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Mitchell E. Bean, Director
P. O. Box 30014, Lansing, MI 48909-7514
517-373-8080 • FAX 517-373-5874 • www.house.mi.gov/hfa

Michigan's Forensic DNA Database

Kyle I. Jen, Senior Fiscal Analyst

Under statutory provisions that became effective January 1, 2002, the Department of State Police estimates it will receive 187,000 offender DNA samples over the three-year period from 2002 to 2004. Utilizing existing resources, only about 34,000 samples will be processed for entry into the database over that period. Unless additional state or federal funding becomes available, the Department projects a backlog of 153,000 unprocessed offender DNA samples at the end of 2004.

This report provides background on the use of forensic DNA databases, summarizes the 2001 legislation expanding Michigan's database, and discusses implementing that legislation—focusing on the fiscal implications of maintaining and utilizing the database. Additionally, Michigan's database expansion is placed in the context of similar initiatives in other states.

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Background

Use of DNA in the criminal justice arena has been a relatively recent development. A 1999 U.S. Department of Justice (DOJ) report summarized this development as follows:

In little more than a decade, DNA (deoxyribonucleic acid) evidence has become the foremost forensic technique for identifying perpetrators, and eliminating suspects, when biological tissues such as saliva, skin, blood, hair, or semen are left at a crime scene. First introduced in 1986 and subject of numerous court challenges in the ensuing years, DNA

evidence is now admitted in all United States jurisdictions.

. . . [L]aw enforcement agencies and legislatures have come to understand the potential of using DNA testing systematically by constructing DNA databases on a State and Federal level that inventory DNA profiles from new unsolved cases, old unsolved cases, and convicted offenders. As these DNA databases grow in size, society will benefit even more from the technology's incredible power to link seemingly unrelated crimes and to identify with alacrity suspects who were until then completely unknown to investigators.¹

Initiated as a pilot project in 1990, a national DNA database system—the Combined DNA Index System (CODIS)—became fully operational in 1998. This system consists of databases at three levels: local, state, and federal. Local databases feed into state databases, and state databases feed into the national

¹National Commission on the Future of DNA Evidence, *Postconviction DNA Testing: Recommendations for Handling Requests* (Washington, DC: U.S. Department of Justice, September 1999), p.1.

database.² A recent report indicates that the national database contains more than 210,000 DNA profiles from 24 states (including Michigan) and the Federal Bureau of Investigation.³

Two indexes of DNA profiles are maintained within CODIS:

- The Forensic Index contains DNA profiles obtained from crime scene evidence.
- The Offender Index contains DNA profiles of individuals convicted of criminal offenses, as determined by state statutes.

When a DNA sample is received by a forensic laboratory, it is processed to create a profile that reflects certain specific characteristics of the DNA, which can then be entered into a database. As profiles are entered into CODIS, they are compared to profiles already included in the database to identify matches.

Matches among profiles in the Forensic Index identify possible links between different crimes. A match between a profile in the Forensic Index and a profile in the Offender Index can identify a possible perpetrator of a crime. Through March 2002, 1,110 matches between different forensic profiles and 2,350 matches between offender and forensic profiles had been reported to the Federal Bureau of Investigation.⁴

Michigan's Database

Michigan authorized creation of its DNA database in 1990 with enactment of the DNA Identification Profiling System Act.⁵ This act required the Department of State Police (DSP) to retain DNA samples from individuals convicted of criminal sexual conduct (CSC) violations or attempted violations, as well as from individuals convicted of intent to commit CSC. Such individuals, as well as individuals released from prison after serving sentences for such offenses, were required, by companion legislation, to

submit DNA samples.

The DNA Identification Profiling System Act and one of its two companion bills did not, however, become immediately effective due to an explicit requirement in the legislation that funding be appropriated to carry out the new provisions. This requirement was repealed in 1994, and collection of DNA samples began that year.

Legislation enacted in 1996 expanded statutory provisions to require DNA samples in cases involving attempted murder, first- and second-degree murder, and kidnaping. Provisions were also expanded to require submission of DNA samples by juveniles convicted of or found responsible for one of the offenses under the act (either upon a new conviction/finding of responsibility or upon release from a youth facility).⁶

From 1995 through 2000, the DSP received 2,400 to 3,300 DNA samples per year from criminal offenders for profiling and entry into the database. No offender samples were processed during this time, resulting in the accumulation of a 16,601-sample backlog at the end of calendar year 2000. The Department was awarded a \$719,000 U.S. Department of Justice grant in June 2000 to eliminate this backlog. A contract was awarded to a private laboratory to process the backlogged samples for entry into the database, and the backlog was eliminated by the end of calendar year 2001.

As of December 30, 2001, Michigan's DNA database contained 19,904 profiles from samples submitted by criminal offenders and 686 profiles from samples obtained in forensic cases.

²The Lansing State Police laboratory is the only laboratory in Michigan that processes offender samples; the Lansing, Grand Rapids, and Northville State Police laboratories all process forensic samples (see next paragraph for definitions of sample types). The City of Detroit's forensic laboratory has the capability to process forensic samples, but does not currently meet the standards required to enter profiles into CODIS. All other local jurisdictions submit their forensic samples to the Department of State Police.

³U.S. Department of Justice, "The FBI's Combined DNA Index System Program" (downloaded from Internet July 2002).

⁴Kelly Fox and Donna Lyons, "Fighting Crime with DNA" (Denver, CO: National Conference of State Legislatures, October 2002), p. 1.

⁵Public Act 250 of 1990

⁶James Durian, *Forensic DNA Databases: Ramifications for Michigan* (Lansing, MI: Michigan Legislative Service Bureau, July 2002), p. 8.

All fifty states require DNA samples to be collected from some subset of criminal offenders, generally including sex-related and violent felonies at a minimum.

- Thirty states require samples to be submitted by juvenile offenders.
- Twenty-two states require samples from all convicted felons.
- Some states require DNA samples from those found not guilty by reason of mental illness or insanity.
- Three states have enacted laws requiring submission of DNA samples at the point of arrest, rather than at conviction, with provisions for destruction of the sample and removal of the DNA profile from the state's database if an individual is not convicted.

Prior to 2001, only nine states required all convicted felons to submit DNA samples. Michigan was one of six states to pass legislation in 2001 implementing this requirement. Another seven states took such action in 2002, bringing the total to 22 states.

Even prior to legislative action by states in 2001 and 2002, nationwide DNA sample caseloads had been increasing.

- From 1997 to 2000, the number of convicted offender samples received nationwide for entry into state databases increased from 44,810 to 148,347—an increase of 231.1 percent.
- At the end of 2000, a nationwide backlog of 265,329 offender samples existed.
- This total backlog figure had decreased slightly from 1997 level of 286,819 as a result of the federal DNA Backlog Reduction Program.

By the end of 2002, the federal government had distributed approximately \$80 million to states through this program to reduce or eliminate DNA sample backlogs.

Given that a number of states have taken legislative action to expand their databases since 2000, caseloads will continue to increase at a rapid pace. If sufficient resources are not allocated to deal with these caseloads, the total backlog of offender samples may also begin to increase dramatically.

Sources: National Conference of State Legislatures and U.S. Department of Justice

2001 Legislation

Legislation adopted in the summer of 2001 greatly expanded the list of crimes for which convicted offenders—both newly convicted and imprisoned for previous convictions—must submit DNA samples. (Juveniles convicted of or found responsible for a relevant crime continue to be subject to the statutory requirements.) The list now includes the following crimes:

- All felonies and attempted felonies

- Misdemeanors punishable by more than one year of imprisonment
- The following specific misdemeanors:
 - Window peeping
 - Indecent or obscene conduct
 - Indecent exposure
 - Enticing a child for immoral purposes
 - Loitering in a house of ill fame or prostitution
 - Female under the age of 17 in a house of prostitution
- A first or second prostitution violation

- A local ordinance substantially similar to the misdemeanor offenses specified above

Individuals who have previously submitted a DNA sample for entry into the database are not required to submit an additional sample.

Legislation enacted in 2001 (effective January 1, 2002) created a \$60 assessment to be paid by individuals submitting DNA samples.⁷ Proceeds of the assessment are to be used to offset costs of collecting and processing the samples. Proceeds are earmarked as follows for individuals submitting samples due to a new conviction:

- 25 percent to the county sheriff or law enforcement agency that collected the sample—\$15 if the full amount of the assessment is collected.
- 65 percent for the DSP Forensic Science Division—\$39 if the full amount is collected.
- 10 percent retained by the court imposing the assessment—\$6 if the full amount is collected.

For individuals required to submit samples upon release from a prison or youth facility, the entire \$60 assessment is earmarked for the DSP Forensics Science Division.

Implementation Costs

The most immediate impact on the DSP in implementing the new provisions has been the cost of distributing sample collection kits to the Department of Corrections (for released prisoners), the Family Independence Agency (for individuals released from youth facilities), and local law enforcement agencies (for new offenders). Through December 2002, the DSP had distributed 217,000 kits at a cost of \$546,840. Because DNA samples can be obtained through a buccal sample (which involves simply scraping the inside of an individual's cheek), the price of each kit is relatively low—about \$2.50.

The number of convicted offender DNA samples received by the DSP's Forensic Science Division for entry into the database increased from 3,303 in 2001 to 50,625 in 2002. The 2002 figure reflects samples from two types of individuals:

- Individuals released from prison (virtually all individuals serving prison terms were convicted of a felony): 18,354.

⁷For further details regarding the legislation, see House Legislative Analysis Section, Analysis of House Bills 4610-4613 and Senate Bills 389, 393, and 394 (Lansing, MI, August 15, 2001).

- Individuals newly-convicted of a relevant offense: 32,271.⁸

The DSP expects the number of offender samples to increase to an estimated 86,000 in 2003, when the Department of Corrections plans to obtain samples from all current prisoners during their annual physicals. Thus, all samples received by the DSP in the future will be from newly-convicted offenders, as all outgoing prisoners will have previously submitted a sample. It is estimated that the number of samples received annually from new offenders will increase to about 50,000 beginning in 2003 as the criminal justice system moves toward full compliance with the new statutory provisions.

Utilizing existing resources, the DSP processed 9,933 offender samples for database entry in 2002 and expects to process 12,000 samples per year in 2003 and 2004. Based on these estimates, a total of about 153,000 incoming offender samples will not be processed for database entry over this three-year period absent additional funding. At a cost of \$50 per sample (the amount allowed under the federal grant awarded to Michigan in 2000), \$7.6 million would be required to process these samples.

Private contractors would likely be utilized by the DSP to process a substantial portion of its DNA caseload should additional funding become available in the near future. Under departmental policy, five to ten percent of such samples are reprocessed by departmental staff to confirm the accuracy of the contractual work.

The Department has developed technology which would allow for in-house processing of the higher

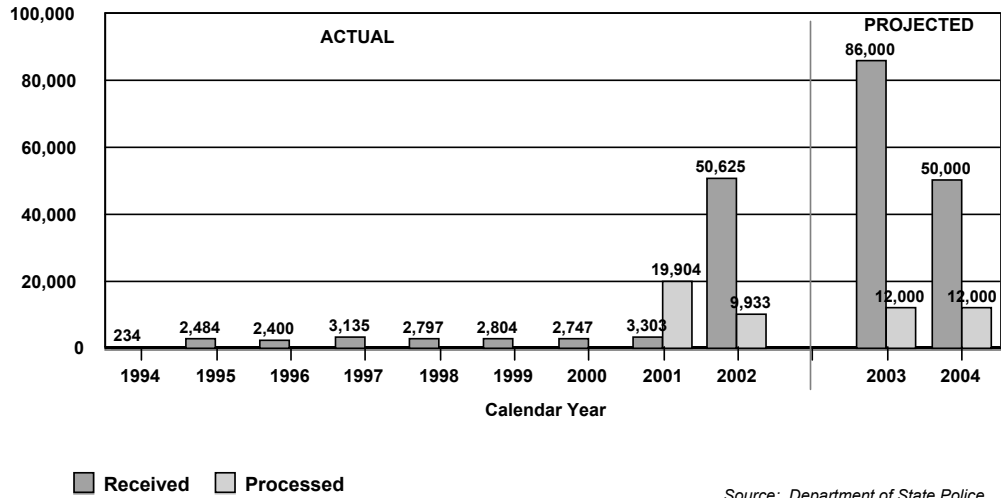
⁸Samples submitted by youth offenders released from Family Independence Agency facilities constitute a minimal number of DNA samples received by DSP.

DNA sample caseloads and plans to eventually hire the necessary personnel to process all samples within the Department; this would require both additional funding and the time necessary to train new personnel.

While increased offender sample caseloads are the most direct impact of the 2001 legislation, forensic samples from unsolved crimes must also be processed for the database to fulfill its purpose. More preparation work is required for forensic DNA samples than for offender samples since the samples must be extracted from the crime scene evidence prior to analysis. On average, the Department examines ten DNA samples per forensic case received; an average of six DNA samples per case are suitable for further analysis. Only about half of forensic cases yield DNA samples meeting the standards necessary for entry into the database.

In 2002, DSP received 4,372 forensic cases from law enforcement agencies for examination and analysis. Work conducted on these cases in 2002 resulted in 1,286 DNA profiles being entered into the state's DNA database. As of December 31, 2002, however, DNA samples from an estimated 1,877 of the cases received in 2002 had not been fully analyzed—equating to 11,262 individual DNA samples yet to be analyzed. Additionally, the Department has an estimated 24,000 forensic cases on hand—equating to 144,000 DNA samples to be

Offender DNA Samples Received and Processed



analyzed—that predate current DNA processing technology.

As the number of offender samples in the state and national DNA databases grows, DNA evidence will become a more and more effective tool for investigating crimes. In light of the time and effort that a CODIS match can save law enforcement agencies, the amount of forensic DNA evidence submitted by agencies for analysis can be expected to increase dramatically in the near future—along with associated costs.

Costs of database expansion are not limited to the initial processing of offender and forensic samples. When a match is obtained between an offender profile and a forensic profile, a new DNA sample must be obtained from the suspect identified by the database match to confirm the result. The new sample must then be processed for comparison to the sample(s) obtained from the crime scene.

Offender DNA Samples

	<u>Actual 2002</u>	<u>Projected 2003</u>	<u>Projected 2004</u>
New samples received	50,625	86,000	50,000
Samples processed with existing resources	<u>9,933</u>	<u>12,000</u>	<u>12,000</u>
Difference	40,692	74,000	38,000
Costs to process remaining samples @ \$50/sample	\$2,034,600	\$3,700,000	\$1,900,000

Sources: Department of State Police, HFA calculations

Offender DNA Samples and Assessment Revenue Calendar Year 2002

	New Convictions (\$39 to DSP)	Outgoing Prisoners (\$60 to DSP)	Total
Samples Received	32,271	18,354	50,625
Revenue Assuming 100% Compliance	\$1,258,569	\$1,101,240	\$2,359,809
Actual Revenue	NA	NA	\$169,321
Collection Rate	NA	NA	7.2%

NA = Not Available

Sources: Department of State Police, HFA calculations

Revenue Sources

Fully funding the costs of the database expansion is proving to be problematic. Thus far, revenue collections from the \$60 assessment created in the 2001 legislation have been significantly lower than the number of samples received by the DSP would suggest. Through December, collections allocated to DSP totaled \$169,321. Based on the number of DNA samples received by DSP through the same date—a total of 50,625—the assessment collection rate was just 7.2 percent.

The large discrepancy between the number of samples collected and the amount of assessment revenue collected can be attributed to two factors:

- The Department of Corrections is informing released prisoners that the assessment should be paid to the Department of Treasury (to be credited to the DSP), but Department of Corrections policy states that payment of the assessment is the prisoner's responsibility and that the funds necessary to pay the assessment will not be removed from a prisoner's institutional account.⁹ The low collection rate indicates that most outgoing prisoners are choosing not to send payment to the Department of Treasury.
- Many criminal offenders do not have the ability to pay the assessment due to other financial obligations—child support payments, for example. Further, fines and other assessments are often levied in criminal cases. Of particular note are the crime victims rights (\$20 to \$60) and Forensic Laboratory Fund (\$150) assessments which many criminal offenders are ordered to pay.¹⁰

⁹Michigan Department of Corrections Operating Procedure 03.04.100-F

¹⁰See section 5 of the Crime Victims Rights Services Act (MCL 780.905) and section 6 of the Forensic Laboratory Funding Act (MCL 12.206), respectively. The Code of Criminal Procedure

In short, the assessment revenue is not funding a substantial portion of the costs associated with processing DNA samples and a backlog of samples is building quickly—40,692 as of December 2002. Based on the DSP's estimate that 12,000 samples will be processed annually using existing resources, the backlog will grow to approximately 153,000 samples by the end of calendar year 2004—about nine times the size of the backlog that had accumulated in 2000 under the old statutory provisions.

Other than the appropriation of restricted revenue from the newly-created assessment, there has been, to date, no additional appropriation for the costs of the expanded DNA database.

The possibility exists that additional federal funding may become available for the costs of processing offender DNA samples. As noted earlier, the DSP received a \$719,000 grant from the U.S. Department of Justice to eliminate the sample backlog that had accumulated prior to the 2001 legislation.

The Department was also recently awarded a grant of \$1.4 million from the U.S. Department of Justice to process existing samples from unsolved crime scene cases for entry into the database. This grant, however, will fund the costs of processing only 1,200 of the estimated 24,000 forensic cases currently on hand that have not been processed using current technology.¹¹ A portion of the grant funds will be used to purchase equipment that will allow for ongoing processing of DNA samples by the Department.

Application has been made by the Department for federal funding to process the offender samples backlogged in 2002 and 2003. It is unclear at this

(MCL 775.22) provides for the distribution of funds if fines, costs, and assessments are not fully paid; the DNA processing assessment falls in the category with lowest priority.

¹¹The grant funding will also provide for processing approximately 169 forensic cases originating in the City of Detroit.

time, however, whether sufficient funding will be awarded to eliminate the expected backlog entirely; approximately \$5.7 million would be necessary. Given that a number of other states are also in the process of expanding their databases, federal resources may be insufficient to keep up with state DNA caseloads.

It seems unlikely that grants from the federal government will be sufficient to fund the costs of processing all of the offender and forensic DNA samples received in the state on an ongoing, indefinite basis. One of the stated objectives for the most recent grant awarded to the DSP by the Department of Justice is to “enhance and strengthen the State’s infrastructure to continue processing no[-]suspect [forensic] cases,”¹² indicating that the grant funds are intended to provide temporary assistance for states as they develop ongoing capability to perform DNA casework on their own.

Another potential revenue source for DNA processing costs is the Forensic Laboratory Fund, which receives revenue from a \$150 fee assessed on criminal offenders in court cases involving a forensic laboratory test or a CSC offense. Proceeds from the fund are distributed to forensic laboratories in the state in proportion to forensic test caseloads. In Fiscal Year (FY) 2001-02, the DSP received \$1.1 million from the fund. These funds have been used for a variety of forensic science-related costs, including the costs of distributing DNA collection kits. While fund collections have grown consistently since the fund’s creation in 1994, any allocation from DSP’s portion will divert resources from other forensic science efforts and only partially offset expected DNA processing costs.

Of the FY 2002-03 \$20.8 million budget for the seven forensic laboratories operated by DSP, \$17.7 million (85 percent) is funded through a GF/GP appropriation. If the Department is to fully implement the statutory expansion of the state’s DNA database, additional GF/GP funding may be necessary.

Conclusion

The purpose of Michigan’s DNA database is to provide a tool to solve and prosecute crimes. While it is difficult to predict precisely how effective Michigan’s expanded database can be in fulfilling this purpose, the experience of other states can be instructive.

¹²National Institute of Justice, “Solicitation: No Suspect Casework DNA Backlog Reduction Program (FY 2003)” (Washington, DC: U.S. Department of Justice, May 2002), p. 3.

Virginia began expanding its DNA database to include samples from all convicted felons in 1998. The Virginia Division of Forensic Science reports that, as of December 2002, the state’s database included 188,940 offender DNA samples. Utilizing this database, 1,036 matches between offender and forensic samples have been realized, including 445 matches in 2002 alone.¹³ While not all of these matches may have led to criminal convictions and some resulting criminal convictions may have been reached by other methods absent the existence of the database, there is little doubt that maintenance and utilization of a state DNA database enhances the ability of law enforcement agencies and prosecutors to investigate and prosecute crimes.

In Michigan, eight matches between forensic and offender DNA profiles and 179 matches between forensic profiles from different crime scenes have been realized through December 2002. As the number of DNA samples in the state’s database grows, these figures can be expected to increase as well.

In order for database matches to occur, both offender and forensic samples must be processed for database entry in a timely manner. Absent additional funding, the DSP projects a backlog of 153,000 offender samples in Michigan at the end of 2004. Further, not all forensic cases are being processed immediately. A Congressional Research Service report stated the following about the accumulation of DNA backlogs:

Failure to process backlogs may have several consequences. Crimes that might be solved with the help of a database match may remain unsolved. That is of particular concern in cases where a perpetrator is likely to perform additional crimes, or where a database match would prevent an innocent person from being wrongly suspected or perhaps even charged with the crime. Also, crime-scene samples from unsolved crimes may eventually be destroyed as statutes of limitations expire, permanently eliminating any possibility of typing any DNA evidence.¹⁴

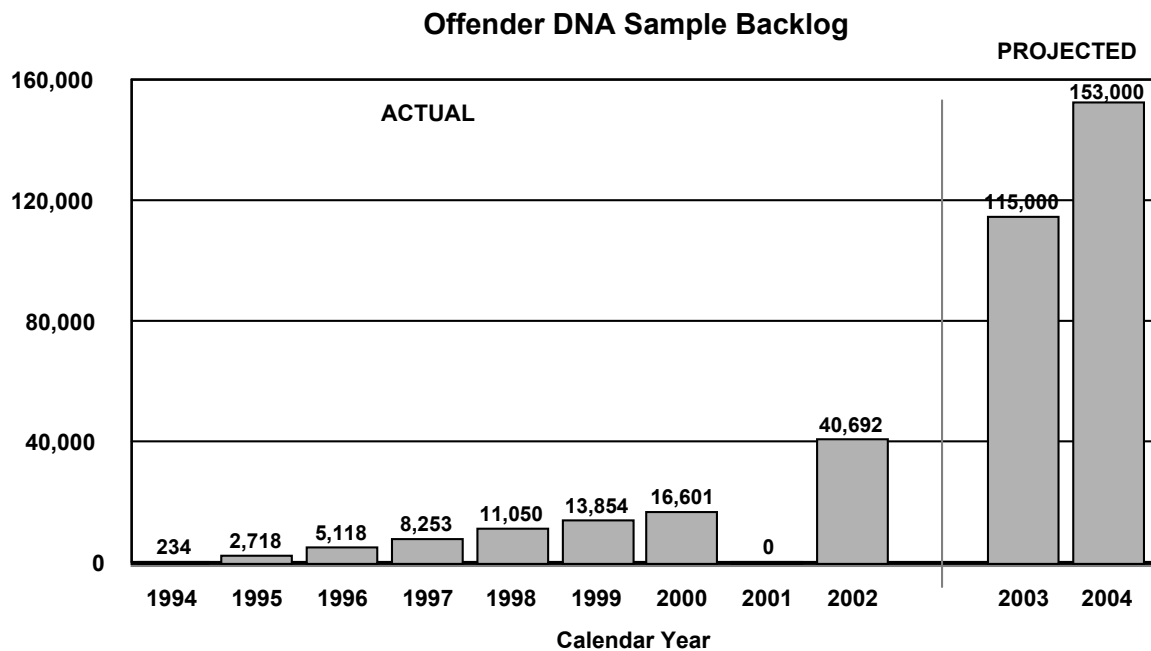
Whereas the costs of DNA sample backlogs are

¹³Virginia Division of Forensic Science website (<http://www.dfs.state.va.us/information/whatsnew.cfm>), accessed January 17, 2003. The website states that 82 percent of the matches realized in Virginia would not have occurred if the state’s DNA database were limited to only violent offenders.

¹⁴Eric A. Fischer, *DNA Identification: Applications and Issues* (Washington, DC: Congressional Research Service, January 12, 2001), p. 17.

largely intangible, the costs associated with timely implementation of database expansion are financial. Assuming per-sample processing costs of \$50 (as allowed by the federal government in the past), estimated costs of eliminating the backlog projected to exist at the end of 2004 total \$7.6 million. As the

database grows and becomes an increasingly effective tool for investigating crimes, the costs of processing forensic samples and conducting follow-up work on database matches can also be expected to rise substantially.



Source: Department of State Police