



Wisconsin Department of Justice 2022 Annual Report

WISCONSIN DEPARTMENT OF JUSTICE
FORWARD
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OFFICE OF THE ATTORNEY GENERAL

Division of Forensic Sciences





2022 Division of Forensic Sciences Overview

In 2022, the Division of Forensic Sciences (DFS) served all Wisconsin counties by performing sound and impartial scientific analysis. DFS also continued to innovate by acquiring and validating new instrumentation, planning for the opening of a new crime laboratory, and hiring and training new staff—all while conducting complex forensic analysis and issuing reports in thousands of criminal cases.

Median turnaround times better than national numbers in 5 of 8 disciplines. DOJ is committed to transparently communicating about DFS' performance with the public. In furtherance of this commitment, DFS has realigned the timing of this annual report so that it comes after the annual release of similar nationwide data, thus allowing a comparison with laboratories outside Wisconsin. Specifically, the DFS report compares Wisconsin data with data from West Virginia University's Project Foresight, which gathers information from approximately 200 laboratories and laboratory systems[1]. Project Foresight compiles information from these laboratories and releases national averages across multiple business-guided metrics. Reviewing this data for 2022, the Wisconsin State Crime Laboratories had faster median turnaround times than those reported by participants in Project Foresight for DNA, DNA databank, controlled substances, trace evidence, and latent prints.

Wisconsin Identity Resolution team (WiscIR) solves unresolved cases. The conviction of John A. Sarver[2] shows the importance of the work DFS is doing to solve previously unsolved homicides and other major crimes. To spearhead these efforts to solve unresolved cases, the DNA Analysis and DNA Databank Units in DFS and the Division of Criminal Investigation (DCI) created the Wisconsin Identity Resolution team (WiscIR). The WiscIR team offers guidance and acts as a liaison to local law enforcement agencies seeking to utilize Forensic Investigative Genetic Genealogy (FIGG) to resolve unsolved cases. The WiscIR team exhibits a tireless commitment to the investigation of these complex cases.

Investments. After years of work, construction will soon be underway for a new Southeast Regional Crime Laboratory, which serves entities throughout the state. Groundbreaking is anticipated prior to the end of 2023 on a new Forensic Science Center on the Medical College of Wisconsin campus, where the new lab will be located in the same facility as the Milwaukee County Medical Examiner's Office and the Milwaukee County Office of Emergency Management. DFS has outgrown the space currently used and the new space will be better suited to adapting workflows to accommodate evolving needs of the criminal justice system as well as continued incorporation of scientific innovation.

DFS was the recipient of two federal American Rescue Plan Act (ARPA) awards approved by Governor Evers. Initially, DFS was awarded over $7 million of ARPA funding to replace reductions in collected revenue and for equipment, technology, and overtime to return to pre-pandemic processing levels and increase the resiliency of laboratory operations. An additional $5 million of ARPA funding was awarded to DFS in response to the historic court delays from the COVID-19 pandemic. The second award supports 12.0 FTE positions through 2024 and funding for equipment, supplies, and outsourced forensic testing necessary to meet demand resulting from the criminal court system case backlog reduction efforts—although outsourcing vendors for some needed areas of testing could not be secured.

DFS is also updating the way it collects, stores, and manages data. DFS selected and procured a more robust Laboratory Information Management System (LIMS), which will be implemented in 2024. A more robust LIMS will increase productivity by allowing for electronic submission of paperwork associated with evidence, securely issuing electronic confidential laboratory results to submitters, and automating discovery documents for court.

In addition, DFS purchased new instrumentation for its Toxicology Units. These instruments can detect additional synthetic drugs, which continue to evolve in chemical composition and increase in prevalence.

Need for additional staff. DFS has a demonstrated need for additional staff to keep up with demands for its services while also continuing to add cutting-edge scientific techniques to help solve crime. There is limited availability for outsourced DNA analysis, and DNA testing is the only discipline for which DFS has identified viable options for outsourcing. Further, because of the time required to train new staff to meet accreditation requirements and court testimony standards, adding additional staff does not immediately lead to increased output. Nevertheless, the legislature has approved significantly fewer positions than Wisconsin DOJ has requested in recent state budgets.

Continuing to build partnerships. DFS has continued to collaborate with a multidisciplinary group of stakeholders in the criminal justice system through its Submission Advisory Committee, which advises and assists with evidence submission guidelines. DFS also opened its doors for legislative tours in 2023, continued to build relationships by presenting at various conferences across the state, and hosted the 3rd Annual Crime Lab Symposium, which celebrated the 75th anniversary of the Wisconsin State Crime Laboratories.

1. FORESIGHT | John Chambers College of Business and Economics | West Virginia University (wvu.edu)
2. https://www.doj.state.wi.us/news-releases/ag-kaul-highlights-doj%E2%80%99s-unresolved-case-work

DFS Discipline Overview

Services	Madison	Milwaukee	Wausau
ABIS	✓		
Controlled Substances	✓	✓	✓
Crime Scene Response	✓	✓	✓
DNA Analysis	✓	✓	
DNA Databank	✓		
Firearms and Toolmarks		✓	
Forensic Imaging	✓	✓	✓
Latent Prints and Footwear	✓	✓	✓
Toxicology	✓	✓	✓ (BAC only)
Trace Evidence		✓	

DFS was established as an independent division in 2019, though the Wisconsin State Crime Laboratory (WSCL) was originally established in 1947. DFS employs over 190 people—including forensic scientists, technicians, evidence specialists, and crime scene response professionals—and offers impartial forensic analysis in the following areas of science: toxicology, drug identification, biology/DNA analysis, DNA database, trace evidence analysis, firearms examination, toolmark analysis, latent print examination, footwear analysis, ten print comparison, forensic imaging and video analysis.

DFS crime laboratories—located in Madison, Milwaukee, and Wausau—are the only full-service forensic science laboratory system in Wisconsin. DFS is not a diagnostic laboratory system; the circumstances of each case submitted to DFS are unique. In evaluating how to approach each case submitted, DFS considers the needs of the submitting agency, the type of crime and impact on public safety, as well as court and trial demands.

DFS offers unbiased scientific testing and analysis of evidence for every community in Wisconsin and staffs on-call crime scene response units, located at each laboratory, to assist law enforcement at major crime scenes by processing the crime scene and maintaining evidence integrity.

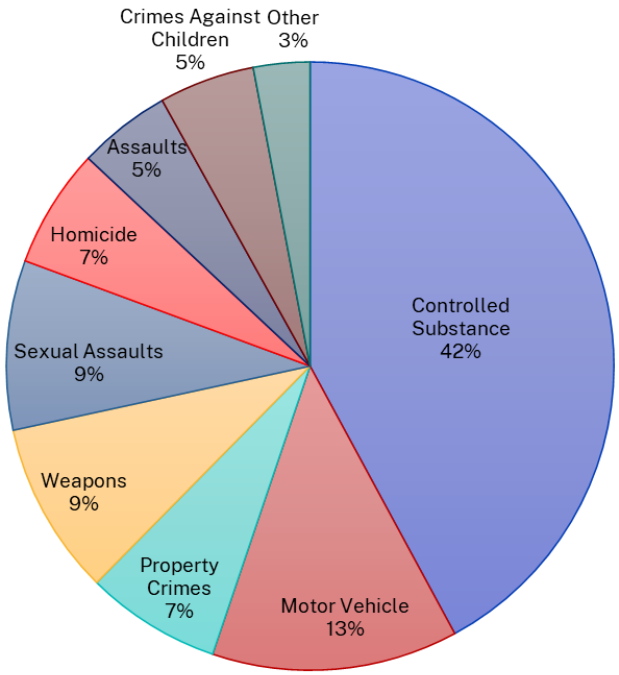
2022 DFS Case Statistics

Case Submissions	2020	2021	2022
Madison	2993	3015	3234
Milwaukee	3850	3770	3667
Wausau	2142	2512	2396
Total	**8985**	**9297**	**9297**

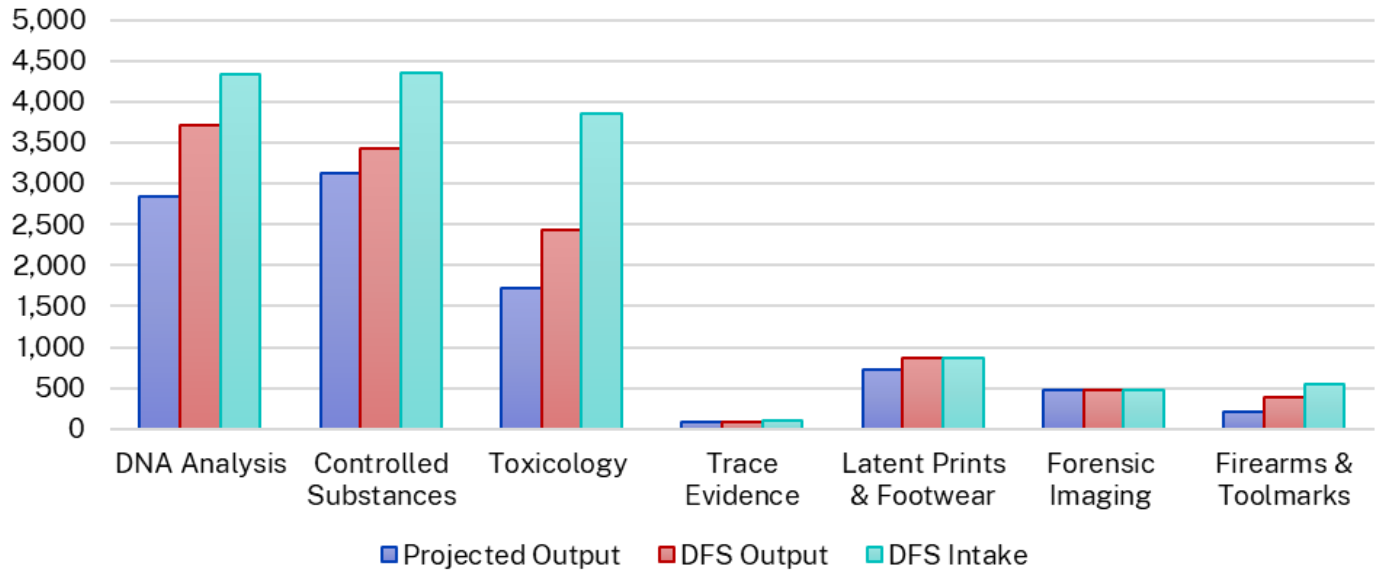
DFS receipted over 9,000 case submissions from a variety of case types during the 2022 calendar year.

Each submitted case has the potential to be worked by multiple units. For instance, sexual assault cases may require both a DNA Analysis and a Toxicology assignment; this case would be counted independently in the case intake and output for both units. Every unit is impacted differently by the specific case types.

DFS Case Type



DFS Intake and Output



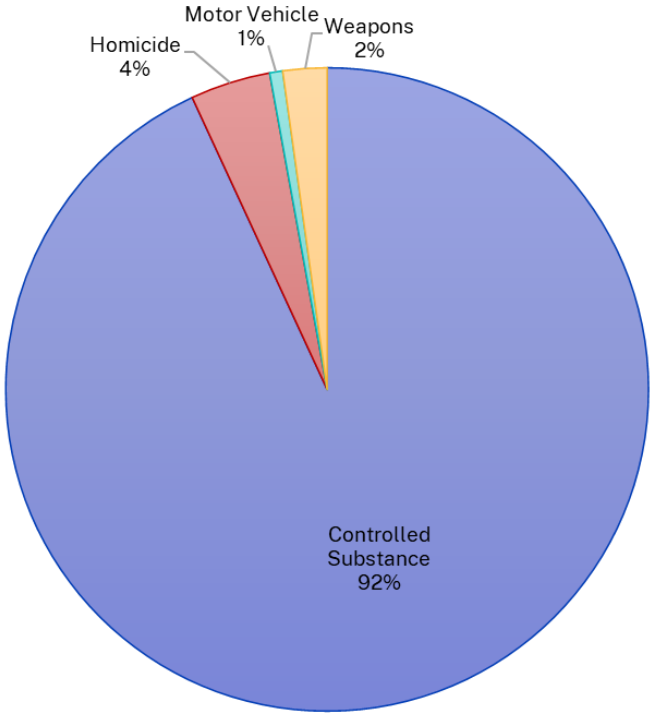
DFS regularly discusses and evaluates data to determine areas for operational improvement. For example, DFS began reporting *median* TATs in the 2020 Annual Report. This has allowed DFS to participate in Project Foresight and to compare data with data from other laboratory systems across the country. With three years of median TATs now reported that can be used for year-to-year comparisons, DFS plans in its next annual report (and in subsequent annual reports) to include median, but not mean, TATs.

In addition, for the entirety of 2022, DFS implemented productivity metrics (PMs) for all units. The PMs were used to evaluate performance and calculate projected outputs for each unit based on the number of fully trained staff. The PMs were determined using data from the 2021 Project Foresight report, as well as discussions with the DFS management team. A comparison of projected outputs to actual outputs and inputs leads to the following conclusions: (1) actual output exceeded projected output in every unit, reflecting the hard work of DFS staff, as well as the use of overtime, and (2) despite this commitment from DFS staff, the input in some units exceeded the ability of the units to meet the demand. When assessing inputs and projected outputs, DFS is understaffed in the following three units: DNA Analysis, Firearms and Toolmarks, and Toxicology. Additional staff members are needed in those units.

Controlled Substances

The Controlled Substances Unit analyzes evidence for the presence (or absence) of controlled substances as defined in the Uniform Controlled Substances Act, Chapter 961.

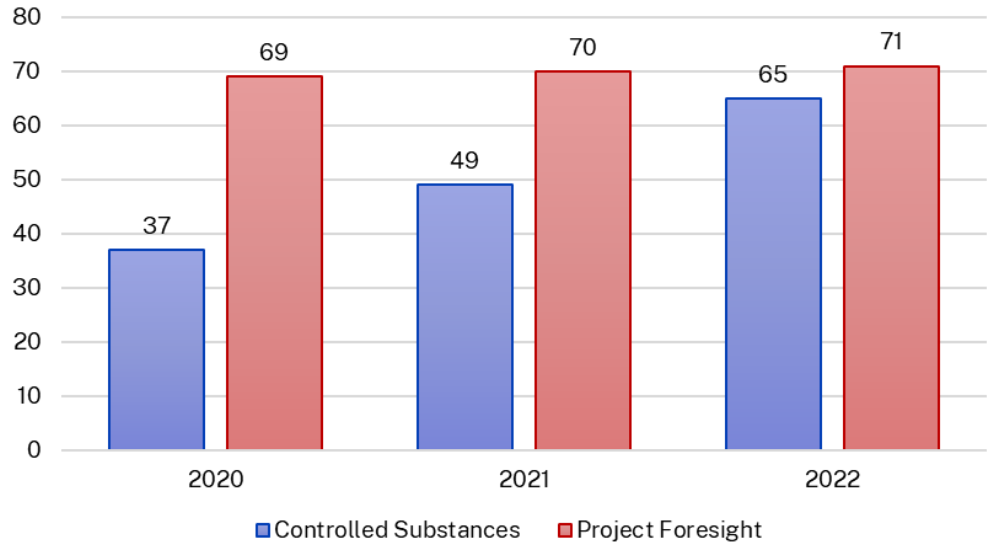
Controlled Substances Case Type



	2020	2021	2022
Case Intake	3813	4430	4360
Case Output*	3675	3522	3432
Mean TAT	44	61	84
Median TAT	37	49	65

*The case output includes cases worked on overtime (OT).

Controlled Substances Median TAT Comparison



Drug Case Dashboard. In 2022, an interactive tool, the drug case dashboard, was added to the Wisconsin DOJ website (https://www.doj.state.wi.us/dfs/chemistry/wscl-drug-cases). The publicly available dashboard provides a filterable count and visual of the drugs identified by county in the Controlled Substances Unit. Drug groups are counted for each case in which the identified drug group was present. For instance, if one case tested positive for THC and cocaine, both THC and cocaine would receive one tally.

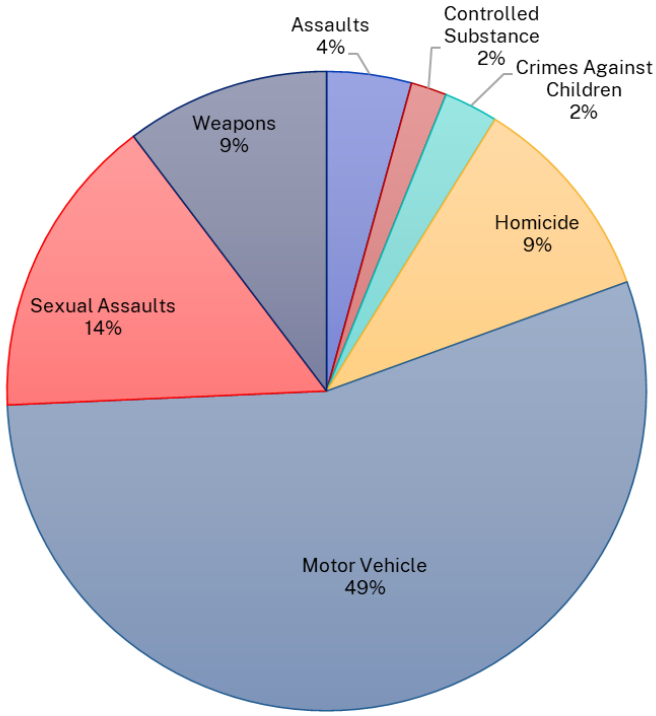
Toxicology

The Toxicology Unit analyzes bodily fluids or tissue for alcohol and controlled substances.

	2020	2021	2022
Case Intake	3972	4073	3855
Case Output*	3829	4078	2439
Mean TAT	39	48	84
Median TAT	29	27	43

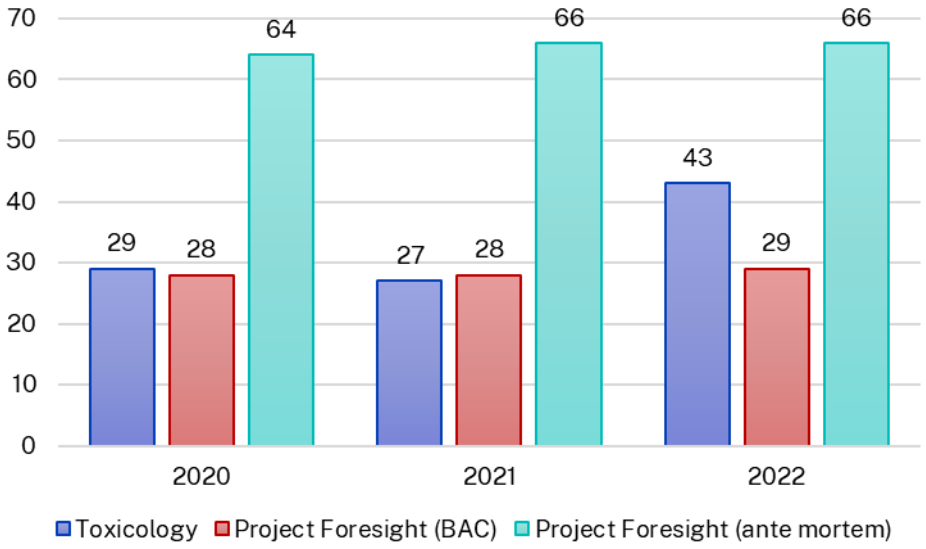
*The case output includes cases worked on OT.

Toxicology Case Type



Right: The investigative areas of blood alcohol (BAC) and toxicology (ante mortem) are reported separately by Project Foresight. DFS captures both investigative areas in one median TAT.

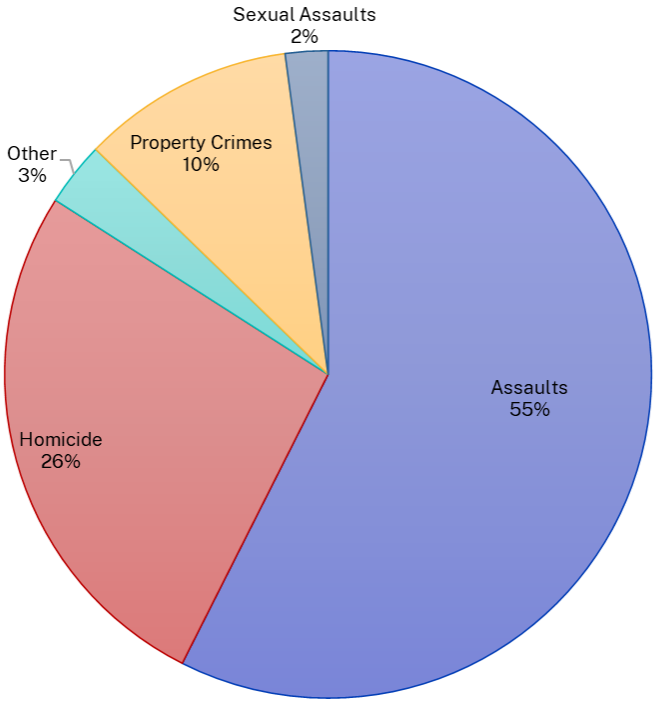
Toxicology Median TAT Comparison



Trace Evidence

The Trace Evidence Unit analyzes a variety of physical evidence for the purpose of identification and comparison.

Trace Evidence Case Type

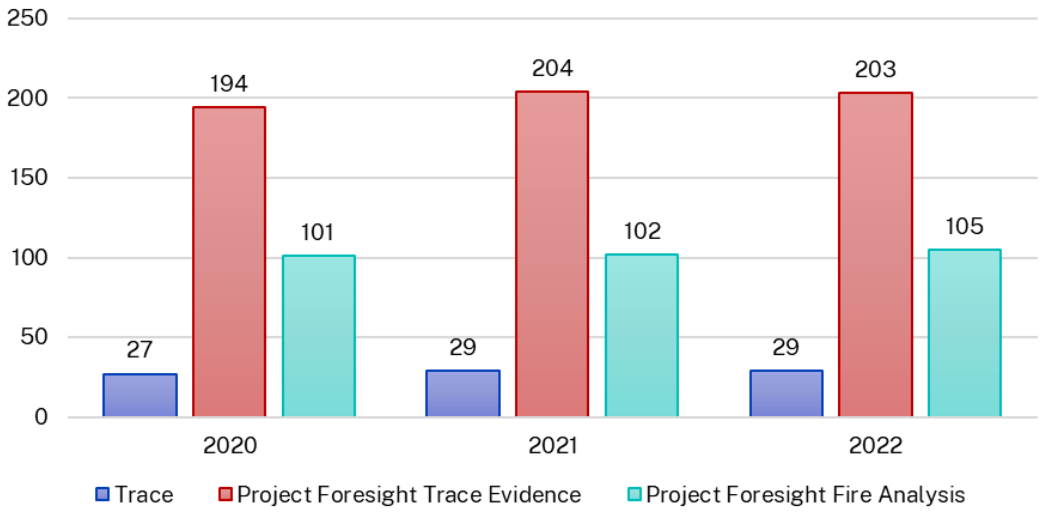


	2020	2021	2022
Case Intake	145	95	98
Case Output*	133	87	80
Mean TAT	68	85	79
Median TAT	27	29	29

*The case output includes cases worked on OT.

Right: The investigative areas of Trace Evidence and Fire Analysis are reported separately by Project Foresight. DFS captures both investigative areas in one median TAT.

Trace Evidence Median TAT Comparison



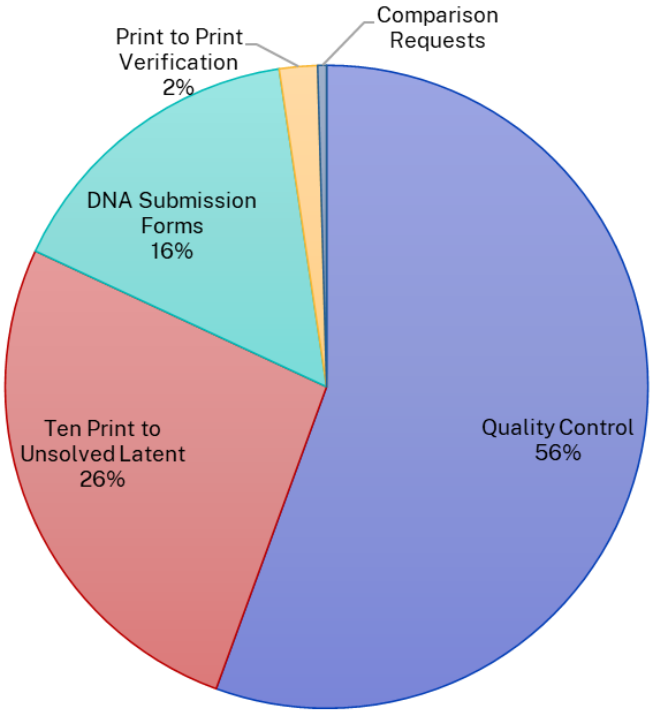
Automated Biometric Identification System (ABIS)

The ABIS Unit performs two major tasks: quality control of incoming prints to build an accurate database and non-evidentiary print comparisons against the database.

To align with nationally used nomenclature and because the unit evaluates a variety of record types the unit name has recently been updated from the Automated Fingerprint Identification System to the Automated Biometric Identification System (ABIS). The below chart and graph summarize the different record types that are evaluated in ABIS. There is no comparative Project Foresight data.

	2020	2021	2022
Quality Control	73358	83072	78464
Ten Print to Unsolved Latent	59469	55067	37212
DNA Submission Forms	15419	20742	22154
Print to Print Verification	4153	3171	2706
Comparison Requests	755	720	630

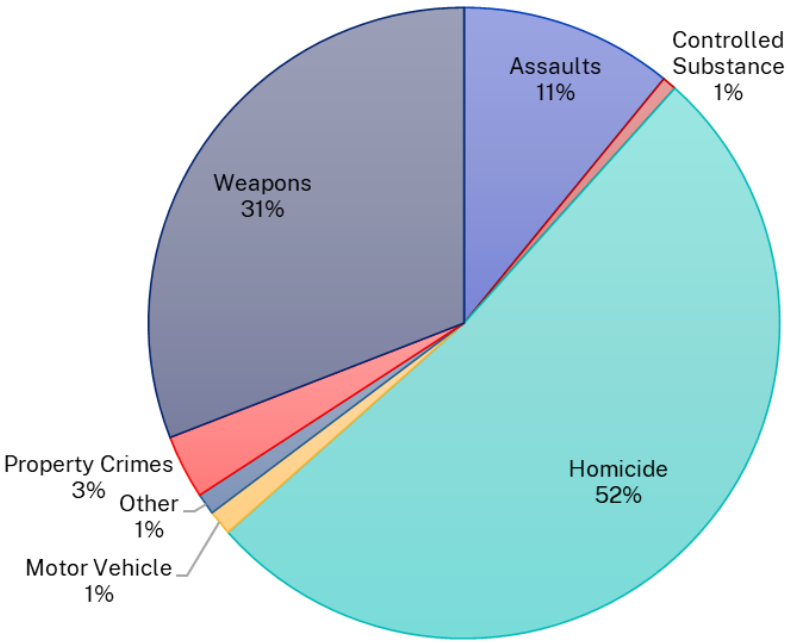
2022 ABIS Records Evaluated



Firearms and Toolmarks

The Firearms and Toolmarks Unit analyzes firearms for operability and performs comparative analysis on fired bullets and cartridge casings. In addition, the unit conducts serial number restorations, distance determinations, and toolmark comparisons.

Firearms and Toolmarks Case Type



Firearms	2020	2021	2022
Case Intake	451	437	533
Case Output*	403	399	382
Mean TAT	247	157	167
Median TAT	106	104	120

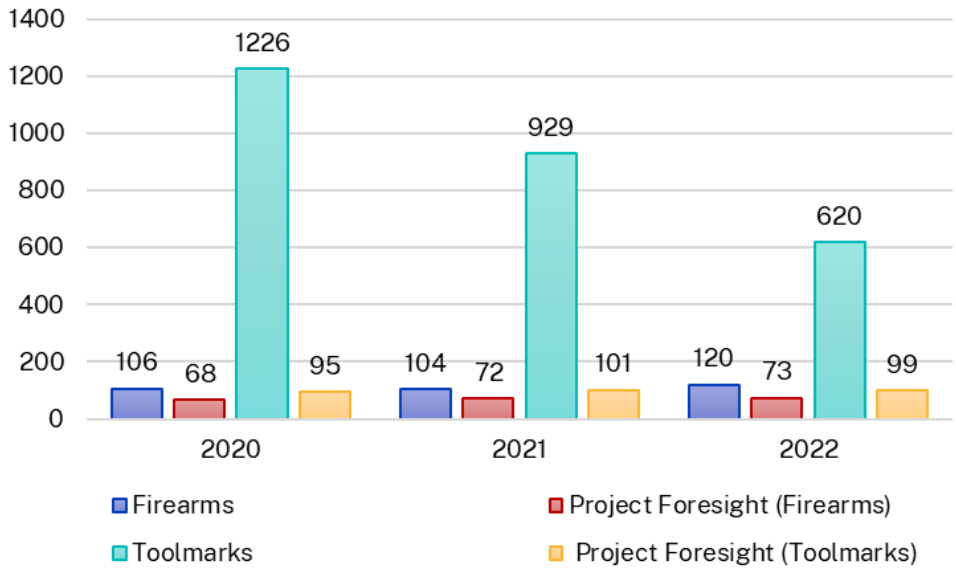
*The case output includes cases worked on OT.

Toolmarks	2020	2021	2022
Case Intake	23	7	17
Case Output	20	12	2
Mean TAT	1164	763	620
Median TAT	1226	929	620

Above: Toolmark cases consist of property cases, such as burglaries, while firearms cases generally consist of crimes against a person, such as homicide or reckless endangerment.

Right: The investigative areas of Firearms and Toolmarks are reported separately by Project Foresight and DFS.

Firearms and Toolmarks Median TAT Comparison



Forensic Imaging

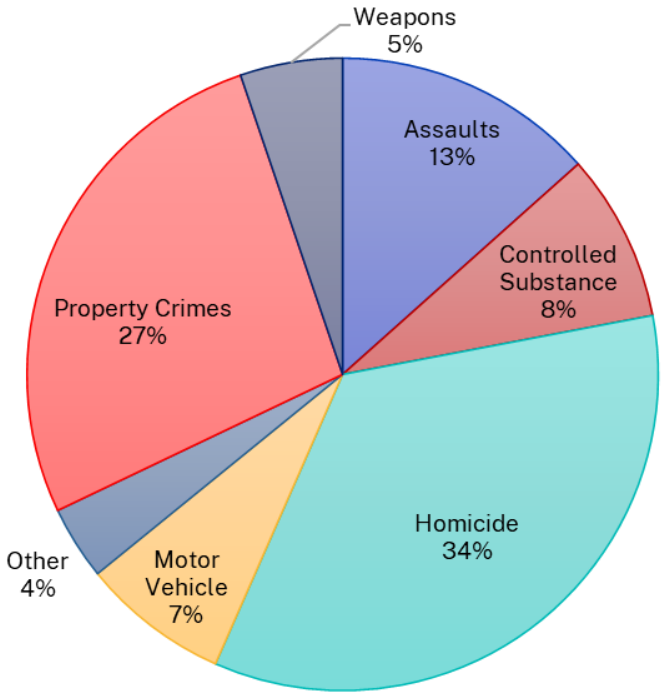
The Forensic Imaging Unit performs two main services: capturing images from evidence not visible to the human eye using specialized equipment and techniques and enhancing images from a variety of media.

There is no Project Foresight data that is comparative to the Forensic Imaging unit data below.

	2020	2021	2022
Case Intake	588	554	483
Case Output*	567	560	477
Mean TAT	35	45	39
Median TAT	24	34	24

*The case output includes cases worked on OT.

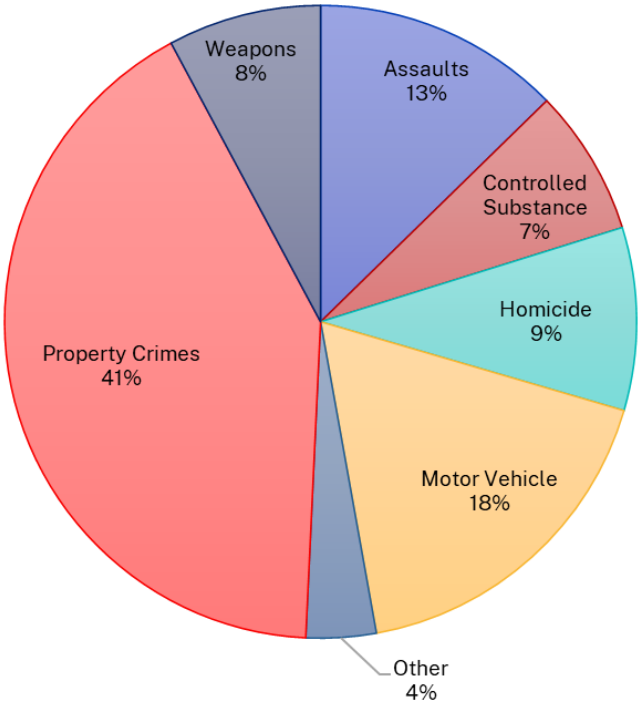
Forensic Imaging Case Type



Latent Prints and Footwear

The Latent Print and Footwear Unit examines items of evidence using a variety of physical and chemical processing methods to enhance and visualize both latent prints and footwear impressions. Many latent prints can be entered into the ABIS for routine search and comparison.

Latent Prints and Footwear Case Type



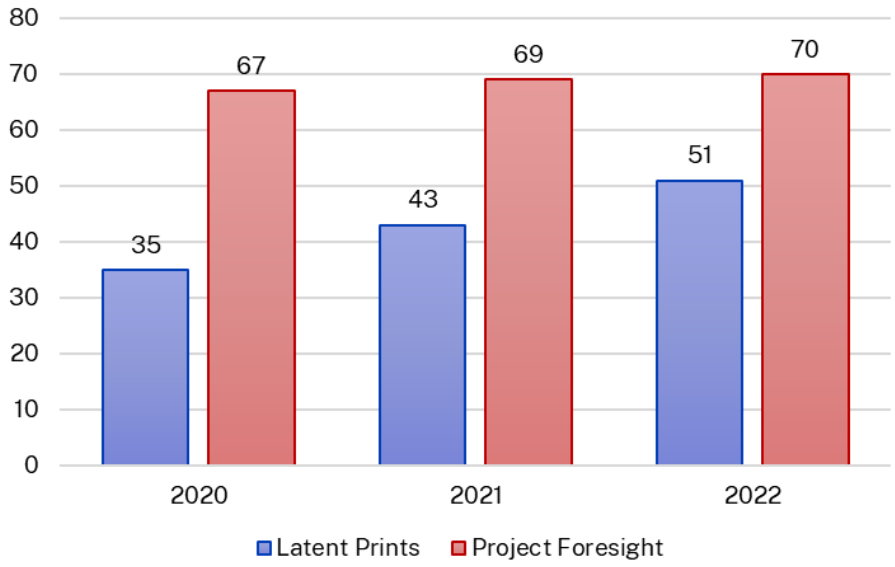
Latent Print	2020	2021	2022
Case Intake	941	1000	856
Case Output*	870	963	870
Mean TAT	55	71	68
Median TAT	35	43	51

*The case output includes cases worked on OT.

Footwear	2020	2021	2022
Case Intake	21	18	17
Case Output	18	19	17
Mean TAT	140	12	9
Median TAT	140	11	8

Right: There is no Project Foresight data for footwear analysis.

Latent Prints Median TAT Comparison



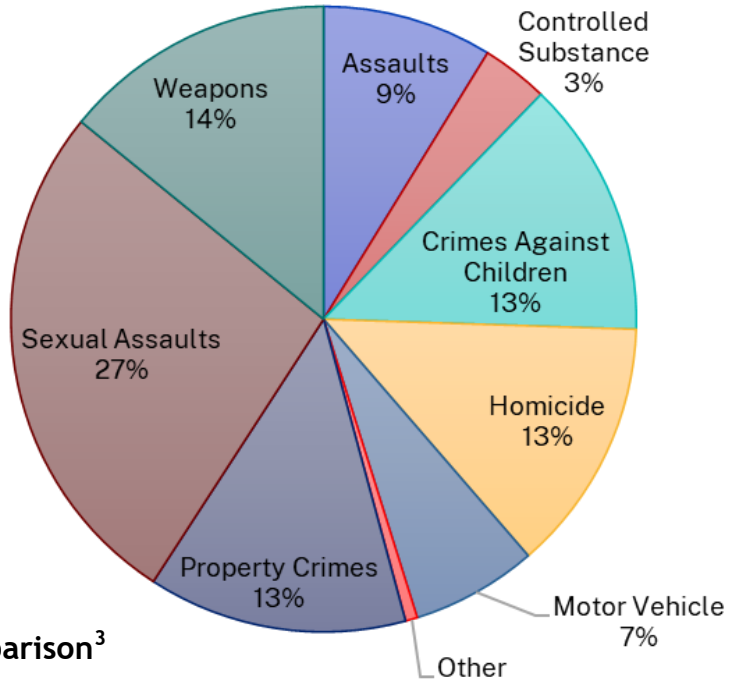
DNA Analysis

The DNA Analysis Unit routinely examines evidence for the presence of biological material; develops, analyzes and interprets the DNA profiles utilizing scientific techniques; and compares DNA profiles with known standards and conducts database searches.

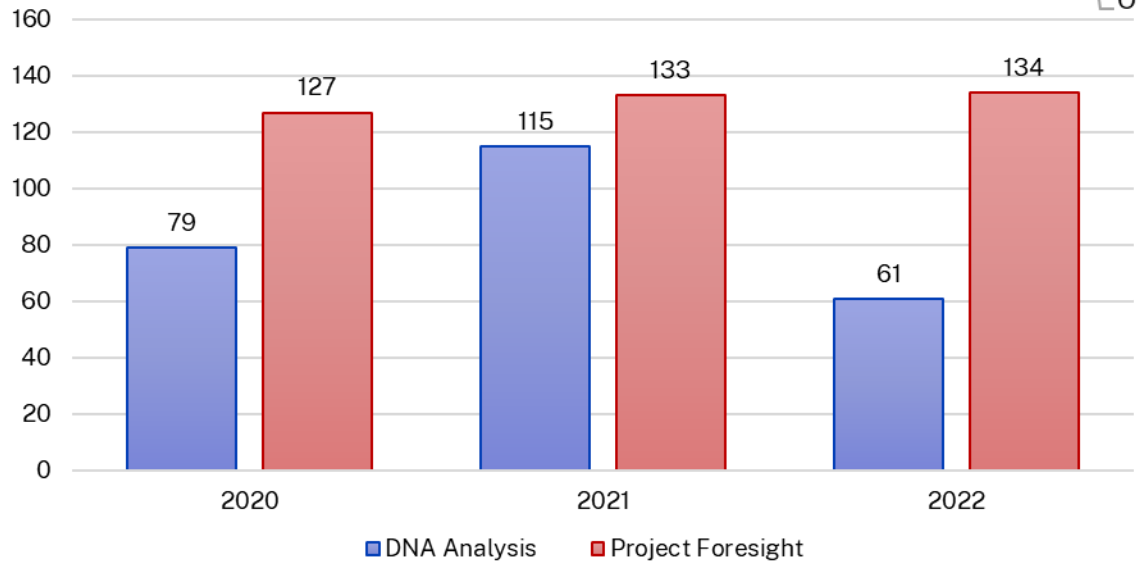
	2020	2021	2022
Case Intake	3820	3612	4347
Case Output*	3144	3526	3715
Mean TAT	94	128	84
Median TAT	79	115	61

*The case output includes cases worked on OT.

DNA Analysis Case Type



DNA Analysis Median TAT Comparison[3]



[3] In 2022, as it has previously, DFS outsourced the testing of DNA submissions in certain cases in which district attorneys had decided not to pursue a criminal prosecution and DNA was not on file for the listed suspect. In those situations, DFS sends evidence to a preapproved and accredited outside laboratory for processing, after which DFS evaluates the results and, where appropriate, uploads those results to CODIS, potentially creating leads in other cases. Of the more than 350 cases processed by an accredited outside laboratory in 2022, 93 resulted in a positive DNA profile subsequently evaluated by DFS. Of the outsourced cases, the results were not sufficient in 266 cases to require further evaluation by DFS.

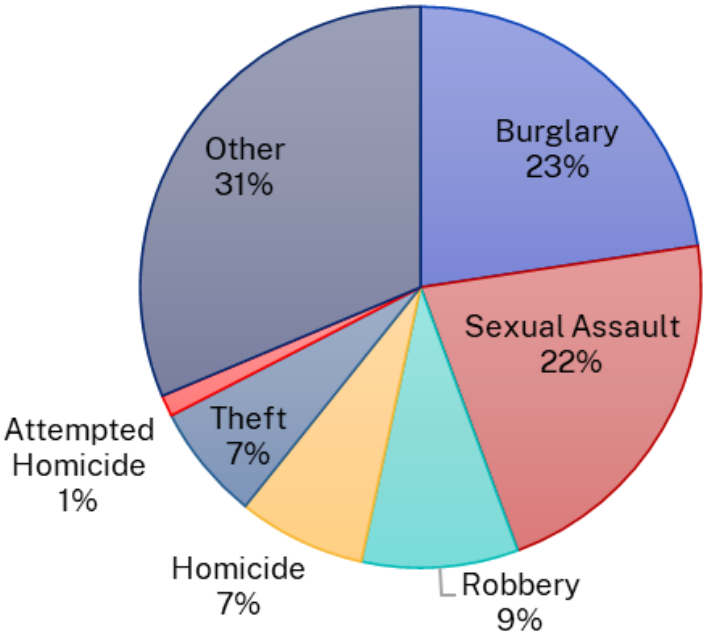
Consistent with past practice, only outsourced cases with a positive DNA result are included in the DNA case count and turnaround time. DFS defines the turnaround time for the positive DNA result outsourced cases as the time from when DFS receives the result from the outside laboratory until the time when DFS issues a final report regarding CODIS eligibility evaluation and possible upload of any DNA profiles. Any DNA profiles uploaded to CODIS meet the eligibility requirements as defined by the FBI National DNA Index System (NDIS) Operational Procedures Manual. Excluding outsourced cases from the calculation of DNA TAT in 2022 would raise the median TAT from 61 days to 63 days and the mean TAT from 84 days to 89 days.

DNA Databank

The DNA Databank Unit perform two major tasks: quality control of incoming reference DNA samples to build an accurate database (Combined DNA Index System, CODIS) and non-evidentiary comparisons against the database to provide investigative leads to law enforcement.

As part of the new Laboratory Information Management System (LIMS), DFS will implement a more robust sample tracking system that will increase productivity in the DNA Databank Unit by allowing electronic submission of paperwork associated with reference DNA samples, automating data entry into the criminal history database, and automating sample processing.

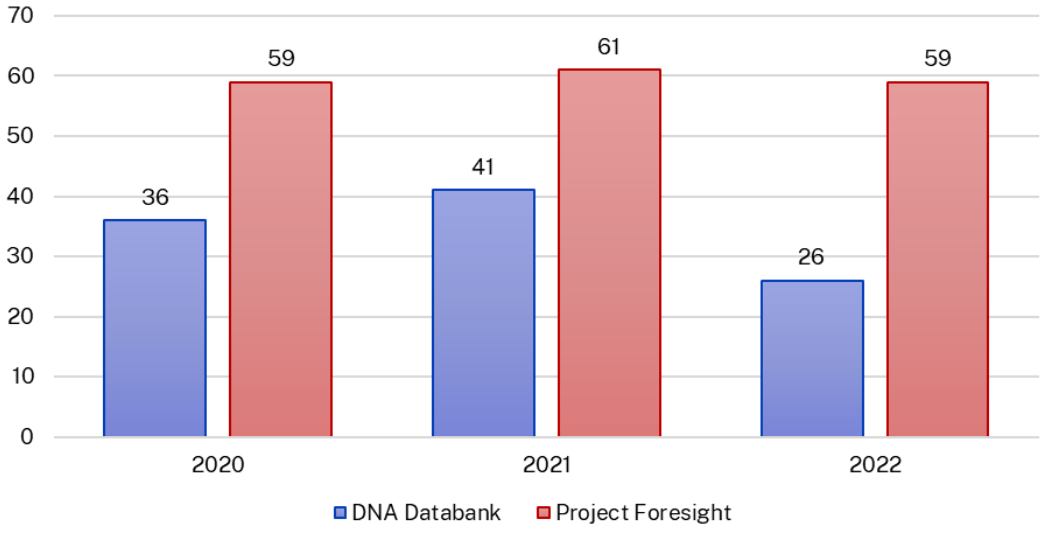
2022 Investigative Lead Case Type



	2020	2021	2022
Sample Intake	15223	20736	22195
CODIS Uploads	13788	19888	18692
Leads Reported	639	882	901
Mean TAT*	37	44	26
Median TAT*	36	41	26

*The DNA Databank Unit mean and median TAT represents the period of time from when a reference DNA sample is received and when it is uploaded to CODIS.

DNA Databank Median TAT Comparison



Wisconsin Identity Resolution Team

Familial DNA search (FS) is a tool that deliberately searches for first order biological relatives of an unknown evidence profile obtained from crime scene evidence. This is an onsite search performed with the offender DNA profiles in the Wisconsin DNA Databank.
Forensic Investigative Genetic Genealogy (FIGG) is a technique that combines genetic testing of an unknown evidence profile obtained from crime scene evidence with traditional genealogical research. This search is performed using direct to consumer databases and identifies distant biological relatives. The genetic testing is not performed onsite at DFS.

As part of DFSs ongoing mission to best serve the people of the State of Wisconsin, the Wisconsin Identity Resolution team (WiscIR), provides guidance and acts as a liaison to agencies seeking forensic investigative genetic genealogy (FIGG) and familial DNA search (FS) technologies. With law enforcement members from DCI and forensic scientists from DFS, WiscIR is uniquely positioned to review cases, provide forensic DNA guidance, and assist with investigations in Wisconsin. Importantly, both FIGG and FS have the potential to generate new investigative leads in previously unsolved major crimes.

The Wisconsin FS program has been available to law enforcement free of charge since January 2018. To date, 39 cases have been searched and 7 cases have been solved through the familial investigative lead.

The WiscIR team has been assisting law enforcement with FIGG cases since 2021. Starting in 2022, DFS has been able to outsource cases for FIGG free of charge to law enforcement. To date, 33 cases have been outsourced and 14 cases have been solved through the FIGG investigative lead.

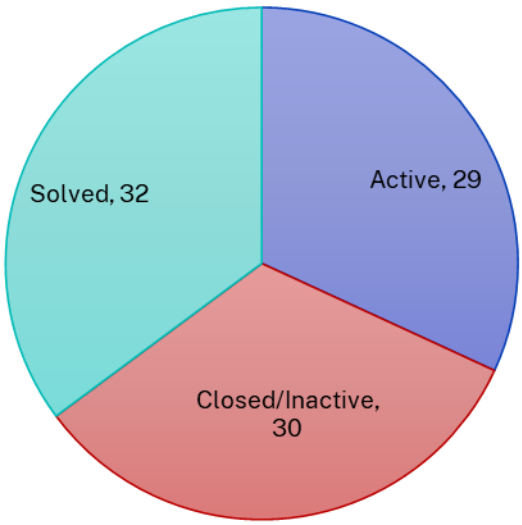
A majority of the cases evaluated by the WiscIR team are cold cases that have been unresolved for decades. The use of FIGG or familial DNA search provides the opportunity to obtain long awaited resolution for victims and their families.

	Cases
Total Cases Evaluated+	90
Familial Searches *	39
Outsourced FIGG*	33
Solved -FS	7 (18%)
Solved -IGG	14 (42%)
Solved Other	11
Closed/No Action	30

+29 cases are still in an active status

*A case may have both an FS and FIGG

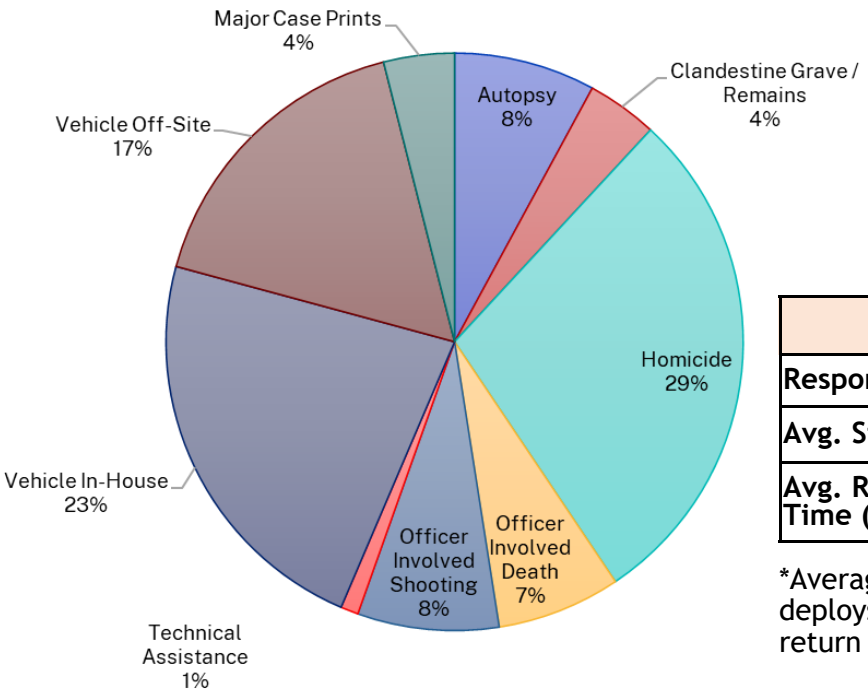
WiscIR Case Status



Crime Scene Response

The Office of Crime Scene Response assists law enforcement agencies with scene documentation, evidence collection, vehicle processing, and specialized processing including shooting reconstruction. The Office of Crime Scene Response also provides annual training to law enforcement staff who collect crime scene evidence.

2022 Crime Scene Request Type

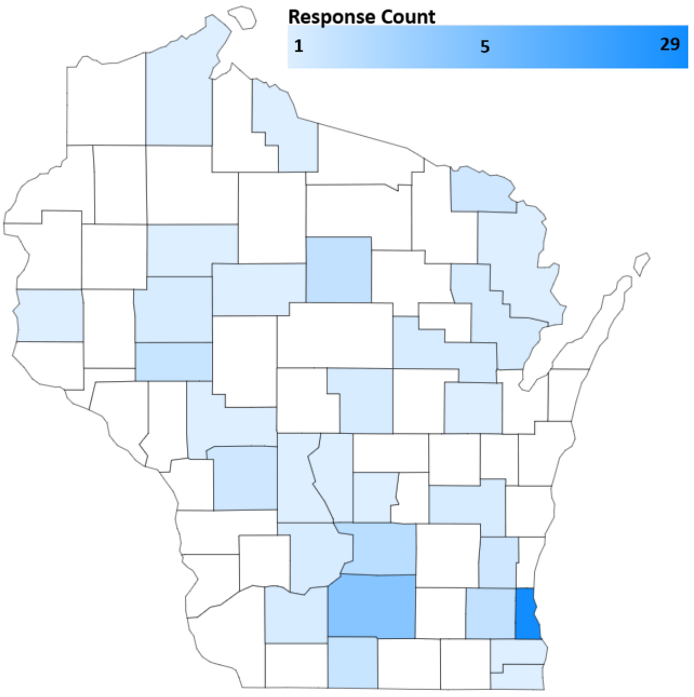


The Office of Crime Scene Response responds to many of the most complex crimes scenes in the state, providing a valuable service to law enforcement agencies of all sizes. Responses to crime scenes occurs promptly after requests for assistance are received.

	2020	2021	2022
Responses	104	155	101
Avg. Staff	4	3	3
Avg. Response Time (Hours)*	33.5	32.9	27.3

*Average Response time is the time the team deploys from the laboratory to the time they return to the laboratory from the scene.

2022 Crime Scene Responses by County



The Office of Crime Scene Response, composed of 6 full time staff and 30 DFS assistants from other units, receive special training to aid in the recognition, documentation, recovery, and preservation of physical evidence.

In 2022, the Office of Crime Scene Response dedicated over 8000 hours assisting over thirty law enforcement agencies at 101 major crime scenes across the entire state. A majority (58), of the responses occurred in five counties: Milwaukee, Dane, Columbia, Lincoln, and Waukesha.