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Oral Fluid Testing Program Case Studies

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16. Abstract

From July to August 2025, NHTSA gathered information regarding oral fluid testing programs in five States: Alabama, Indiana, Kansas, New York, and Washington. Each case study summarizes program implementation, best practices, and learnings. The report identifies common keys to success, including the necessity of early stakeholder engagement, rigorous scientific validation, and the importance of transparent communication with the judiciary and the public.

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Report Highlights

This report reviews oral fluid drug testing operations across five U.S. States, detailing the programs, training, benefits, challenges, and lessons learned to help agencies implement successful roadside and evidentiary collections. Each case study explores the validation processes, legislative hurdles, and device selections needed to build a defensible program. Stakeholder collaboration among police, toxicologists, defense attorneys, and prosecutors; policies; and gaining judicial and public trust are all discussed. Inside the text you'll also find various methods for training and managing the costs associated with testing equipment derived from real-world applications. Ultimately, these case studies offer guidance for agencies looking to modernize their impaired driving enforcement strategies by adding oral fluid drug testing programs to their impairment detection process.

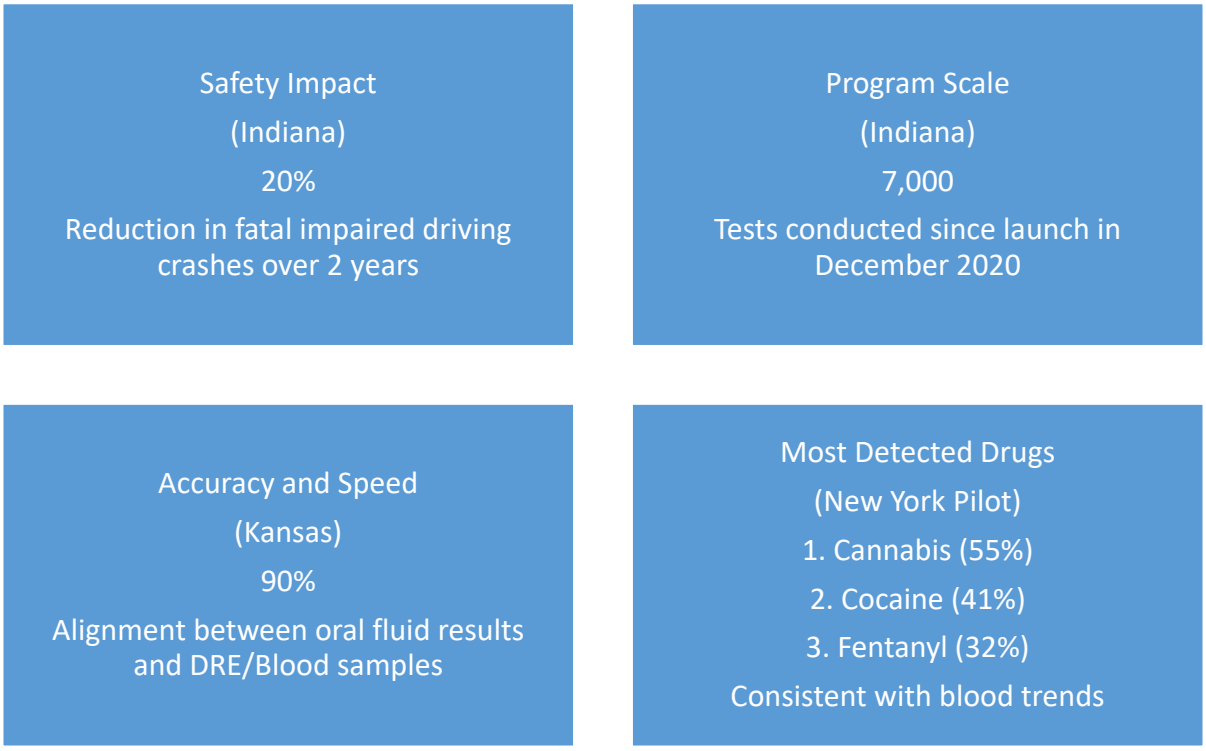

Figure 1. Oral Fluid Drug Testing Program Impressions

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Oral Fluid Testing Program Case Studies

From July to August 2025, the National Highway Traffic Safety Administration gathered information about oral fluid testing programs in five States. Each program is summarized in a 4– to 5-page case study. Table 1 provides a quick overview of each program, followed by a section with common keys to success. Please note that the oral fluid device and manufacturer names used by the State programs are listed throughout the report and provided in the interest of information exchange and should not be construed as an endorsement. The U.S. Department of Transportation and NHTSA do not endorse products or manufacturers.

Table 1. Oral Fluid Program Case Study States - Overview

State	Program Launch	Type of Program	Testing Devices Used
Alabama	Summer 2018	Evidentiary and Non-Evidentiary Roadside Screening	• Quantisal (evidentiary) • SoToxa (roadside screening) • Dräeger Drug Test 5000 (roadside screening) • Randox MultiSTAT (roadside screening) • DrugWipe by Securetec (roadside screening)
Indiana	December 2020	Non-Evidentiary Roadside Screening	SoToxa
Kansas	Field Study – May 2023 Statewide – July 2025	Non-Evidentiary Roadside Screening	SoToxa
New York	Pilot - September 2023 Statewide - July 2024	Evidentiary and Non-Evidentiary Roadside Screening	• Quantisal (evidentiary); • SoToxa (roadside screening)
Washington	Pilot planned for late 2025 /early 2026	Non-Evidentiary Roadside Screening	• SoToxa • Dräeger

Keys to Success

The States identified several keys to success that were shared across programs, listed below.

- **Carefully plan your program**: Avoid rushing implementation; take the time to build a robust and defensible program.
- **Involve all stakeholders early in the planning process**: This includes law enforcement agencies, drug recognition expert (DRE) leaders, traffic safety resource prosecutors (TSRPs), local defense attorneys, prosecutors, judges, and toxicology laboratories, among others.

- **Begin with scientific validation**: Rigorous scientific validation builds credibility and withstands courtroom scrutiny. Evaluate roadside oral fluid screening devices with the DRE program and toxicology laboratory.
- **Engage stakeholders**: Connect with law enforcement, the public, safety groups and other stakeholders on the importance of oral fluid testing to detect drug impaired driving and its role in saving lives.
- **Ensure proper training on device use:** Establish protocols, so officers know how and when to use devices and read the results.
- **Provide transparency**: Maintain openness about program implementation with the criminal justice community and public to build trust.
- **Educate prosecutors and judiciary**: Share study results that compare oral fluid to blood testing to demonstrate the accuracy of oral fluid testing and help inform these key officials.
- **Inform and update defense attorneys on the program:** Maintain transparency to potentially reduce resistance to oral fluid testing and lessen the chances that results are argued as inadmissible or inaccurate in court.
- **Emphasize that roadside devices complement, not replace, DRE evaluations:** Ensure officers know when to conduct a roadside oral fluid screening and when to call in a DRE, and that they know not to provide the DRE with the oral fluid results so as not to bias the evaluation.
- **Do not reinvent the wheel:** Use research, policies, training, and other information from States that have successfully implemented oral fluid programs.
- **Share policy templates to save agencies time:** Create a shared location where agencies can upload policies, training, and other materials so that others beginning to use roadside screening devices do not have to start from scratch.

Case Study: Alabama's Oral Fluid Drug Testing Program

Alabama legalized medical cannabis in 2021. Recreational marijuana remains illegal.

Introduction

Alabama was an early adopter of oral fluid drug testing in the United States. The Alabama Department of Forensic Sciences (ADFS) runs a comprehensive oral fluid testing program that includes both roadside screening and evidentiary confirmation testing. Using scientifically validated devices and having established comprehensive rules and regulations for State testing, Alabama's program serves as the most mature model for other States considering the initiation or expansion of oral fluid testing.

Key Program Facts (as of August 2025)

- **Launch:** Summer 2018
- **Program Type:** Evidentiary Testing and Roadside Screening
- **Tests Conducted:** 3,400 since 2018

Initial attempts to launch an oral fluid program in 2008 and 2009 lacked widespread support from stakeholders. However, in 2016 Dr. Curt Harper, chief toxicologist for ADFS, built new momentum toward implementing a program by gaining stakeholder support from the Alabama TSRP, State DREs, and local judges.

Alabama Code Sec. 32-5-192 already allowed for breath, blood, or other bodily substances to be tested in DUI cases. In addition, ADFS has the authority to create rules as needed for chemical testing. This authority allowed for an update to the administrative code to include oral fluid and to provide approved oral fluid drug screening devices; definitions; and instructions for training, maintenance, observation periods, and quality control tests. In August 2021 the Alabama implied-consent law was amended to include oral fluid as an approved specimen for evidentiary testing. Prior to this date, collection of oral fluid required consent or a search warrant and there was no penalty for refusal.

Program Overview

Alabama's oral fluid program has two parts: roadside screening and evidentiary confirmation oral fluid drug testing through the ADFS laboratory. Participation is voluntary. If a suspect does not consent, the officer continues their investigation, if appropriate, arrests the suspect, and then collects oral fluid. In addition to roadside screening, once in the station, officers arrange for the collection of two tubes of blood by medical professionals under contract and one oral fluid specimen (using the Quantisal oral fluid collection device[1]) for evidentiary testing. Local law enforcement agencies in the State purchase, maintain, and attend training on the use of the oral fluid devices.

Upon initiation of the oral fluid testing program, ADFS issued a press release with the goal of making sure the public was informed. In addition, the TSRP communicated about the oral fluid program to inform DREs, courts, prosecutors, and other stakeholders.

[1] Abbott Laboratories, Abbott Park, Illinois.

Device Validation

ADFS began its program by validating three roadside oral fluid screening devices over two years. These include SoToxa,[2] Dräeger Drug Test 5000,[3] and Randox MultiSTAT.[4] These devices test for marijuana, cocaine, methamphetamine, amphetamine, opioids, and benzodiazepines. All three devices display the test results as positive or negative and can print and store results. Validation testing occurred in coordination with DRE training. A fourth device, DrugWipe by Securetec,[5] has recently undergone the same validation testing and been approved.

ADFS also developed and validated two confirmation testing methods, including a 24-target drug of abuse extraction method using DpX (dispersive pipette extraction) technology and a 6-target cannabinoid method using liquid-liquid extraction. Performance of the roadside screening devices were determined by comparing their results to the oral fluid specimens collected through Abbott's Quantisal devices and analyzed in the lab. All four roadside testing devices were found to be reliable. The confirmation testing method was validated as well. More information about the validation of these devices can be found in an article published in the *Journal of Analytical Toxicology*, Implementation of the First Comprehensive State Oral Fluid Drug Testing Program for Roadside Screening and Laboratory Testing in DUID Cases—A 5-Year Review (Harper et al., 2023). ADFS continues to assess additional devices for potential inclusion in its approved list.

ADFS possesses quantitative toxicology equipment, which automated its oral fluid validation process. This equipment was purchased using State grant funding. Alabama recommends labs have a mass spectrometer and available staff for conducting validation testing at a minimum.

Training

In addition to manufacturer training on specific screening devices, ADFS has an oral fluid screening training course that is:

- modular based, allowing for flexible learning;
- eligible for continuing education credits; and
- a collaboration between ADFS, the University of Alabama, and the University of Alabama at Birmingham.

This course provides an in-depth overview of the oral fluid program and how law enforcement can use oral fluid testing in drug-impaired driving investigations. Information about the course is available at https://adfs.arlo.co/w/courses/15-oral-fluid-dui-d-drug-testing.

It is the responsibility of each law enforcement agency to maintain permanent records documenting the training of each officer in the use of approved field screening devices and the annual maintenance results of each device used by the law enforcement agency.

[2] SoToxa Oral Fluid Mobile Test System, Abbott Laboratories, Abbott Park, Illinois.
[3] Drägerwerk AG & Co. KGaA,Lübeck, Germany
[4] Randox Laboratories Limited, Crumlin, County Antrim, Northern Ireland.
[5] Securetec Detektions-Systeme AG, Neubiberg, Germany

Operational Process

Officers collect oral fluid for screening purposes during roadside testing. In addition, after arrest, two blood and one oral fluid, are collected for confirmation testing (for evidentiary purposes).

Roadside oral fluid collection is typically done after the Standardized Field Sobriety Test (SFST). A positive oral fluid result can be used as probable cause to call in a DRE for further evaluation and obtain a search warrant to collect a confirmation specimen (blood and oral fluid).

Confirmation Testing

The toxicology lab tests for about 30 drugs of abuse and therapeutic drugs commonly found in driving cases. Rules for collecting and submitting samples to the lab can be found on the ADFS website, https://adfs.alabama.gov/services/tox/toxicology-oral-testing-program (Alabama Department of Forensic Sciences. (n.d.).

Benefits

Oral fluid can indicate more recent drug use, and thus potentially higher probability of impairment, and this is noted by ADFS as one of the greatest benefits of the program. Drug levels can decrease when waiting to draw blood from a suspect. ADFS also noted that oral fluid collection is less invasive and more convenient than blood draws. Oral fluid collection does not require a medical professional or law enforcement phlebotomist as is necessary for blood draws.

Challenges

The primary challenge that Alabama faced was cost. It did not anticipate the purchase of devices and test kits once the devices were validated. While devices and test kits were purchased for DREs, local law enforcement agencies in the State must purchase their own equipment. The potential availability of a single-use test that does not require a device to process can help reduce costs.

Best Practices and Lessons Learned

- **Involve all stakeholders early in the planning process**: The strong support from the DRE program, TSRP, local attorneys, judges, and toxicology laboratory helped successfully implement the program.
- **Start with Validation**: Rigorous validation builds credibility and withstands courtroom scrutiny. Evaluate roadside oral fluid screening devices with the DRE program and toxicology laboratory.
- **Plan for Procurement**: Align device approval with funding to avoid implementation delays.

Conclusion

As one of the first adopters of oral fluid testing in the United States, Alabama's program provides clear lessons learned and recommendations for other States looking to implement screening, evidentiary testing, or both. By combining advanced laboratory capacity, formalized training, and proactive stakeholder engagement, Alabama demonstrates how oral fluid testing can become a central component of a State's impaired driving enforcement strategy.

For Additional Information

- Alabama Department of Forensic Sciences. (n.d.). ADFS Rules for Chemical Testing - https://adfs.alabama.gov/content/pdfs/implied-consent/chemicaltestrules.pdf
- Harper et al., 2023.

Case Study: Indiana's Oral Fluid Screening Program

As of 2026, marijuana remains illegal for both recreational and medical use in Indiana. Limited medical use of low-THC, high CBD oils was allowed in 2017.

Introduction

The Indiana Criminal Justice Institute (ICJI) launched a statewide oral fluid program in December 2020 in response to increasing drug-impaired driving detections and rising drug submissions to the State lab. Indiana law already permitted the use of oral fluid testing for screening purposes, enabling the State to launch the program without the need for legislative action. Indiana's oral fluid program was built upon lessons learned from pilot programs implemented in Michigan and Wisconsin. Because the Michigan and Wisconsin pilots found the SoToxa Oral Fluid Testing device to be effective and accurate, ICJI implemented a full oral fluid program, rather than pilot the program in a few locations. Initially, ICJI distributed 80 SoToxa devices to law enforcement agencies across the State. As of July 2025 this has expanded to approximately 215 devices distributed to 110 Indiana law enforcement agencies, with a wait list of more than 20 agencies, significantly enhancing the State's impaired driving enforcement capabilities.

Key Program Facts (as of July 2025)

- **Launch:** December 2020
- **Program Type:** Roadside Screening
- **Initial Devices:** 80 units
- **Current Devices:** ~215 units
- **Agencies Participating:** 110 (with a waitlist of 20+)
- **Cost:** ~$5,000 per device, $25 per test cartridge
- **Tests Conducted:** ~7,000

Program Overview

The oral fluid test is used as a screening tool in Indiana, and results are not admissible as evidence in court. However, testing serves as an evidence-building step, strengthening probable cause for a blood draw and encouraging DRE involvement.

ICJI issues SoToxa devices and test cartridges and offers training to law enforcement agencies within the State through Advanced Roadside Impaired Driving Enforcement (ARIDE) or ICJI's certified trainers. Agencies are welcome to purchase their own devices outside of the ICJI program and are offered the training through ARIDE.

The SoToxa device functions similarly to a preliminary breath test (PBT) but detects five drug metabolites, including cocaine, amphetamine, methamphetamine, benzodiazepines, opiates, and THC. While the device does not currently test for fentanyl, ICJI is hoping the vendor will include fentanyl in the test cartridges soon. The device also does not currently test for substances such as PCP, inhalants, or emerging drugs like xylazine and kava-based products.

Training

The training program emphasizes training that focuses on why testing is important and how to interact with suspects to gain cooperation. This approach to training is seen as key to the success of the program. Oral fluid training takes about 90 minutes and is provided by ICJI's certified

trainers or integrated into Indiana's ARIDE training, which is held approximately 30 times a year with about 500 officers receiving training. Indiana includes prosecutors in ARIDE training so that they can better understand oral fluid testing and to allow them to make better use of the data during prosecutions.

For ICJI training, an officer takes a test after each training session, which can be done virtually from a phone or computer, and ICJI keeps records of all training. The training and testing is only available for agencies that received devices from ICJI. Agencies that purchased their own devices are encouraged to send their officers through the ARIDE training, which includes the oral fluid training.

Operational Process

The oral fluid test is part of a multi-step impairment detection process, with documentation collected throughout:

1. **Initial Stop or Crash Response:** If officers suspect impairment, they then go to step 2.
2. **Standard Field Sobriety Test (SFST):** After conducting the SFST, if officers feel there are signs of impairment, they will then go to step 3.
3. **Preliminary Breath Test:** If alcohol- and/or other drug-impairment is suspected but the PBT returns a low breath alcohol concentration measurement (BrAC), they will then go to step 4.
4. **Oral Fluid Test (SoToxa):** Officers keep the devices and test cartridges with them in their vehicles. If the roadside oral fluid screening test shows a positive result, the officer will move to step 5 and request a DRE to conduct an evaluation. An officer may also request a DRE if the oral fluid screening is negative.
5. **Drug Recognition Expert Evaluation:** Officers are instructed not to give DREs the oral fluid testing results before conducting their evaluations to prevent the test results from potentially influencing the evaluation. Furthermore, agencies are encouraged not to give DREs oral fluid testing kits.
6. **Blood Draw (for evidentiary purposes):** If the DRE determines the driver is impaired by drugs other than alcohol, the DRE will then obtain a warrant for a blood draw, either by a law enforcement phlebotomist or an external phlebotomist. The blood is then sent to the toxicology lab for testing, and the results can be used as evidence in court, supported by the DRE's evaluation findings.

Agencies that receive their devices from ICJI are required to submit data from the devices to ICJI monthly. ICJI requires that agencies follow data upload protocols and policies and use their SoToxa devices on a regular basis. If an agency fails to do so, they must return the devices to be redistributed to other agencies. However, agencies are otherwise given the leeway to develop and implement their own usage policies.

Challenges

Despite its successes, the program has faced challenges.

- **DRE Concerns**: Some DREs initially opposed oral fluid testing because they thought arresting officers would be less inclined to seek a DRE evaluation. The use of the oral fluid devices, however, has led to the opposite result as device information has given arresting officers more confidence to request a DRE evaluation.
- **Cost Concerns:** Devices and cartridges are expensive. Each device is approximately $5,000 and test cartridges are about $25.
- **Legal Hesitation:** Some agencies are reluctant to conduct oral fluid testing without significant legal practice in place supporting the use of information collected from the devices.
- **Substance Limitations:** Some emerging drugs remain undetectable.

Best Practices and Lessons Learned

- **Engage Stakeholders:** Engage officers and the public on the importance of oral fluid testing and how it can save lives.
- **View Oral Fluid Testing as Another Evidence-Building Tool**: Even if a State does not allow oral fluid results to be submitted as evidence, a positive result can be part of the consideration that an arresting officer uses to seek a DRE evaluation. The subsequent DRE evaluation can create probable cause for a blood draw potentially leading to further testing of evidence in the State toxicology lab.
- **Conduct Training**: The success of the program depends on effective training on the importance of oral fluid testing and how to cooperatively work with suspects to gain their respect and trust and ultimately receive an oral fluid sample.
- **Include Prosecutors in Training:** Involving prosecutors in training helps build judicial understanding and acceptance.
- **Create Flexible Policies and Procedures:** ICJI provides guidance to agencies that receive the devices and requires frequent usage and data uploads, but otherwise leaves policy details to individual agencies, increasing buy-in.
- **Require Data Collection and Management:** Obtaining device usage data is important to tracking the success of the program as well as the types of drugs detected, prevalence of poly-drug use, and prevalence of drug-impaired driving. These data must also be maintained so they are easy to analyze. While ICJI currently manually enters data into spreadsheets, tracking positive and negative returns and breaking down data by agency, county, and drug type, Indiana's goal is to create a web-based data dashboard that allows for data to be directly uploaded from the devices.
- **Recognize success:** Making clear program success encourages greater participation.

Conclusion

Indiana's program continues to grow with a waitlist of agencies eager to participate. The program's combination of viewing oral fluid testing as one of several evidence-building tools, targeted training, and strong data use offers a model for other States.

Since launching the oral fluid program, Indiana has experienced:

- A 20% reduction in fatal impaired driving crashes over two years;
- Fewer serious impaired driving injury crashes;
- Greater confidence among officers in detecting drug impairment;
- Increased use of DREs; and
- Prosecutor appreciation for oral fluid testing to help build their cases.

Due to stop-testing practices in Indiana (the practice of not testing for other substances once a positive .08 BrAC for alcohol is present), oral fluid testing is important when officers suspect both drug and alcohol impairment. The toxicology lab will stop testing when alcohol is detected at greater than .10g/100mL blood. Oral fluid testing gives a better picture of drug-impaired driving cases that might have not been caught in the lab, with tests showing over 60 percent of cases involve the use of two or more drugs. Prosecutors can also request that the lab re-run tests for a specific drug if the SoToxa device presents a positive result. Agencies have reported the results from this additional lab testing have helped secure convictions.

For Additional Information

Indiana Criminal Justice Institute. (n.d.). *Roadside oral fluid program*. [Web page and portal]. www.in.gov/cji/traffic-safety/impaired-driving/roadside-oral-fluid-program/

Kirby, C. (2024, September 7-11). *Successfully implementing a roadside drug testing program*. [PowerPoint presentation]. Governors Highway Safety Association Annual Meeting, Traffic Safety at the Crossroads: Charting a Course For Success, Indianapolis, IN. www.ghsa.org/sites/default/files/2025-01/24oral.pdf [Presentation by Chris Kirby Northeast Region Law Enforcement Liaison]

Kling, M. (2024, January 10). *One state's experience with oral fluid testing*. [Web magazine]. Police Chief Online. www.policechiefmagazine.org/indiana-oral-fluid-testing-impaired-drivers/

Case Study: Kansas Oral Fluid Testing Program

As of 2026, marijuana remains illegal for both recreational and medical use in Kansas.

Introduction

The Kansas Department of Transportation (KDOT), in coordination with the Kansas Highway Patrol (KHP), has been preparing for the Kansas Oral Fluid Testing Program for over a decade.

The impetus for oral fluid testing in Kansas began around 2011, when State statutes were revised to include saliva for preliminary screening in impaired driving cases. These changes included authorizing the Director of the Kansas Bureau of Investigation (KBI) to develop rules and regulations for oral fluid preliminary screening devices for law enforcement purposes. Subsequent changes to the State statutes in 2019 replaced "saliva" with "oral fluid," to reflect more completely the types of fluids found during testing.[6]

Key Program Facts (as of August 2025)

- **Launch:** Field Study – May 2023, Full Program – July 2025
- **Program Type:** Roadside Screening
- **Devices:** KDOT is funding devices and up to 100 cartridges per agency for one year (through September 2026), contingent on quarterly reporting on use.

To address drug impaired driving, in 2014 KDOT, KHP, and other partners explored implementing law enforcement phlebotomy in Kansas but determined an oral fluid program would be a more practical option, offering several advantages over blood and urine: it was non-invasive, fast, and allowed collection closer to the time of the driving event. Key champions of oral fluid testing included the Kansas Judicial Outreach Liaison, who had experience as both a chemist and prosecutor as the TSRP. In December 2022 the KBI formed an Oral Fluid Advisory Committee to improve collaboration, communication and transparency among stakeholders from the law enforcement, forensic science, prosecution, defense, judicial and transportation safety communities. The advisory committee worked with KDOT and KHP, who collectively recommended to further study the roadway use of oral fluid testing so the study findings could be used to demonstrate the effectiveness of the practice.

[6] Editor's note: Beside saliva, there are two other elements in "oral fluids." Gingival crevicular fluid from the gums mixes with saliva and acts as a blood serum proxy, showing recent drug use within 24 to 48 hours. It detects parent drugs passing from blood vessels into the mouth, making tests hard to fake. It focuses on the actual drug molecules rather than inactive breakdown metabolites. Mucosal cell secretions are mix of saliva, cellular debris, and mucosal transudate that captures parent drugs through passive diffusion from the bloodstream and direct residue retention from smoking, vaping, or chewing substances. Testing it detects parent drugs like THC, cocaine, or methamphetamine active in the system usually within 5 to 48 hours of use and detects the chemical traces from smoked or ingested substances immediately after consumption.

Program Overview

Initial Planning Study

Kansas' planning process emphasized validation and scientific rigor. In 2017 the Sedgwick County Regional Forensic Science Center led the first Kansas blind study on oral fluid testing procedures and devices (Rohrig et al., 2018). The peer-reviewed and published study tested the use of what is now the Abbott SoToxa Mobile Test System (SoToxa). The research team recruited 100 people to participate in a controlled study where 90 test subjects were under the influence of cannabis and 10 were sober. They gave both blood and oral fluid samples and were evaluated by DREs. The results demonstrated strong alignment with DRE observations and alignment between blood and oral fluid testing results.

In 2020, KHP requested that KBI approve the SoToxa device. Laboratory testing of the device began in 2022, and in 2023, KBI conducted public hearings and testified before the Joint Committee on Rules and Regulations on the effectiveness of the SoToxa. In February 2023, the rules and regulations governing the testing of oral fluid for law enforcement purposes were added to the Kansas Administrative Regulations and specifically approved the SoToxa for roadside oral fluid testing.

Field Study

From May 2023 to August 2024, KHP and KBI conducted a field study, collecting preliminary oral fluid samples post-arrest and blood samples from 138 suspected drug-impaired drivers. The study compared oral fluid results with DRE evaluations and blood samples and showed roughly a 90-percent alignment between the findings. This field study was not considered to be a pilot, as use of the SoToxa device was already approved, but it allowed the State to fine-tune operational processes before expanding the program.

Full Implementation

KDOT currently funds the cost of SoToxa devices for local agencies for the first year (through September 2026) for up to 100 cartridges per agency. KDOT will purchase and distribute subsequent materials over time, given the shelf life for the cartridges. They require quarterly reports on how many devices an agency has and how many they have used.

Law enforcement agencies across Kansas may seek approval from the KBI for new oral fluid screening devices. To guide this process, the KBI Forensic Science Laboratory has outlined specific criteria they use for evaluating such devices for acceptance for law enforcement use.

- Literature Review: Published and unpublished studies; operating manuals.
- Pre-Analytical Criteria: Temperature range of device/consumables; storage requirements for device/consumables; safeguards for factors affecting the reliability of the results (expired cartridges, failed controls).
- Analytical Criteria: Ease of use, scope, time, adequacy of controls, cutoff, sensitivity/specificity/accuracy, poly-drug case analysis, local drug trends, factors resulting in an invalid reading.
- Post-Analytical Criteria: Does the device allow for storage, download and/or printing of results for review at a later time?

It is the responsibility of the requesting agency to provide all comprehensive and relevant literature for the requested device. If the literature does not adequately address this criteria, the device may not be recommended for use, delayed for approval, or the requesting agency may need to provide further resources for laboratory-based studies. After device evaluation, the KBI Forensic Science Laboratory will prepare a recommendation for the Kansas Bureau of Investigation director. The evaluation of a device, report drafting, director approval, and regulatory update can take up to one year following the application period. Once approved, the requesting agency is responsible for providing training to their officers on use of the device.

Training

Training is delivered through Abbott/Intoximeter's online platform and supplemented by in-person instruction from KHP troopers. Officers have to submit completion certificates for the Abbot/Intoximeter training before they can receive devices. There are two troopers who travel the State to train how to implement oral fluid testing, how to record results, how to interpret results, and how to train others on how to use the devices. Prosecutors also receive tailored training from TSRPs to ensure they can interpret and defend oral fluid evidence in court.

Operational Process

Officers must establish reasonable suspicion before administering oral fluid screening. This suspicion can arise from crash circumstances, behavioral observations, or other indicators, and does not necessarily require completion of an SFST. Oral fluid testing can be conducted alongside PBT. If PBT results are negative or low but impairment is still suspected, oral fluid screening provides an additional investigative tool. Roadside testing is voluntary, and if a suspect refuses, a warrant may be sought for blood.

Challenges

Kansas has faced few challenges in implementing oral fluid testing, but those that they have noted include these.

- **Accuracy Concerns**: While false positives are rare, the device is more likely to produce false negatives, requiring cautious interpretation.
- **Time and Resources**: Implementing oral fluid testing statewide requires substantial training, funding, and coordination.
- **Legal Challenge:** To limit potential legal challenges to the collection of oral fluid from drivers, the field study collected oral fluid samples post-arrest.
- **Public Interest**: Public interest has been minimal, with only one individual attending public hearings. To ensure that the collection remains an uncontroversial practice, ongoing public education is important.

Legal Considerations

Kansas requires that expert testimony and scientific evidence be demonstrably reliable. To avoid risking challenges, Kansas invested heavily in validation studies and peer review before rolling out devices. Defense attorneys were included on the Oral Fluid Advisory Committee, ensuring the process was transparent. The Oral Fluid Advisory Committee also developed standardized responses to potential motions challenging the use of the evidence. These standardized forms are designed to assist law enforcement agencies in rural areas of the State that may have limited experience in responding to evidentiary challenges.

Lessons Learned and Best Practices

The Kansas experience highlights several strategies for successful adoption of roadside screening oral fluid testing.

1. **Early and Broad Partnerships**: Engage prosecutors, judges, law enforcement, toxicologists, and other traffic safety professionals from the beginning.
2. **Careful Planning**: Avoid rushing implementation; take time to build a robust and defensible program.
3. **Scientific Validation**: Conduct and publish peer-reviewed studies to establish credibility and provide support for law enforcement and prosecution.
4. **Transparency**: Maintain openness with the legal community, including defense attorneys, and public to build trust.
5. **Phased Implementation**: Start with field studies and targeted rollouts before expanding statewide to build credibility and reduce the likelihood of legal challenges.
6. **Support and Training**: Provide equipment funding, online and in-person training, and legal resources to help local agencies begin operations.

Conclusion

The Kansas Oral Fluid Testing Program is an example of a program carefully planned and tested over several years to obtain acceptance from all stakeholders before full-scale implementation. Working closely with stakeholders including prosecution, defense attorneys, judges, State police, toxicology labs, and roadway safety advocates, KDOT was able to successfully implement a state-wide program that has not faced any public scrutiny or challenges in court to date.

In August 2025 KHP hosted the first statewide oral fluid conference. This conference included presentations on the history of roadside oral fluid testing in Kansas to include statutes, regulations, and studies. It also let attendees hear from a diverse group of nationally recognized presenters from several disciplines as well as to receive training on the SoToxa device. Presenters also gave a realistic assessment of the devices including a discussion of the benefits and limitations of using roadside oral fluid testing for preliminary screening.

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Case Study: New York's Oral Fluid Drug Testing Program

New York legalized medical use of cannabis in 2016 and recreational use in March 2021.

Introduction

In September 2023 New York launched an evidentiary oral fluid drug testing pilot program designed to address long-standing challenges in impaired driving enforcement, including delays and limitations associated with blood draws. Increasing refusal rates, unwillingness of hospitals to conduct blood draws, time delays in collecting blood, and the success of these other oral fluid programs supported the need for an oral fluid program in New York. Evidentiary oral fluid collection was already allowed by State statute, helping to implement the program.

New York is currently in the process of also implementing roadside screening program providing law enforcement an additional tool for identifying impaired drivers.

Key Program Facts (as of July 2025)

- **Launch:** September 2023
- **Program Type:** Evidentiary Testing and Roadside Screening
- **Agencies Participating:** 100+
- **Tests Conducted:** 244 for evidentiary pilot, ~600 oral fluid samples to date

Program Overview

New York has nine different forensic toxicology laboratories. one of these is the State Police Forensic Investigation Center which is dedicated solely to impaired driving, and they conduct toxicology testing for about 50 to 60 percent of impaired driving cases.

In 2018 the State Police Forensic Investigation Center held a workshop to introduce oral fluid (screening and evidential) and start to assess the interest and applicability of using oral fluid in New York, with representatives from law enforcement officers, court personnel, toxicologists and other States among those in attendance. The workshop was favorably received and there was great interest in continuing the discussions, so New York moved forward with planning for an oral fluid program.

Training

Oral fluid training occurred for about two years prior to the pilot program launch. This included training for prosecutors, judges, and law enforcement including DREs. Upon launching the evidential testing pilot program, State Police Counsel sent letters to all DA offices in the State to notify them about the pilot and its intended benefits. The State's two TSRPS served as an ongoing resource for all prosecutors, and the State Judicial Outreach Liaison (JOL) served as a resource for judges, answering questions about oral fluid testing.

Training for the evidentiary program was straightforward because most DREs in the State had already used the Quantisal device during their DRE training. The State Police Traffic Unit developed a 6– to 7-minute training video demonstrating how to do the test, and once troopers watch the video and certify they watched it, they are considered trained and certified to use the oral fluid collection device.

For the pilot program devices were sent to DREs only, and they were asked to provide the lab with any feedback, issues, or concerns. There were very few issues raised. For the statewide evidentiary testing rollout, the State Police shared the oral fluid collection training video and agency protocols with 50 to 100 additional local agencies. For the roadside screening, the Governor's Traffic Safety Committee (GTSC) maintains training materials, sample policies and procedures, and other information about using oral fluid testing devices to be shared with any agency.

New York identified key elements of training for both the evidentiary and roadside programs is ensuring officers and other stakeholders are aware of the distinction between the two types of testing and when each should be used.

Evidentiary Pilot Planning and Execution

Oral Fluid Working Group

The GTSC Impaired Driving Advisory Council formed an Oral Fluid Working Group, comprised of stakeholders representing toxicology, law enforcement, the State Highway Safety Office, prosecutors, and the Institute for Traffic Safety Management and Research. The working group determined a State pilot program would be beneficial, and the State Police would be the best agency to conduct the pilot. The State Police agreed, recognizing oral fluid testing could greatly reduce investigation time, eliminating the need for a blood draw. Oral fluid testing method development, validation, and toxicologist training took place from January 2020 to April 2023.

Device Selection

The Quantisal™ device was chosen by New York based on validation in scientific literature and existing laboratory familiarity. While labs can validate multiple devices, the Working Group decided to just use the one device for simplicity. The Quantisal ™ device has instructions printed directly on the package, and to date, users have not had widespread collection challenges.

Lab Testing Equipment

The existing partnership between GTSC, the State Police Toxicology Lab, and the State Police Traffic Division facilitated planning and implementation of the pilot for evidentiary oral fluid testing. Through their longstanding collaboration, GTSC gave the lab funding to enable adequate staffing and equipment for its impaired driver testing program. While different methods are used for testing of blood and oral fluids, the instruments used to do the testing are the same; therefore no additional equipment was needed for oral fluid testing. Staffing levels were sufficient to allow for a subset of scientists to be trained in oral fluid testing and interpretation.

Pilot Planning

New York took small steps to launch the pilot starting in 2018 and conducted significant outreach and training. Once the lab completed their method development, validation, and scientist training, and it was ready to begin testing, it went to the Oral Fluid Working Group to determine how to best implement the pilot program.

Together with the State Police and the lab, the working group determined only DREs would participate in the pilot, as they were the best expert witnesses for cases that would go to court. New York also determined that the pilot would focus on collecting both oral fluid and blood and

depended on DREs to have suspects cooperate. The one limitation of using only DREs meant oral fluid collection typically occurred later in the investigation, missing opportunities for earliest possible collection of a sample.

Pilot Implementation

The State Police issued an agencywide memorandum announcing the pilot program and launched training for those assigned to participate. The training involved a video on proper sample collection, including a description of what officers were expected to do and clear direction on the goal to obtain both blood and oral fluid samples. Because oral fluid kits are best stored at room temperature and should not be exposed to extreme temperatures, they were kept at the police station. While roadside collection is possible, between proper storage of the kit and the need for officer/subject safety, the State Police decided to do testing at the station. The oral fluid kits were stored at the station near the evidential breath test instruments as a reminder to the trooper to include a breath alcohol test since oral fluid is only used for drug testing.

The goal of the pilot was to collect at least 100 samples over 6 months. Data collection for the pilot ended on May 31, 2024, with 250 samples, although DREs continued to collect samples after that point. The working group, lab, and State Police reviewed the data collected during the pilot and found results to be positive (New York State Police Forensic Investigation Center (n.d.)). The most detected drugs in oral fluid during the pilot were delta-9-THC (55%), cocaine/benzoylecgonine (41%), fentanyl (32%), and methamphetamine/amphetamine (31%). This was consistent with the drug trends in blood samples.

Statewide Rollout

In July 2024, after positive pilot results, the program expanded statewide. The State Police trained all troopers on oral fluid collection, and it is now a stand-alone option for non-injury misdemeanor drugged driving investigations. In addition, any agency whose county uses the State Police toxicology lab can submit oral fluid samples for evidentiary testing. As of July 2025, 30 percent of lab submissions are oral fluid samples, with about 20 non-State Police agencies participating so far.

Roadside Screening Program

The roadside screening program is in its early stages. The GTSC has provided six SoToxa devices to local agencies to do the testing, with the hope of expanding that number as the program grows. Each agency has its own policies and procedures for using the SoToxa devices.

Benefits

Prosecutors appreciate data showing strong correlation between oral fluid and blood results. Law enforcement reported faster investigations and reduced reliance on hospital-based blood draws, which saves the additional time and money and does not require hospital phlebotomists to testify in court. The lab results turnaround time for oral fluid analysis averages about 45-50 days, which is the same for blood testing.

To date there have been no trials involving oral fluid results. However, there were two hearings requested to determine the admissibility of the evidence, and both were denied by judges, allowing oral fluid evidence to be used.

Challenges

There have been no widespread challenges in collecting the oral fluid sample. Occasional issues involve the inability of the subject to follow directions, lack of saliva to conduct a test, or subjects refusing to provide any sample. According to participants in the State's rollout, any challenges have been greatly outweighed by the successes of the program.

Best Practices and Lessons Learned

Evidentiary Program:

- **Stakeholder engagement is key**. Engage with stakeholders (toxicologists, law enforcement, State highway safety office, judges, traffic safety resource prosecutor) from the beginning and include them in program development and implementation. Continue to meet with stakeholders and give presentations at meetings and conferences, even after program implementation, to keep everyone informed.
- **Determine the "why**." Identify the need for oral fluid testing and the benefits it will bring to the impaired driving program and design the program around these needs.
- **Educate prosecutors and judiciary to build understanding and trust**. Show the accuracy of oral fluid test results by comparing oral fluid and blood testing.
- **Be prepared for questions and errors**. Answering questions clearly and providing information that corrects potential errors ensures cooperation from law enforcement officers and encourages them to continue oral fluid testing.
- **Collect and address feedback from pilot testing**. Conducting a survey with officers who took the pilot testing or talking to them directly can help identify and resolve issues before statewide implementation of a program.

Roadside Screening Program:

- **Ensure proper training on device use.** Ensure officers know how and when to use devices and read the results.
- **Share policy templates to save agencies time.** Create a shared online location where agencies can upload policies, training, and other materials so that agencies beginning to use roadside screening devices can learn from existing materials.
- **Emphasize roadside devices are designed to complement, not replace, DRE evaluations.** Ensure officers know the process of when to do roadside screening and when to call in DREs, and that they know not to provide the DREs with the oral fluid results so as to avoid claims of bias during the evaluation.

For Both Evidentiary and Roadside Screening:

- **Maintain clear distinction between evidentiary and roadside screening programs.** Ensure officers are aware of the difference, when each should be used, and how to conduct the tests for each type.
- **Gain buy-in early.** Secure advocates within the prosecution and enforcement community early in the process so they can help gain buy-in from other stakeholders.

Conclusion

New York's experience shows a large, heavily populated State can successfully integrate evidentiary oral fluid testing. By starting with a targeted pilot, leveraging experienced DREs, and building strong partnerships between the toxicology lab, law enforcement, and prosecutors, the State created a successful program that is now also being supplemented with roadside screening of oral fluid, ensuring a robust process for addressing drug-impaired driving.

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Case Study: Washington State Patrol's Oral Fluid Pilot Program

Washington State legalized medical use of cannabis in 1998 and recreational use in 2012.

Introduction

The Washington State Patrol's (WSP) first interest in oral fluid testing more than a decade ago was sparked by national discussions and presentations at impaired driving meetings. Furthermore, a record number of impaired-driving fatalities indicated a need for different tools for officers to use to combat impaired driving. Recognizing the potential for oral fluid testing, WSP pursued a large-scale statewide pilot program in 2023. In its attempts to gain support for this proposal, WSP met with funding concerns from the State Highway Safety Office and legislators, and the initial proposal was not implemented.

Key Program Facts (as of August 2025)

- **Launch:** Pilot project in progress (2025)
- **Program Type:** Roadside Screening
- **Devices:** Washington State Patrol is purchasing devices and cartridges for use by Target Zero Troopers

In 2025 WSP teamed with stakeholders like the State Highway Safety Office, law enforcement, prosecutors and judges to implement an oral fluid testing pilot program consistent with recent law changes (Washington State Legislature. Driving under the influence—Oral fluid roadside test, Rev. Code of Wash. § 46.61.5062, 2026).). This pilot aims to evaluate law enforcement acceptance and practical application in the field rather than test the underlying technology, which has already been validated in other States, and it goes into effect January 1, 2026. It provides a framework for voluntary, non-evidentiary oral fluid testing.

The goal of this initial pilot program is to have enough devices to ensure all troopers have access to an oral fluid testing device. The State's TSRP expressed interest in the concept but raised concerns about how the program would be deployed and if it would set a bad precedent in the State. There was also concern from the State toxicology lab that the program could create additional workload if evidentiary/confirmatory testing was required and therefore adding to their existing workload. Furthermore, without additional staff to support the oral fluid program, it would be difficult to manage the program, including tracking the devices and collecting data from the devices.

New State Law on Roadside Oral Fluid Testing

In July 2024 the legislature passed a law, § 46.61.5062, that provided parameters for roadside oral fluid testing. Effective January 1, 2026, the law included:

1. Any law enforcement agency using oral fluid roadside information as part of the enforcement of driving under the influence laws must ensure the following.
    a. The oral fluid test instrument or instruments to be used are valid and reliable;
    b. Any peace officer who may administer an oral fluid test is properly trained in the administration of the test;

c. Prior to administering the test, the administering peace officer advises the subject of the following information:

   i. The test is voluntary, and does not constitute compliance with the implied consent requirement of RCW 46.20.308;

   ii. Test results may not be used against the person in a court of law; and

   iii. Submission to the test is not an alternative to any evidentiary breath or blood test; and

d. The law enforcement agency establishes policies to protect personally identifying information from unnecessary and improper dissemination including, but not limited to:

   i. Destruction of biological samples from oral fluid tests as soon as practicable after collection of test results; and

   ii. Prohibitions against entering DNA samples or results from such tests into any database.

2. Any law enforcement agency administering an oral fluid roadside test as authorized in this section or RCW 9.94A.661 is strictly liable for (a) any failure to destroy biological samples from such tests within 24 hours or (b) unlawful entry of DNA samples or results from such tests into any database.

2025 Pilot Program Goals

WSP is currently conducting a self-funded small-scale oral fluid screening pilot program that will focus on using Target Zero Troopers. These troopers are officers who are assigned to achieve the State's goal of zero traffic fatalities by 2030. There are three to four of these officers in seven of Washington's eight regions.

The pilot is not intended to test the devices as there have been enough pilots in other States to show that they work. Goals:

- **Test user acceptance**. If officers are unwilling to use the devices, then it is not a worthwhile investment.
- **Sample collection and analysis**. Better understand how devices work in the field, including time requirements.
- **Identify benefits and successful practices**. After getting enough use in the field, gather and share benefits and get others to use oral fluid testing.
- **Determine who should have devices**. Use experience to determine if distribution should be limited to DREs, ARIDE trained officers, and/or others.
- **Determine validity of testing**. By comparing oral fluid test results with blood samples, the State can better understand validity of these tests and drugs seen on public roads.

The pilot is currently funded through limited WSP funds and there is limited staff support available, so it is being kept very small, focusing on two regions at a time. In each region, the WSP Target Zero Team supervisor will have possession of the oral fluid testing device and troopers can call the supervisor when needed to obtain the device.

The pilot program will be supported by the agency's phlebotomy coordinator and supervised by the State DRE coordinator. The agency phlebotomy coordinator will be reaching out to other agencies to obtain their training plans and standard operating procedures for use or refinement by WSP.

Devices

WSP plans to use Dräeger and SoToxa devices because of the existing research on both devices, and a goal of the pilot is to gather feedback on these devices. WSP will also investigate existing research on other devices to share with the toxicology lab for their input from a scientific perspective.

Training

WSP plans to hold train-the-trainer sessions with sergeants so that they can train their officers. The purpose of the training will be to teach officers how to use each device and how to make informed decisions. For example, just because results are negative does not mean a person is not impaired.

Best Practices and Lessons Learned

Following a failed grant application due to a request beyond allowable means and research into other States' programs, WSP identified best practices and lessons learned they will use to implement the current pilot program.

- **Integrate With Overall Impaired Driving Strategy:** Oral fluid testing is one tool to eliminate impaired driving; it must be supported by well-trained officers who must understand the results, especially when testifying in front of a jury.
- **Invest in Training Opportunities:** There may be opportunities through the International Association of Chiefs of Police, the Drug Evaluation and Classification Program (DEC), and ARIDE, among other programs to provide training on oral fluid testing and results.
- **Engage Stakeholders Early:** It is important to be aware of legislative session timeframes if implementing a program requires approval by the legislature. Begin talking to legislators early to build support. Also talk with prosecutors and toxicologists to gain their support in advance.
- **Create Transparency With Courts:** Ensure courts are aware of how the testing will be done and the use of results.
- **Do Not Reinvent the Wheel.** Use research, policies, training, and other information from States that have successfully implemented oral fluid programs.
- **Introduce to the Public:** Communication and outreach will be completed through media partners and social media to educate the public to deter impaired driving.

Conclusion

WSP continued efforts in this area eventually led to the legislature passing a new law that provides standards for testing. With these standards, the WSP will be able to take a strategic step forward with its pilot program that will test officer willingness to use oral fluid devices, collect

real-world feedback on device performance, and build internal expertise. If successful, the information collected during the pilot may provide support for the additional resources necessary to expand the use of oral fluid testing in the State.

Oral Fluid Testing Case Studies: Glossary

A

Admin. code/Regulations: State-level administrative rules that implement statutes and govern technical and operational requirements for testing programs (e.g., device approval, collection procedures).

Admissibility: The legal determination whether test results or expert testimony may be presented in court.

ARIDE (Advanced Roadside Impaired Driving Enforcement): Advanced Roadside Impaired Driving Enforcement training program for law enforcement to identify drivers impaired by alcohol or other drugs.

B

BrAC (breath alcohol concentration): Measurement from a breath test that estimates blood alcohol concentration used in alcohol-impaired driving enforcement. It is normally measured in grams per 210 liters of breath. This 210 number derives from scientific testing that has shown that after drinking alcohol, a person's blood has in it approximately 2,100 times as much alcohol as the person's breath. The reason is that about 90 to 95 percent of the alcohol consumed is absorbed by your body, and as blood carrying it passes through the lungs a tiny amount of that alcohol evaporates to mix with air being exhaled; the ratio for this is about 2,100 to 1. The breathalyzer converts that number to a blood alcohol concentration number, such as .08 g/dL (Swanson, 2017)

C

Cartridge: A single-use consumable (test cartridge) used by some oral fluid roadside devices; contains reagents and detection elements for specific drugs.

Confirmation testing (Confirmatory testing): Laboratory testing using validated chemical analysis (e.g., mass spectrometry) to definitively identify and quantify drugs after a screening result.

D

DpX (dispersive pipette extraction): A sample preparation/extraction technique used in laboratory confirmatory methods referenced in the Alabama case study.

DRE (drug recognition expert): A trained officer who conducts a standardized drug impairment evaluation to determine whether a person is drug-impaired and which drug category is likely involved.

E

Evidentiary testing/evidentiary specimen: Collection and laboratory analysis intended for use as court evidence.

Evidence-building tool: A screening or investigative step (such as oral fluid screening) used to develop probable cause and support further action (DRE evaluation, warrant, blood draw).

F

False negative: A screening result that incorrectly reports “negative” when the drug is present; discussed as a potential device limitation.

False positive: A screening result that incorrectly reports “positive” when the drug is not present; noted as rare for some devices.

I

Implied consent: Legal concept where agreement is inferred from a person's action or the circumstances of a situation, rather than being explicitly stated. For driving under the influence, implied consent refers to the legal principle that drivers automatically agree to submit to chemical tests (such as breath or blood) if they are suspected of driving under the influence.

Inadmissible (non-evidentiary) screening: Roadside screening tests whose results are not permitted as direct evidence in court but may support probable cause for further testing.

M

Mass spectrometer: A laboratory instrument (often used in toxicology labs) that identifies and quantifies drugs/compounds in biological samples; recommended capability for labs performing validation and confirmation.

O

Oral fluid (saliva): Biological specimen collected from the mouth and used for both roadside screening and evidentiary testing of drugs where allowed.

Oral fluid collection device: A packaged kit or device for reliably collecting and preserving oral fluid for laboratory analysis.

Oral Fluid Screening Device: Instruments used at roadside to detect the presence of certain drugs in oral fluid.

P

PBT (preliminary breath test): Portable roadside breath instrument that provides an initial BrAC reading to indicate possible alcohol impairment.

Phlebotomy: The practice of drawing blood; may be performed by law enforcement phlebotomists or medical personnel when needed for evidentiary testing.

R

Roadside screening (non-evidentiary): Preliminary testing conducted at the scene or roadside to detect drug markers; typically, not admissible as evidence but used to guide investigation.

S

SFST (Standardized Field Sobriety Test): A set of three standardized psychophysical tests officers use to assess impairment (horizontal gaze nystagmus, walk-and-turn, one-leg stand).

Single-use test (device-free): One-time consumable test strips/kits that do not require a reusable instrument; mentioned as emerging technology to reduce cost.

Screening device validation: Laboratory and field evaluations comparing device results to validated laboratory methods (oral fluid or blood) and DRE observations to establish reliability.

T

TSRP (traffic safety resource prosecutor): Prosecutors who provide legal guidance and training to law enforcement and other stakeholders on traffic safety and impaired-driving evidence.

V

Validation: Systematic laboratory and field testing (including blind studies, peer review, comparison to gold-standard tests) to establish device accuracy, sensitivity, and reliability for intended use.

W

Warrant (for blood): A legal authorization obtained from a judge permitting forcible collection of a blood sample when a suspect refuses voluntary testing and probable cause is established.

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