Automated fingerprint identification and criminal history records are vital for effective law enforcement and criminal justice. These records also are increasingly used for a range of noncriminal justice purposes, such as background checks of applicants for employment, licenses, or security clearances. Fingerprint checks are essential to ensure positive identification, detect or deter persons using aliases or phony identification documents, and protect the civil liberties of arrestees, applicants, or employees.

Manual fingerprint and record systems are incapable of meeting today's needs for timely and accurate information. Many States and the Federal Bureau of Investigation (FBI) have made significant progress over the last decade in automating these systems. But the extent of automation and quality of records varies widely, and significant gaps in automation and record quality exist. Criminal justice activities are being hindered as a result. Proposed new national criminal record checks will be difficult or impossible to implement until further improvements are in place.

Several events have combined to make the needed improvements possible:

- 1. the extraordinary performance of automated fingerprint identification and computerized criminal history records systems that has been demonstrated at the Federal, State, and local levels;
- 2. the recognition that automated systems and improved record quality are needed to perform "instant" checks of criminal records, e.g., when booking and setting bail for arrestees;
- 3. the ongoing efforts to modernize the FBI's Identification Division (Ident), linked with a move of Ident from Washington, DC, to Clarksburg, West Virginia; and
- 4. the growing consensus among criminal justice officials on the National Fingerprint File/Interstate Identification Index (NFF/III) concept and proposals to enact the necessary interstate compact or Federal legislation.

The NFF/III would reduce the duplicate fingerprints and criminal history records currently received or maintained by Ident. Ident would maintain only one fingerprint card (or image) per offender per State and no criminal history records (except on Federal offenders), but would provide an index of all offenders. The NFF/III is, in principle, a sound concept for the Federal/State/local partnership in criminal fingerprint identification and criminal history record systems. The time and resources required to implement NFF/III are not yet known. The FBI and the Bureau of Justice Statistics (BJS) need to make a detailed assessment of implementation requirements.

Full NFF/III implementation requires, in addition to time and resources, agreement on uniform national rules for the interstate exchange of criminal history information--especially when such information is used for noncriminal justice purposes (e.g., employment and licensing). The rules should cover who can have access to what criminal history records for which purposes. An interstate compact is, in principle, a sound concept for enacting national rules. Questions remain, however, about the content, timing, and feasibility of a compact. The U.S. Attorney General and the FBI need to consult with State legislatures and governors, as well as Congress, to further refine the proposed compact, develop a ratification plan, and determine under what circumstances Federal legislation might need to be considered in lieu of a compact.

Criminal history record improvement must be an integral part of the NFF/III and Ident automation programs and may need to be included in an interstate compact or legislation. The FBI is requesting funds to eliminate a large backlog of unprocessed fingerprint cards and dispositions over the next 2 years, and to automate remaining active criminal history records over the next 4 years. The Federal Government is providing grant funds for State/local record quality and automation improvements in support of automated firearm purchaser check initiatives. Ident could develop a more comprehensive record quality program, including criminal history audits by or for State/local agencies and mandatory review and challenge procedures to protect the civil liberties of persons undergoing record checks. BJS and the Bureau of Justice Assistance (BJA) need to develop a detailed State-by-State record improvement and funding plan.

The NFF/III and modernization would enable Ident to improve its service and regain leadership in fingerprint identification. This will require extraordinary cooperation and support by the States, and substantial funds from the Federal Government.

The Ident modernization program is the most costly item on the Nation's criminal record improvement agenda—estimated at about \$600 million in capital investment over the next 4 years, including the new building in West Virginia (\$200 million) and its automated equipment and systems (\$400 million). Technical advances and design modifications may reduce costs, but the investment will still be large.<sup>1</sup>

The FBI has spent a year working on the strategic plan for the Ident automation program. It will be the basis for the design and procurement of the FBI's automated fingerprint identification and criminal record system. A well-executed strategic plan could ensure that the technical system meets the needs in a feasible, timely, cost-effective way. The overall FBI technical strategy appears, qualitatively, to be sound. The Ident emphasis on the electronic scanning, transmission, processing, and storage of fingerprints is appropriate, even though the full transition from paper to electronic will take years. The emphasis on developing a common standard for the electronic exchange of fingerprints, rather than a generic fingerprint matching algorithm, is correct; this assures compatibility with all Federal and State/local automated fingerprint systems. The size of the planned

## Box A—Why Automated Fingerprint Checks?

An automated fingerprint identification system (AFIS) permits law enforcement agencies to run far more fingerprint checks than are feasible with manual processing. The payoff is greatest when comparing latent prints (partial prints from a crime scene) against fingerprints of suspects or prior offenders already on file, and when comparing prints of a suspect against those of persons wanted, charged, or convicted for offenses committed in other jurisdictions.

Western Identification Network, Inc. (WIN) is a regional AFIS that serves the States of Alaska, California, Idaho, Nevada, Oregon, Utah, Washington, and Wyoming. Fingerprint check results from the first months of WIN operation highlight the value of automated checks:

- $\check{Z}$  In Idaho, latent prints from a stolen and recovered police car were entered into the WIN AFIS, with no match indicated. A week later fingerprints of a suspect in an unrelated case were checked against the WIN database, resulting in a hit (a match between the latent print from the stolen car and the full fingerprint of the arrestee).
- Ž In Utah, fingerprints from an unidentified deceased 20-year-old person were entered into the WIN AFIS, resulting in a match with the prints of a person in the Portland, Oregon, fingerprint file. Knowing the vic-tim's identify led police to a suspect who was subsequently arrested on murder charges.
- In Washington State, latent prints from the rearview mirror of a vehicle at the scene of a rape were entered into the WIN AFIS, resulting in a fingerprint match and subsequent identification and arrest of a suspect.
- Ž In Nevada, latent prints from the scene of a robbery and assault in Carson City were entered into the WIN AFIS. The victim received serious head injuries and could not identify or remember anything about the assailant, but the latent fingerprint check resulted in a match and subsequent arrest of a suspect in Virginia City.
- Ž In Wyoming, special agents arrested three suspects in Cheyenne on drug charges. Two of the suspects claimed to be illegal aliens, but WIN AFIS searches identified them as repeat offenders with prior criminal records in Utah and Nevada.
- In Nevada, the Washoe County Sheriff's Office arrested an unknown person on charges of using stolen credit cards to obtain money from teller machines. A WIN AFIS search identified the suspect as a repeat offender with a prior criminal record in Oregon, which led in turn to an FBI record check indicating that the suspect was wanted by the U.S. Secret Service, State of North Carolina, and District of Columbia for fraud and weapons violations, and had arrests in seven States using multiple aliases.
- Ž In Oregon, the State Police entered latent prints from a truck at the scene of an unsolved 1978 homicide into the WIN AFIS, resulting in a match with the prints of a person in the Washington State fingerprint file who was subsequently arrested.

SOURCE: Western Identification Network, Inc., 1990 and 1991.

<sup>1</sup>The impact of automation on Operating costs is not known, although the FBI is assuming that labor productivity will increase by 50 to 100 percent, thus significantly reducing the cost per fingerprint check.

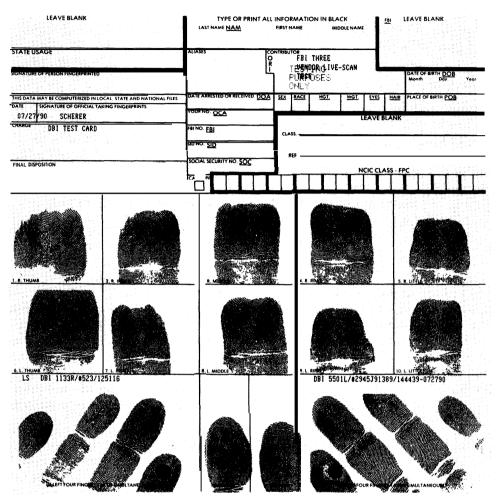


Photo credit: Federal Bureau of Investigation

A typical fingerprint card includes space for the rolled prints of each individual finger, flat prints of both thumbs, and flat prints of the left and right four fingers. The card includes space for the name and identifying information of the person being fingerprinted, the date and name of the official taking the fingerprints, and arrest and disposition information if applicable. The fingerprints in this sample were taken using a live scan fingerprint reader (using light or laser beams rather than ink). Trained operators can take live scan prints with a quality equal to or better than inked prints.

system is reasonable, although the projected file size and demand for fingerprint checks are still uncertain. The FBI should design the system to accommodate projected use plus some margin of error for unanticipated growth. States have found the greater risk to be underdesigning new automated fingerprint identification systems, with demand typically exceeding design capacity faster than expected.

Another potential payoff of Ident modernization is improved processing of latent fingerprints. Latent prints are single or partial fingerprints from door handles, walls, firearms, clothing, and other items found at or near the scene of a crime. The FBI needs to design its latent searchable file to complement similar files maintained by Federal and State/local criminal justice agencies. Many States report that old and/or difficult criminal cases have been solved due to latent matches that could not be conducted on a manual basis (see box A).

The FBI should analyze the tradeoffs among volume and type of fingerprint checks, file sizes, response times, technical design, cost, schedule, technical risk, number and type of employees, training needs, and building requirements. These analyses are under way and should be completed before the FBI procurement process proceeds further so that the results can be used by the Administration and Congress in making decisions on system design and funding.

OTA's review suggests that the FBI could minimize automation cost by

- 1. ensuring that the NFF/III is implemented to the maximum extent possible concurrently with Ident modernization,
- making realistic assumptions about the daily volume of new or expanded noncriminal justice fingerprint checks, and
- **3.** adjusting the system design to defer or phase in capabilities that may not be needed right away.

These actions, combined with technical advances, could reduce the capital investment cost of Ident automation by several tens of millions of dollars over what would otherwise be required. The Administration and Congress may need to allocate equivalent funds for improvements in State/local automated identification and record systems to support NFF/III, and for Federal and regional automated identification systems that complement NFF/III.

The current Ident automation schedule is tight and allows little margin for error. Ident is proposing to procure a larger, more complex system than has been installed by even the largest States, yet in the same time frame as these States, and with the complications of moving to a new building hundreds of miles away from its current location in Washington, DC, relocating existing employees, hiring new employees, and training virtually all employees. The move does offer the prospect of a more stable, higher quality Ident workforce, since salaries should be more competitive, living costs lower, and commutes shorter for employees living in the Clarksburg, West Virginia, area. (Ident employees who do not elect to move have been guaranteed continued FBI employment in the Washington, DC, area with no loss of pay.) The move should help Ident break with the past and establish a new, state-of-the-art facility with a reenergized workforce. The existing obsolete system will not be moved but instead will be phased out at the present location over a transitional period.

The FBI must skillfully use the design and procurement process to structure an advanced system with acceptable risk. Requests for vendor information before issuing the formal request for proposals, and benchmark or prototype tests during the selection process, as planned by Ident, will help ensure a successful procurement. The technical risk can be reduced and the schedule better maintained by procuring the best commercially available technologies (existing at the time of procurement), and conducting any remaining automated identification research and development (R&D) work on a separate, longer term schedule.

The U.S. Department of Justice agencies involved with criminal record systems and record quality improvement—the FBI, BJA, and BJS—have an opportunity to coordinate their efforts. Effective collaboration over the next 10 years could ensure that by 2000, the Nation will have a substantially automated and complete criminal identification and record system.