



**2016**

**ANNUAL REPORT**

**MARYLAND STATE POLICE  
FORENSIC SCIENCES DIVISION  
STATEWIDE DNA DATABASE  
REPORT**

*April 2017*

# TABLE OF CONTENTS

2016

## STATEWIDE DNA DATABASE ANNUAL REPORT

Table of Contents .....	<i>i</i>
Executive Summary .....	<i>ii</i>
Background and Operations.....	<i>1</i>
Reporting Requirements.....	<i>5</i>
<b>I. Total DNA Database Expenses in 2016.....</b>	<b>6</b>
<b>a. Costs for Scientists and Support Personnel .....</b>	<b>6</b>
<b>b. Costs for DNA Collection Kits .....</b>	<b>6</b>
<b>c. Operational Costs .....</b>	<b>7</b>
<b>d. DNA Testing and Analysis Costs .....</b>	<b>7</b>
<b>II. Funds provided by the State per Municipality .....</b>	<b>8</b>
<b>III. Individual Data and Analysis.....</b>	<b>8</b>
<b>IV. Case-Specific Data Collection and Analysis .....</b>	<b>9</b>

## Executive Summary

The Statewide DNA Database was established in 1994 with the required collection of DNA samples from offenders convicted of rape and sexual offenses. The pool of qualifying offenders was expanded in 1999 to those convicted of qualifying crimes of violence and then again in 2002 to those convicted of all felonies and two specific misdemeanor crimes as well as attempts of those crimes. The latest expansion, which went into effect on January 1, 2009, includes the collection of DNA samples of those arrested and charged with qualifying crimes of violence, burglary, and attempts of those crimes.

During 2012, the Statewide DNA Database received national attention when the Maryland Court of Appeals found the collection of DNA samples from individuals arrested and charged with qualifying crimes to be unconstitutional. With that ruling, these collections ceased in April 2012; however, Maryland's Attorney General's Office requested and received an emergency stay in July 2012 and collections resumed. The collection of DNA samples from felony arrestees was heard by the U.S. Supreme Court in February 2013 and was found to be constitutional by a 5 to 4 vote.

Also in 2012, the Maryland General Assembly heard bills on the removal of the December 31, 2013 sunset date for the 2009 DNA Database expansion. The sunset was removed and the collection of DNA samples from individuals arrested and charged with qualifying crimes will continue.

As part of the requirements of the 2009 DNA Database expansion, the following annual report has been generated to detail total expenses (**\$1,683,496.27 for 2016**), list demographics of those from which samples have been collected, and categorize the outcomes of the investigations aided by hits to individuals whose DNA profiles reside within the Statewide DNA database.

## **Background and Operations**

The establishment of DNA databases emerged with the advent of DNA technology and its application to forensic sciences. Collected physical evidence now yields the potential to generate DNA profiles, which can be stored and searched utilizing computer software programs. DNA testing has become a powerful tool to link the guilty to their crimes and exonerate the innocent.

Congress authorized the FBI to establish an index of DNA identification records with the passing of the DNA Identification Act of 1994, Public Law 103 322. These DNA identification records were those of convicted felons and DNA profiles from evidence collected in association with the investigation of crimes. The FBI developed software, CODIS (Combined DNA Index System) which is used to manage this DNA data at three separate levels: Local, State and National. The local forensic DNA laboratories analyze case evidence and collect the data in the Local DNA Index System (LDIS), then upload the qualifying DNA profiles to the State DNA Index System (SDIS). State laboratories analyze evidence and generate DNA profiles from crime scenes for entry into SDIS and are tasked with the analysis of database samples from qualifying offenders. The DNA profiles both from casework and from offenders are then forwarded to the National DNA Index System (NDIS). Searches can result in candidate matches between cases or between cases and offenders. For matches that are confirmed, the information is then forwarded to the law enforcement investigators for further pursuance of the case.

In 1994, the State of Maryland followed the Federal lead and passed legislation to establish the Statewide DNA database: Public Safety Article Title 2, Subtitle 5, ACM (prior to 2003 referred to as Article 88B, Section 12A, ACM). This law required the collection of DNA samples from individuals convicted of rape in any degree, 1<sup>st</sup>-3<sup>rd</sup> degree sexual offenses, and child sexual abuse.

The list of qualifying convictions was expanded in 1999 to include not only those from 1994, but also convictions for Murder, 1<sup>st</sup> degree Assault, Robbery and attempts of those violent crimes. Yet another expansion of qualifying crimes occurred in 2002 with the list being expanded to include all felonies and two misdemeanor crimes: 4<sup>th</sup> degree burglary and breaking/entering a motor vehicle.

The most recent change of the Statewide DNA Database went into effect on January 1, 2009, when the law was expanded to include those arrested and charged with qualifying crimes of violence, 1<sup>st</sup>-3<sup>rd</sup> degree burglaries and any attempts of these crimes. Samples collected under this new revision are not to be analyzed until the arraignment date occurs. Provisions for automatic expungement were also dictated. These restrictions require the tracking of the charged individual through the court system for the assignment of arraignment dates and the final court disposition.

The Maryland Statewide DNA Database receives DNA evidence profiles from six DNA laboratories: Maryland State Police, Anne Arundel County Police, Baltimore City Police, Baltimore County Police, Montgomery County Police and Prince George's County Police. The case evidence DNA profiles are forwarded for uploading into the State Level of CODIS, which is managed and administered by the Maryland State Police - Forensic Sciences Division (MSP-FSD). The MSP-FSD is also the party responsible for ensuring the collection of qualifying samples, and for analysis and storage of DNA samples collected from convicted offenders and those individuals arrested and charged with a qualifying offense.

In the past, the analysis of convicted offender samples and samples from those arrested and charged with a qualifying offense was outsourced to a commercial DNA typing laboratory for analysis. When outsourcing database samples, MSP-FSD performed in-house technical reviews on all commercial analytical data prior to its acceptance for uploading into CODIS. The year 2011 saw the gradual transfer from commercial outsourcing to internal analysis of the qualified samples. In 2012, the analysis of both convicted offender samples and the arrestee/charged samples was handled as part of the MSP-FSD in-house operations.

In preparation for the 2009 revision of the law, the Governor's Office of Crime Control and Prevention organized and hosted four regional summits to educate and update the law enforcement community as well as the judicial system on their vital responsibilities in enacting this law. MSP-FSD developed and disseminated instructional videos on the collection of DNA samples and the use of the newly designed DNA Collection kits.

The successful implementation of the new procedures required for the 2009 revision was directly due to the cooperative efforts of several groups. The Department of State Police has been fortunate to be partnered with the Governor's Office of Crime Control and Prevention (GOCCP), State Attorney's Offices, the Department of Public Safety and Correctional Services Information Technology and Communications Division, the Department of Corrections, the Department of Parole and Probation, Sheriff's Offices, Detention Centers, and the Judiciary. Combined efforts have gone to oversee the collection of samples, the transfer of court data, and verification that all individuals eligible for collections have had a sample taken and that those samples no longer eligible have been expunged.

In the first year of its implementation (2009), the newly expanded portion of the law resulted in the collection of 11,643 DNA samples from individuals arrested and charged with qualifying crimes. In 2009, a total of 4,213 arrested and charged DNA profiles were uploaded to CODIS and searched. There were 37 matches reported to law enforcement in 2009 and to date they have led to 19 arrests and 15 convictions.

The second year of operation (2010) resulted in the collection of 11,404 DNA samples from individuals arrested and charged with qualifying crimes. In 2010, a total of 6,030 arrested and charged DNA profiles were uploaded to CODIS and searched. There were 60 matches reported to law enforcement in 2010 and to date they have led to 22 arrests and 14 convictions.

The third year of operation (2011) resulted in the collection of 10,528 DNA samples from individuals arrested and charged with qualifying crimes. In 2011, a total of 4,327 arrested and charged DNA profiles were uploaded to CODIS and searched. There were 78 matches reported to law enforcement in 2011 and to date they have led to 30 arrests and 21 convictions.

The fourth year of operation (2012) resulted in the collection of 7,041 samples from individuals arrested and charged with qualifying crimes. In 2012, a total of 3,174 arrested and charged DNA profiles were uploaded to CODIS and searched. There were 45 matches reported to law enforcement in 2012 and to date they have led to 14 arrests and 11 convictions.

The fifth year of operation (2013) resulted in the collection of 9,889 samples from individuals arrested and charged with qualifying crimes. In 2013, a total of 4,180 arrested and charged DNA profiles were uploaded to CODIS and searched. There were 83 matches reported to law enforcement in 2013 and to date they have led to 19 arrests and 11 convictions.

The sixth year of operation (2014) resulted in the collection of 9,373 samples from individuals arrested and charged with qualifying crimes. In 2014, a total of 4,430 arrested and charged DNA profiles were uploaded to CODIS and searched. There were 104 matches reported to law enforcement in 2014 and to date they have led to 21 arrests and 16 convictions.

The seventh year of operation (2015) resulted in the collection of 9,518 samples from individuals arrested and charged with qualifying crimes. In 2015, a total of 4,000 arrested and charged DNA profiles were uploaded to CODIS and searched. There were 137 matches reported to law enforcement in 2015 and to date they have led to 22 arrests and 14 convictions.

The eighth year of operation (2016) resulted in the collection of 8,974 samples from individuals arrested and charged with qualifying crimes. In 2016, a total of 3,555 arrested and charged DNA profiles were uploaded to CODIS and searched. There were 148 matches reported to law enforcement in 2016 and to date they have led to 20 arrests and 6 convictions.

In each year, only a portion of samples collected from individuals arrested and charged with qualifying crimes are uploaded to CODIS. Some of the reasons that a sample may not end up in CODIS include:

- duplicate samples are collected
- sample is collected but does not qualify for collection
- sample is collected but a convicted offender sample is already on file
- sample is collected but the individual is not arraigned and analysis cannot begin
- sample is collected and analyzed but the charges do not result in a conviction and the sample is expunged.

At the conclusion of 2016, the cumulative number of convicted offender DNA samples in CODIS was 122,015 and the cumulative number of arrested and charged DNA profiles in CODIS was 33,909. As a result, there have been 5,193 cumulative CODIS hits (inclusive of convicted offender, arrestee/charged, and casework hits).

The data contained within this report provides the information required by the Code of Maryland Regulations (COMAR 29.05.01.16). It should be noted, as per the reporting requirements, the Governor's Office of Crime Control and Prevention is responsible for collecting and reporting data on crime scene DNA evidence as supplied by local law enforcement and State Police. This information is contained within a separate document provided to the Office of Legislative Audits.

## **Reporting Requirements**

The law states that not later than April 1, 2010, and annually thereafter, the Department of State Police shall compile an annual report to the Governor and to the General Assembly and this report be posted on the website of the Department of State Police not later than April 1 of each year.

The content of the Report is as follows:

1. Total DNA Database Expenses in 2016
  - a. Costs for scientists and support personnel
  - b. Costs for DNA Collection kits (including transport costs)
  - c. Operational Costs (new hardware, software and maintenance)
  - d. DNA Testing and Analysis Costs (equipment, outsourcing)
2. Funds provided by the State, by municipality
3. Individual Data and Analysis (racial demographics of all individuals charged with qualifying crimes upon arrest in designated categories)
4. Case-Specific Data Collection and Analysis.

**I. Total DNA Database Expenses in 2016**

This section presents the expenses incurred in 2016 to operate the Statewide DNA Database System. Following the requirements of the bill, this section is organized under four subsections. Salary and benefit cost is presented in subsection (a) while subsection (b) is for costs related to DNA Collection. Subsections (c) and (d), respectively, present operational costs for the DNA database and testing/analysis. Accordingly, the total expenses in 2016 to operate the Statewide DNA Database System were **\$1,683,496.27**

**(a) Salary and Fringe Benefits Costs, for scientists and support staff assigned to the State Police Crime Laboratory (MSP-FSD) for DNA Database**

In 2016, a total of \$1,060,972.40 was paid in salaries for scientists and support staff who were working on the Statewide DNA Database project. The corresponding fringe benefits cost during this period was \$ 82,225.36.

<b>Costs for Scientists and Support Staff</b>			
	Scientists (15 )	Support Staff (4)	Total (19)
Salary Paid	938,577.40	122,395.00	1,060,972.40
Benefits-FICA	71,801.17	9,363.22	81,164.39
Benefits-Unemployment	938.58	122.40	1,060.98
<b>Total Salary &amp; Fringe Benefit*</b>	1,011,317.15	131,880.62	1,143,197.77

The combined total of salaries and fringe benefits was \$1,143,197.77.

\*Scientists and staff handle convicted offender samples and arrestee/charged samples.

**(b) DNA Collection Kit Costs, including costs required to transport kits from collection sites to the Crime Laboratory (MSP-FSD)**

The total costs of the DNA Collection kits purchased and the postage used for 2016 was \$214,895.00.

<b>Item</b>	<b>Expense</b>
Kits	\$195,000.00
Postage	\$19,895.00
<b>Total DNA Collection*</b>	<b>\$214,895.00</b>

\*Includes costs of collection kits & postage for convicted offender samples & arrestee/charged samples.

**(c) DNA Database- Operational Costs**

DNA database operational costs include purchasing new hardware, software and maintenance of old and new hardware/software. In 2016, \$40,214.88 was spent to buy hardware and support an IT contract for DNA database operations.

<b>Item</b>	<b>Expense</b>
Hardware	\$15,214.88
Software	\$0.00
Maintenance	\$25,000.00
<b>Total DNA database operational Cost*</b>	<b>\$40,214.88</b>

\* Operational Costs cover purchases for convicted offender and arrestee/charged programs.

**(d) DNA Testing and Analysis Costs**

DNA testing and analysis costs for 2016 were \$285,188.63. The costs include in-house equipment purchased, associated maintenance of equipment, outsourced testing and in-house analysis.

<b>Item</b>	<b>Expense</b>
Equipment Purchased	\$58,400.82
Maintenance of Equipment	\$42,655.02
Outsourced Testing	\$0.00
In- House Analysis	\$184,132.79
<b>Total DNA Testing &amp; Analysis*</b>	<b>\$285,188.63</b>

\*In-house analysis covers the costs of the arrestee/charged sample analysis only, and the equipment purchased and its maintenance are used for both the convicted offender and arrestee/charged programs. Additional costs as to the in-house analysis of convicted offender samples were in the amount of \$159,160.65.

## II. Funds made Available by the State

In 2016, MSP-FSD received \$144,500.00 from the Governor’s Office of Crime Control and Prevention to supplement outsourcing of DNA casework. The forensic laboratories in Maryland were awarded \$141,165.00 under the 2016 Paul Coverdell Forensic Science Improvement Grants, which can be used to improve the quality and timeliness of forensic services for any discipline.

<b>Recipient</b>	<b>Coverdell Grant (2016)</b>	<b>GOCCP Funds (2016)</b>	<b>Total</b>
A.A. County Police Department	\$15,000.00		\$15,000.00
Baltimore Police Department	\$27,300.00		\$27,300.00
Baltimore Co. Police Department	\$19,500.00		\$19,500.00
Hagerstown Police Department	\$8,888.00		\$8,888.00
Office of the Chief Medical Examiner	\$27,060.00		\$27,060.00
P.G. County Police Department	\$28,496.00		\$28,496.00
Maryland State Police	\$14,921.00	\$144,500.00	\$159,421.00
<b>Total</b>	<b>\$141,165.00</b>	<b>\$144,500.00</b>	<b>\$285,665.00</b>

## III. Individual Data and Analysis

This section deals with racial demographics of all individuals charged in 2016 with qualifying crimes upon arrest in designated categories. The information was generated through the MSP Sample Tracking program.

<b>Race</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
Asian	65	63	44	33	37	56	60	56
African-American	7,092	7,009	6,354	4,108	6,185	5,761	5,927	5,566
White	4,066	3,985	3,913	2,794	3,523	3,388	3,374	3,176
Hispanic	328	259	93	54	31	72	61	84
Others	17	13	26	10	18	9	18	14
Unknown	75	75	98	42	95	87	78	78
<b>Total</b>	<b>11,643</b>	<b>11,404</b>	<b>10,528</b>	<b>7,041</b>	<b>9,889</b>	<b>9,373</b>	<b>9,518</b>	<b>8,974</b>

#### IV. Case-Specific Data and Analysis

(Information provided by the Governor's Office of Crime Control and Prevention)

##### The number of Convicted offender (CO) DNA Matches (Hits) Resulting in Investigations, Formal Charges, and Convictions (2010 – 2016)

Type of Collection/Analysis	2010	2011	2012	2013	2014	2015	2016
DNA matches (hits)	183	185	169	195	219	239	259
Matches (hits) that resulted in the investigation of the individual identified in the match*	154	154	137	167	195	200	204
Investigations still ongoing**	6	13	22	34	71	125	148
Matches (hits) resulting in formal charges*	85	80	59	62	52	56	39
Matches (hits) resulting in convictions*	60	48	40	43	34	38	9
The number of cases still pending trial**	0	1	1	3	3	7	25
Convicted individuals exonerated by DNA matches in a calendar year	0	0	0	0	0	0	0
The number of matches resulting in convictions of individuals who were not already incarcerated*	36	35	27	26	23	24	5

\* Report reflects end of year statistics, these numbers will increase as more DNA hit investigations are closed

\*\* Report reflects end of year statistics, these numbers will decrease as more DNA hit investigations are closed

##### The number of Charged/Arrestee (A) offender DNA Matches (Hits) Resulting in Investigations, Formal Charges, and Convictions (2010 – 2016)

Type of Collection/Analysis	2010	2011	2012	2013	2014	2015	2016
DNA matches (hits)	60	78	45	83	104	137	148
Matches (hits) that resulted in the investigation of the individual identified in the match*	51	62	40	65	84	123	116
Investigations still ongoing**	1	5	10	25	45	82	86
Matches (hits) resulting in formal charges*	22	30	14	19	21	22	20
Matches (hits) resulting in convictions*	14	21	11	11	16	14	6
The number of cases still pending trial**	0	0	0	0	0	3	11
Convicted individuals exonerated by DNA matches in a calendar year	0	0	0	0	0	0	0
The number of matches resulting in convictions of individuals who were not already incarcerated*	5	9	5	5	10	7	4

\* Report reflects end of year statistics, these numbers will increase as more DNA hit investigations are closed

\*\* Report reflects end of year statistics, these numbers will decrease as more DNA hit investigations are closed.

Breakdown of 2016 matches (hits) to a convicted offender sample or charged/arrestee sample that resulted in convictions (n=15) and the prior offenses of the associated individual:

<b>Hit Conviction/Charged Arrest Crime</b>	<b>Prior Offences</b>	<b>Number of Convicted Offenders</b>	<b>Number of Arrestees/Charged</b>
Burglary	Robbery with a Deadly Weapon, Burglary, CDS Possession, Assault, Theft	6	4
Robbery	Robbery, Robbery with a Deadly Weapon, Burglary, CDS Possession, Assault, Theft	3	1
Theft	Theft, Burglary	0	1
	<b>Total</b>	<b>9</b>	<b>6</b>