay technology. Officers do not have to interpret results - analyzer provides qualitative result for each drug.
- Simple and quick collection process; subject performs oral fluid collection using swab.
- Most devices test for common drugs of abuse (e.g., cannabis (THC), cocaine, amphetamines, methamphetamines, opioids, benzodiazepines).
- Devices use pre-set cut-off levels for each drug.
- Rapid screening results returned in minutes. Shows recency of use.
- Ability to print results (e.g., to attach to arrest reports); technology can store test results (including date/time).
- Technology has built-in quality checks and procedures.

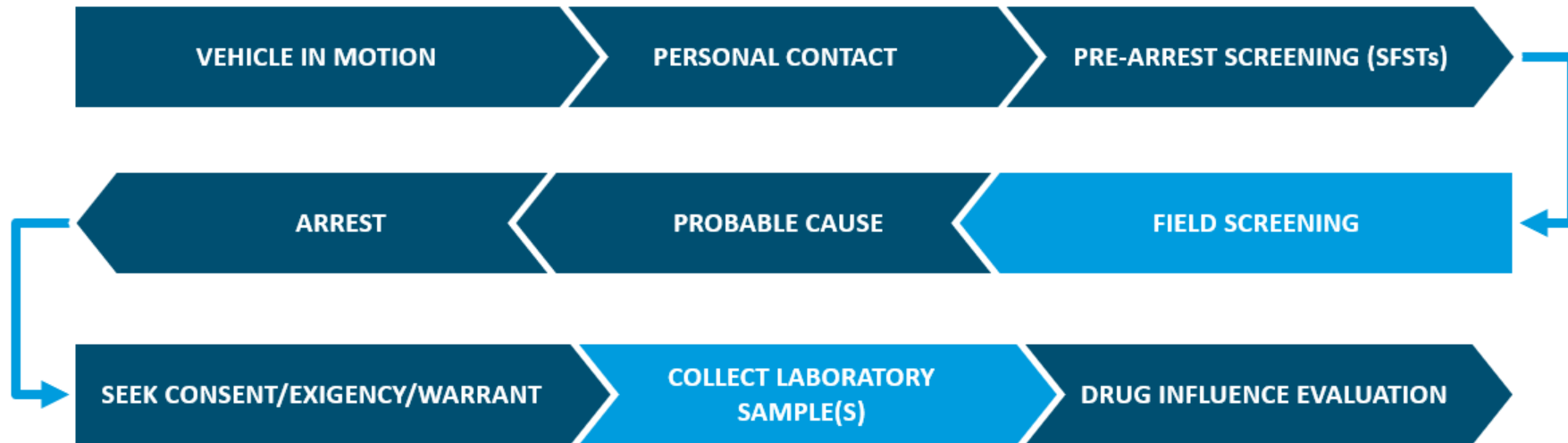
SoToxa: Drugs and cut-offs

- Cut-off – decision point that differentiates a test result as either positive or negative.
- The cut-off for a test is given as a defined drug concentration.
- A negative screening result does not necessarily mean that the driver is not under the influence of drugs.

DRUG CUT-OFF LEVELS

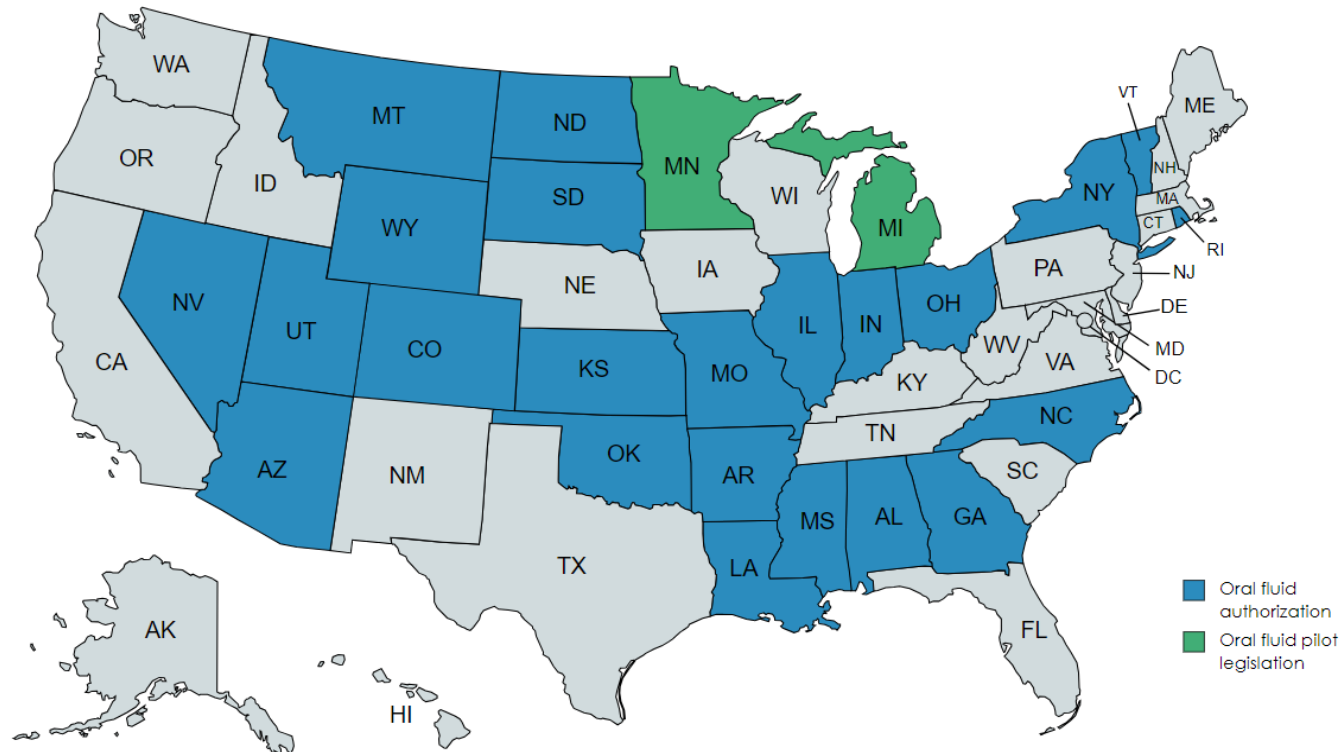
DRUG GROUP	TARGET COMPOUND	CUT-OFF (ng/mL)
Amphetamine	Amphetamine	50
Benzodiazepine	Temazepam	20
Cannabis	Delta-9-THC	25
Cocaine	Benzoylcegonine	30
Methamphetamine	Methamphetamine	50
Opiates	Morphine	40

Impaired driving investigation: Oral fluid screening



- ROADSIDE DRUG TESTING PROGRESS

Current policy landscape: Oral fluid



- 23 states have some form of oral fluid statutory authorization.
- 2 states (MI, MN) enacted pilot legislation.
- Approaches to policy vary – implied consent, preliminary testing, pilot/standalone law.
- Passing a law is phase 1.
- Shift away from pilots and studies toward phased implementation approach.

Proprietary and confidential — do not distribute

Strengthening the DUI/D System

Roadside programs: Pathways to Implementation

Established via legislation and funded by the **STATE LEGISLATURE**.
(e.g., Michigan, Minnesota)

Established and funded by a **STATE HIGHWAY SAFETY OFFICE** (program implemented by law enforcement agencies).

(e.g., Arizona, Indiana)

Launched by a **LAW ENFORCEMENT AGENCY**.
(e.g., California, Illinois, Montana)

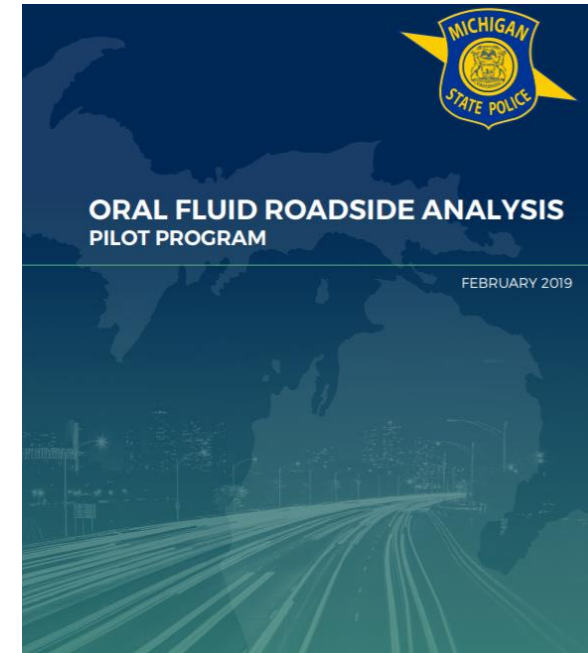
Established by a **STATE AGENCY** (e.g., forensic laboratory) in coordination with law enforcement agencies and other partners.

(e.g., Alabama)

Michigan Pilot Findings

Advancing Progress

- Michigan State Police (MSP) pilot study concluded:
 - Oral fluid has been found to be ***accurate for purposes of preliminary roadside testing.***
 - Accuracy rates over 90%
 - Legislation is pending that would authorize preliminary oral fluid screening in Michigan, establishing parity with preliminary breath testing.
- Michigan pilot data used to establish a permanent statewide program in Indiana.



ROADSIDE DRUG TESTING PROGRESS

Indiana: Benchmark for success

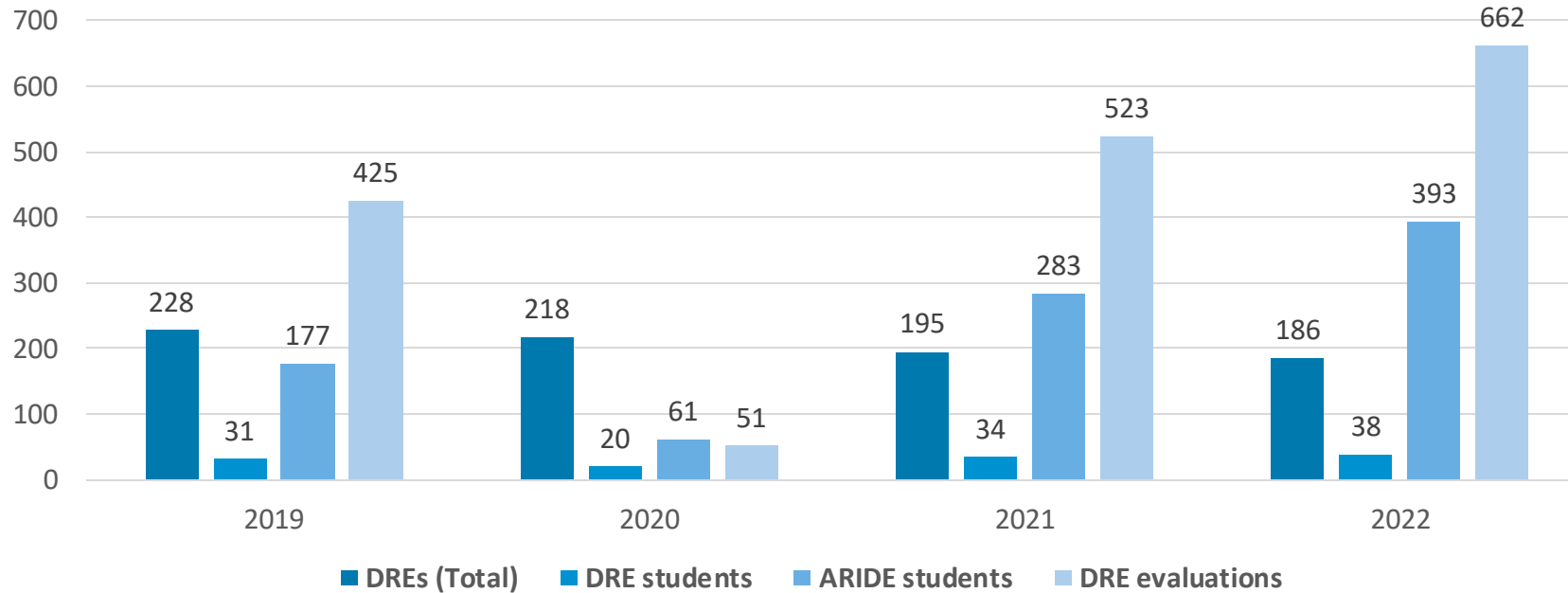
- Program launched in November 2020 by the ICJI with phased rollout.
- Statewide implementation at local level with focus on ARIDE-trained officers.
- Continued expansion with increasing devices and participating agencies.
- Indicators of success:
 - ↑ Increase in identification of drug-impaired drivers including drivers under the influence of multiple drugs.
 - ↑ Increase in DRE drug evaluations.
 - ↑ Increase in drug submissions to forensic laboratory.
 - ↑ Increase in officer engagement with training (all-time high participation in ARIDE trainings).



ROADSIDE DRUG TESTING PROGRESS

Oral fluid screening supports the DRE program

Indiana DRE Program and ARIDE training (2019-2022)



IMPROVING DRUGGED DRIVING DATA

- **TIMELINESS AND ACCURACY:** COLLECTION PROXIMATE TO THE CRASH OR STOP BEFORE DRUG METABOLIZES AND YOU MISS THE IMPAIRING SUBSTANCE
- **COMPLETENESS:** TEST ALL IMPAIRED DRIVERS REGARDLESS OF BAC- WON'T MISS DRUG IMPAIRED DRIVERS
- **COMPLETENESS:** ABILITY TO MERGE ROADSIDE ORAL FLUID RESULTS WITH DRE DATABASE DATA TO DETERMINE WHAT SUBSTANCES ARE BEING FOUND IN DIFFERENT PARTS OF YOUR STATE
- **CONFIDENCE:** A TOOL TO INCREASE LAW ENFORCEMENT CONFIDENCE TO CALL A DRE FOR FURTHER TESTING RESULTING IN MORE DUID ARRESTS AND MORE COMPLETE DATA
- **GROWTH OF YOUR PROGRAM:** INCREASE DESIRE OF LAW ENFORCEMENT TO BECOME ARIIDE OR DRE TRAINED – MORE TRAINED OFFICERS EQUALS MORE DRUGGED DRIVERS BEING REMOVED FROM ROADWAYS AND A MORE COMPLETE PICTURE OF YOUR DUID PROBLEM



Advantages of roadside Oral Fluid drug testing

- ❖ A reflection of free drug circulating in the blood
- ❖ Easy, rapid, non-invasive, observed collection
- ❖ Sample taken proximate to traffic stop
- ❖ No medical personnel required for collection
- ❖ Parent drug detection shows recency of use
- ❖ Aid the investigative process – help establish probable cause
- ❖ Enhances public safety
- ❖ Creates general deterrence

Next Steps:

- Hold an Oral Fluid Summit
- Create an Oral Fluid Working Group
- Review Oral Fluid educational documents (ie. AAA) and reports from pilot states
- Implement a program
- LEA's - Apply to your SHSO for funding and incorporate into HVE
- Conduct a Green lab that incorporates oral fluid testing

THANK YOU FOR YOUR TIME & ATTENTION!

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CONNECTING
COMMUNITIES



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