# What Will Be The Impact Of Automated Fingerprint Systems On California Law Enforcement By The Year 1999?



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This Command College Independent Study Project is a FUTURES study of a particular emerging issue in law enforcement. Its purpose is NOT to predict the future, but rather to project a number of possible scenarios for strategic planning consideration.

Defining the future differs from analyzing the past because the future has not yet happened. In this project, useful alternatives have been formulated systematically so that the planner can respond to a range of possible future environments.

Managing the future means influencing the future--creating it, constraining it, adapting to it. A futures study points the way.

The views and conclusions expressed in this Command College project are those of the author and are not necessarily those of the Commission on Peace Officer Standards and Training (POST).

## Part One

## A Futures Study

What Impact Will Automated Fingerprint Identification Systems (AFIS) have on California law enforcement by the year 1999?

## Part Two

## Strategic Planning

A Strategic Plan for a moderate sized police department to prepare for the changes that will result from AFIS technology.

## Part Three

## Transition Management

Definition of a management structure to assign roles, assess implications, and implement the Strategic Plan.

# THE IMPACT OF AUTOMATED FINGERPRINT SYSTEMS ON CALIFORNIA LAW ENFORCEMENT BY THE YEAR 1999.

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The use of fingerprints for the identification and successful prosecution of criminal suspects has been an important part of California law enforcement since 1905. The Department of Justice maintains a central fingerprint file that includes all arrested persons and convicts. Until recently, all searches of that central file were done manually. This was a time consuming, expensive, and less than perfect process.

Recently, the central fingerprint file and access to it have been automated. This allows participating agencies the ability to input fingerprints into the system and search the database via computer. The automation process has increased severalfold the probability of a successful fingerprint search. As technological advances allow for faster searches in a real time fashion and as the size of the automated database increases, the number of criminal suspects identified by the system will continue to rise.

This study evaluates the impacts of the automation process on law enforcement by using accepted futures research methodology. Future trends and events were forecast by a modified conventional delphi group and a cross-impact analysis was done to predict the effects of the chosen events. Based upon the results, three scenarios were developed to examine a nominal, normative and hypothetical future.

Using the nominal scenario as a model, a strategic plan was developed to make best use of available resources in preparing for the changes that will occur as a result of fingerprint automation. The stakeholders in the change process are identified, and a WOTS up analysis was done to assess areas of strength and weakness. Using a modified policy delphi, policy alternatives and implementation strategies were identified.

Finally, a model was developed to assist management in the transition process from the present situation to implementation of the strategic plan. The critical mass was identified,

and a readiness/capability analysis was done to assist in the change. Based on that analysis, a management structure is recommended to direct the transition process.

The research indicates that four trends will increase in the next ten years: Prison overcrowding, new technology for suspect identification, illegal immigration, and community support for law enforcement. The research further indicates that four highly probable events will affect law enforcement in the next ten years: Mandatory fingerprinting to get a driver's license, portable laser fingerprint scanners, DNA process to identify suspects, and live-scan print searches required for all firearms purchases will all impact the AFIS issue.

The nominal scenario portrays a future in which prisons are well above maximum capacity, courts are overwhelmed with cases, and parolees are flooding the streets of the local jurisdictions. A strategic plan is developed to respond to the predicted events. Six alternative strategies are recommended at the local level and several are presented, targeted at the State level. Based on a group decision, the strategy of prioritizing misdemeanor criminal offenses is chosen as the most likely strategy to assist the local jurisdiction in responding to the scenario.

Finally, a transition management plan is proposed which will assist in the implementation of the strategic plan. The key players, or critical mass, are identified and each is analyzed for their readiness to commit to the strategy and their capability to impact it. A management structure is defined and specific tasks are presented which, in a sequential manner, will result in the success of the overall plan.

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# Introduction

The patrol officer initiated a traffic stop of the vehicle for expired registration tags. The driver was unable to provide a driver's license or any other form of identification, saying that he had left his wallet at home. The officer asked the driver to accompany him to his patrol car. The driver complied and both men walked to the patrol car.

The officer opened the passenger door and removed a small electronic box which was connected to the car by a coiled wire. The officer asked the driver to place his right thumb into the opening in the box, which he did. Moments later, the officer asked the driver to return to his vehicle.

Within two minutes, the officer received a computer generated printout in his vehicle. The printout was the driver's history on the individual that he had stopped. It showed a valid driver's license and no outstanding warrants.

Ten years ago, the above scenario would have been considered science fiction from the year 2000. Today, the automated fingerprint system technology has progressed to the point where this scenario will be commonplace in the next five years. The ability to live-scan an individual's fingerprint, transmit it to an automated fingerprint system, and receive a response within a matter of minutes is fast becoming a reality.

Automated fingerprint systems are going to have a profound impact on the criminal justice system in California and nationwide. The implementation of Cal-Id, and similar systems in other jurisdictions, has taken a labor-intensive, time-consuming, and expensive

process and changed it into a quick and accurate means of identifying someone from their complete or partial set of fingerprints.

This research paper will take an in-depth look at automated fingerprint systems and the impact that those systems will have on California law enforcement in the next ten years. The paper will focus on several specific sub-issues which will be evaluated. Because of time and space constraints, there are also several other sub-issues that, although pertinent, will not be a part of the research.

The rapid advances in computer technology during the past decade have made possible the automated fingerprint systems that are available today. As that technology continues, the ability to use a laser beam to scan an individual's fingerprint, digitize it, and store it is today becoming a reality. As this live-scan technology becomes implemented, a number of questions are raised as to the overall focus of automated fingerprint systems and their impact on the criminal justice system and on the civil and individual rights of the members of our society.

The following sub-issues will be studied:

(1) How will law enforcement deal with the increase in arrests and prosecutions that are an expected result from automated fingerprint systems use?

(2) What are the constitutional issues that will be raised concerning

the storage and use of an individual's fingerprints?

(3) What impact will DNA fingerprinting have on the use and value of conventional fingerprints as a means of identifying criminals?

There are also several sub-issues that come to mind which will not be studied. These include the funding for the automated systems, the training requirements for keeping personnel proficient at system use, and the vast issue of the private sector use of automated fingerprint systems and their access to the government data base. Each of these sub-issues are important and could be the subject of additional research..

This research project will consist of three distinct sections. Section one will include a background on the issue and, using accepted futures methodology, will project the impact of a set of defined trends and events on the issue. Three scenarios will be developed, based upon the futures research, which will portray a nominal, normative and hypothetical future of law enforcement in California. Section two will cover the strategic planning process in which the impact of future trends and events will be anticipated, and a strategic plan will be developed which makes best use of available resources in preparing for the changes which will occur as a result of fingerprint automation. Finally, section three will develop a model to be used in the transition management process. This model will serve as a guide to take us from the present situation to implementation of the strategic plan. Based on the model, a management structure will be recommended to direct the transition process.

The research will look beyond the technological issues involved in fingerprint automation. Many of these issues have been solved or are in the process of being solved. There

will be, however, a discussion of the history of the automation process, the current level of the technology, and a look into the advances which will be made in the next ten years. The real focus of the research will be on the immediate and future impact of that technology on the law enforcement community in California. The strategic plan and transition management model will be developed for a medium-sized police department to implement. Although concentrating on a medium-sized police department, for planning purposes, many other areas of the criminal justice system will be impacted. These include the criminal court system, probation and parole, the prison system and the statewide criminal justice information systems. The basic futures research presented here can be applied to those areas in order to develop plans and management models which will best prepare them for the changes to come. Because of the broad nature of the issue and the number of jurisdictions involved, this paper will include the various State level agencies in the strategic planning and transition management models. No single agency can prepare for the changes that will come without considering the multitude of other players involved.

## Background

To fully appreciate the impact that automated fingerprint identification systems (AFIS) will have on law enforcement, it will be necessary to look at the traditional methods for classifying and searching for fingerprints. These traditional methods have been used for nearly a century[1] to classify and index fingerprints. What began in 1903 as a means for the New York Civil Service Commission to ensure that the applicants for jobs were not having someone else take the civil service tests for them, quickly became the most positive means of identifying a suspect in a crime[2].

Fingerprints offer an infallible means of personal identification. For this reason, their use has supplanted every other method for the positive identification of an individual. From the time of an individual's birth, all other characteristics of an individual may change, but fingerprints do not. Based upon the unique and unchanging patterns of ridge detail on each individual's fingers, law enforcement agencies throughout the world have established fingerprints as the universal method for verification of identity and to ensure the integrity of criminal records systems[3]. To support this premise, criminal record repositories and identification bureaus have been established at all levels of the criminal justice system. During the past century, these repositories have become massive, requiring a labor-intensive process in order to match a latent fingerprint with one in the data base.

There are two types of fingerprint files. The largest is comprised of rolled ink impres-

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1 FBI Advanced Fingerprint School Manual, U.S. Department of Justice, no date, p. 8.

2 Automated Fingerprint Identification Systems:Technology and Policy Issues, U.S. Department of Justice , April 1987, p. 2.

3 ibid, p. 2.

sions of all ten of an individual's fingers and is commonly known as a ten-print card. Typically, these cards are prepared at the time of an individual's arrest and can be used to verify his identity and determine if he has a prior criminal record. The constitutionality of maintaining an arrested person's fingerprints on file has not been an issue in the past, even though the arrested person has not been convicted of a crime. This will be an important point later in the discussion as the issue of maintaining fingerprint files of all citizens is presented. Why does an arrested, but not convicted, person's rights differ from those of the average person?

The second main source of ten-print cards comes from certain employment or licensing applications which want to determine if the individual has a criminal record that would bar him from being hired or receiving the license in question. Again, the constitutionality of maintaining these fingerprints on file has not been an issue.

The second type of fingerprint file is composed of "latent" fingerprints which are the result of criminal investigations. These latent fingerprints are generally located at crime scenes and can be found virtually anywhere. There are many methods for locating these prints, the most common of which is using carbon black powder to define the ridges of the print. Typically, these latent prints are of poor quality and may only be composed of a portion of an individual's finger. Recent advances in crime scene investigation have provided the ability to locate latent prints that went previously undetected. These methods include the use of ninhydrin, cyanoacrylates (super glue), and lasers. These methods will be discussed in depth in the futures portion of this paper.

It quickly became apparent that trying to search through the entire fingerprint file in

attempting to match a latent print would not be practical. The number of ten-print cards that were retained grew rapidly, and the process of examining each card in order to determine if it matched the latent print at hand was a very labor intensive process. As the ten-print file grew, the probability of finding a match in that file decreased to the point where it was highly improbable, if not impossible.

In 1901, Sir Edward Henry devised a system of fingerprint classification that was to become the predominant system of classification up to the present time. The Henry system, as it became known, assigns each finger to one of two basic fingerprint types known as the whorl and non-whorl. Each finger was assigned to a category and given an alphanumeric designation reflecting its pattern characteristics. This basic classification system yielded 1,024 possible categories that a person's fingerprints could fit into. This system provided a means of reducing the number of ten-print cards that an examiner would have to search in order to try and match a latent print. However, as the size of the repositories grew, the system became too difficult to manage. The FBI now has about 23 million criminal fingerprints on file and California has 7.5 million[4]. It is obvious that the basic Henry system could not handle file sizes that were so large. In order to keep up with the increase in file sizes, the basic Henry system was modified by adding sub-categories to allow for an increased number of ten-print cards. The portion of fingerprints in the most common fingerprint classification category has decreased from 25 percent in the original system to about 6 percent currently. However, 6 percent of the files in the FBI or California repositories are still a very large number of print cards to search.

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[4] ibid, p. 3.

The Henry system has an inherent limitation in that it classifies all ten-prints of an individual as one unit. Since one latent print can not be searched as a unit, the value of the system in matching latent crime scene prints to a ten-print card in the file is minimal. Such "cold searches" as they are called, rarely result in a match.

In order to fully assess the impact of AFIS systems, a review of the current manual process is necessary. As noted, the fingerprint repository in California is made up of ten-print cards that were obtained from criminal arrestees, from employment applications, or licensing submissions. These cards are then searched against the data base to determine if the individual is already on file. The process begins with a name search of the individual against a master name index. The fingerprints of successful name matches are then examined by a technician to determine if there is an exact match. If there is, then this is considered as positive identification of the individual. In California, approximately 47 percent of arrested persons[5] are identified by this relatively quick and inexpensive means.

If the results of the name search are negative, the fingerprints are classified by a technician and a "technical search" is conducted to ensure that the person has not used an alias to escape identification. Although the search is limited to a specific classification type, the manual search process is time consuming and expensive. In large fingerprint files, hundreds of ten-print cards must be searched in attempting to match the individual's prints. The technical search of the data base yields another 8 percent of the prints identified,

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[5] Tracking Juvenile Recidivists, California Department of Justice, August 1985, pp. 36-37.

bringing the total identification rate to 55 percent.[6]

Non-criminal or applicant fingerprints that are submitted for employment or licensing purposes yield different results. The FBI[7] estimates that only about 5 percent of employment and licensing applicants have criminal records. Another 1.5 percent are identified by a technical search, bringing the total to 6.5 percent. This means that 95 percent of applicant fingerprint cards must be manually searched, and the traditional hit rate on those cards will only be 1-2 percent. For this reason, most non-criminal justice cards are processed by name search only, thus easily allowing the use of an alias to avoid detection by the system.

The situation, as just described, represented the system in use in California until very recently. The process was time consuming, expensive and less than accurate. The probability of matching a latent print from a crime scene to one of the ten-print cards on file was next to zero. The value of the fingerprint repositories was not in identifying suspects of crimes, but of ensuring that once a suspect was arrested, he would be positively identified by his fingerprints. As also seen, applicants for employment and licenses would only be identified if they gave their true names, and then only 5 percent of the time. Overall, the impact of fingerprints on the criminal justice system was minimal. True, personnel were assigned to identification bureaus, files were maintained, and fingerprints were used to identify known suspects, but the ramifications of these functions were small compared to overall criminal justice activity and cost. The advances made in computer and imaging technology during the last ten years are going to completely alter the status quo, and the

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6 ibid,p. 3.

7 A Study to Identify Criminal Justice Information Law, Policy and Management Practices, prepared for the FBI by SEARCH Group, Inc., September 1984, p. 58.

impact of fingerprint automation will be the greatest change that law enforcement has seen in the last century.

In 1973, the Office of the Attorney General in California began a study to determine the feasibility of automating the State's central fingerprint file. The size of the State file had grown tremendously, and the number of requests for fingerprint searches placed a burden upon the State's resources. Projections indicated that the situation would continue to decline to the point where furnishing timely and accurate information would not be possible.

The study concluded that automating the State's fingerprint file was technologically possible and economically sound. However, the study also concluded that the then currently available systems would not be adequate to accomplish the goals that were set forth. Significant improvements in computer and imaging technology were expected and the study recommended that the State wait until more advanced systems were available. The State did undertake a pilot program in 1976 as a proof-of-concept vehicle. This program proved successful, and a limited capacity system was purchased in 1979. The Department of Justice operated this limited capacity system from 1980 to 1985.

This first-generation Automated Latent Print System (ALPS) began serving nine counties in the State and was eventually expanded to serve 52 counties. Because of the storage limitations of the system and the time it took to search for print matches, the system was not practical to do cold searches for latent prints. This defeated one of the prime goals of the system which was to be able to identify a criminal suspect from his or her latent fingerprint. In that endeavor, the new ALPS was not much better than the manual system.

Finally, in 1983, fingerprint automation was given the highest priority by the Attorney General's Office.[8] At the same time, the technology became available to create an ALPS system which would have the storage capacity and the ability to quickly search a large data base in order to find a match to a latent print obtained from a crime scene. The California Identification (Cal-Id) system was born.

One of the critical components of the Cal-Id system is the Remote Access Network (RAN). This network allows the various county and municipal jurisdictions in the State to have access to the system. This provides them with a means of conducting a latent print search, either from their own facility, or from a nearby facility that has a Local Input Terminal (LIT) to the system. The unified statewide system ensures that all agencies will have access to the central fingerprint data base.

At about the same time as California was exploring the AFIS options available, the FBI was doing the same thing at the federal level. Their Automated Identification System (AIS) was to become the world's largest on-line fingerprint system.[9] At the present time, phase III of the AIS is complete and on line. The size of the FBI automated data base is currently growing at the rate of 4000 new records per day.[10]

Many other states and local jurisdictions in the U.S. have also automated their fingerprint files. The significance of this is that the number of automated ten-print cards on file nationwide continues to grow at a rapid pace. As the size of the data base grows,

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8 Status Report:California Identification System and Remote Access Network for Calendar Year 1988, California Department of Justice Report, January 1989, p.4.

9 U.S. Department of Justice, FBI Newsletter 89-2, July 1989, p.1.

10 ibid,p.1.

the probability of matching a latent print to a ten-print card on file increases. Of course, it will be necessary for all of the systems nationwide to be able to interface with each other and transmit search requests to each other for the criminal justice system to realize the full impact of fingerprint automation. Currently, there is no standard format for the storage of automated fingerprints. Each individual system's manufacturer has its own specifications for the manner in which prints are stored. However, the National Bureau of Standards has established a standard format for the transmission of digitized fingerprints.[11] Once implemented by all manufacturers, this standard will facilitate the exchange of information between the various systems in use.

The real benefit from AFIS/ALPS systems is the speed at which they can search the fingerprint data base and the accuracy with which they can do it. The computer actually carries out a mathematical search of the data base, rather than comparing the stored images. This search is conducted by an AFIS system component called a matcher. The matcher can conduct the search at the rate of 500-600 prints per second. The search is conducted in parallel, with several matchers, each taking a portion of the data base. As the size of the data base increases, the number of matchers can be increased so that the overall performance of the system does not degrade. The average search time for a ten- print-to-ten-print search is so rapid that a data base of 500,000 records can be searched in a matter of minutes. Latent print searches of the same data base will typically take a half hour or less.

The results of the search assigns a score to each possible candidate match. Based upon this score, the technician can determine the probability of an exact match in the system. If

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[11] On-Line Exchange of Fingerprint Identification Data, FBI Law Enforcement Bulletin, December 1987, pp. 14-16.

the score does not reach this threshold, the system will provide a list of prints which are similar to the submitted one. In either case, the technician must examine the prints himself to determine if an exact match has been made. Currently, the AFIS systems in use are producing approximately 98 percent[12] accuracy in matching ten- print cards. The accuracy for latent prints is somewhat less because there are usually fewer identification points with which to work.

The latest technological advance in AFIS systems is image storage and retrieval. The digitized images of ten-print cards are stored on optical disks and can later be recalled and presented on a video screen. This allows a fingerprint technician the ability to compare a latent print with the matches that the system has found, in a real- time mode, without having to have a hard copy of the ten-print card. The speed and efficiency with which the technician can process latent prints is greatly increased through this process.

Finally, the advances made in facsimile technology have had an impact on AFIS systems. The latest generation of facsimile machines can transmit fingerprint images over standard phone lines with enough resolution to ensure that the search accuracy of the AFIS system will not degrade. This allows smaller jurisdictions to transmit fingerprints to an input site without having to actually take the ten-print card or latent print there to be processed. Also, this provides an immediately available means of conducting a print search within another state or through the FBI. Although time consuming, this is currently the only means of conducting a search outside of one's own system.

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12 Proceedings of a SEARCH Group National Conference on Automated Identification Systems, SEARCH Group Inc., February 1986.

A discussion on the history of automated fingerprint systems would not be complete without a brief paragraph on the status and future of DNA fingerprinting. The technology for DNA identification of criminal suspects is just now emerging. There are three different processes which can be used to match a sample of a person's tissue with that which has been located at a crime scene. Two of the three require about 1 drop of blood or small amount of tissue and the third requires only minute amounts of tissue. The technical aspects of the process are beyond the scope of this paper, but the likelihood of having a duplicate DNA match amongst the population is one in 10 billion.[13]

The DNA process has led to 12 convictions across the nation for various crimes; however, none of them as yet have been in California. This number is bound to increase rapidly as the process becomes more widely used and accepted by the courts. One interesting note is that the California Attorney General's Office plans to store 5000 DNA prints on file obtained from sex offenders while in custody.[14] This appears to be the beginning of a new repository for criminal information and presents some constitutional questions as to the legality of maintaining files on information obtained from a person's tissue. This issue will be discussed at greater length in the futures portion of this study. Another issue to be discussed is whether DNA prints will eventually make conventional fingerprints obsolete as a means of identifying a person. The oils, perspiration, and minute amounts of tissue left by a person's finger when it touches anything will be able to be DNA printed and thus will positively identify the person without ever looking at fingerprint ridges, whorls or loops.

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[13] Genetics Meets Forensics, Bioscience, January 1989, p. 6.

[14] ibid,p. 6.

## The Future

Between the years 1983 and 1988, the California Crime Index indicated that the number of offenses reported increased by 3.3 percent.[15] Of 935,520 offenses reported in 1988, 72 percent were crimes against property. This 72 percent was broken down into 407,555 burglaries, or 60.5 percent, and 265,975 motor vehicle thefts or 39.5 percent.[16]

During the same period in 1988, the number of arrests for property crimes was 202,053. This equates to an arrest for about one in three property crimes in California. Of those arrested, 57.8 percent were eventually convicted of a crime.[17] This means that for every six reportable property crimes in California in 1988, only one conviction was obtained.

The significance of the statistics presented above is not in what they represent for the year 1988, but what they may represent for the year 1993 or 1998. The number of unsolved burglaries and vehicle thefts, if solved, would have a significant impact on the entire criminal justice system in California. The widespread use of AFIS systems, in conjunction with a data base of significant size, has the potential of reducing the number of unsolved property crimes to the extent that the entire criminal justice system in California would feel that impact.

I have chosen to center the discussion around burglary and vehicle theft for several reasons. In all cases, some form of property is touched by the suspect. Unless he is wearing

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[15] Crime and Delinquency in California, 1988, Office of the Attorney General, Bureau of Criminal Statistics, May 1989, p. 2.

[16] ibid.,p. 3.

[17] ibid., p. 20.

gloves, a latent fingerprint is left behind. Although we may not have the ability to locate, develop and lift that latent print 100 percent of the time, it still exists. What if we could locate every latent fingerprint at a crime scene? Since the conviction rate for crimes against property is very poor, there is much room for improvement. What if 90 percent of all burglaries and vehicle thefts were solved and the evidence was so strong that all of those cases led to convictions? This research will attempt to answer those questions as they apply to California law enforcement in the next ten years.

A futures wheel or impact wheel as it is sometimes called, is a tool for examining the impact of a particular issue or event on its sphere of influence. The wheel graphically presents the first, second, third, and so forth, order impacts that may occur if the primary issue or event were to occur. The value of such a representation is that it allows the reader to project beyond the issue at hand and look at the sub-issues that may be impacted by the chain of events as they might occur. Each of these sub-issues, in turn, can spawn additional sub-issues, and so on. An in-depth study of a particular issue requires an analysis of these first- and second-order sub-issues.

Figure 1 represents a futures impact wheel for the issue of automated fingerprint identification systems. In developing the wheel, the following question was asked. What will be the impact of AFIS on California law enforcement in the next ten years? In answering this question, four major areas of impact were identified. An examination of each area will assist in understanding the overall impact of AFIS on law enforcement in the next ten years.

One expected consequence of widespread AFIS use will be a substantial increase in the

# FUTURES IMPACT WHEEL

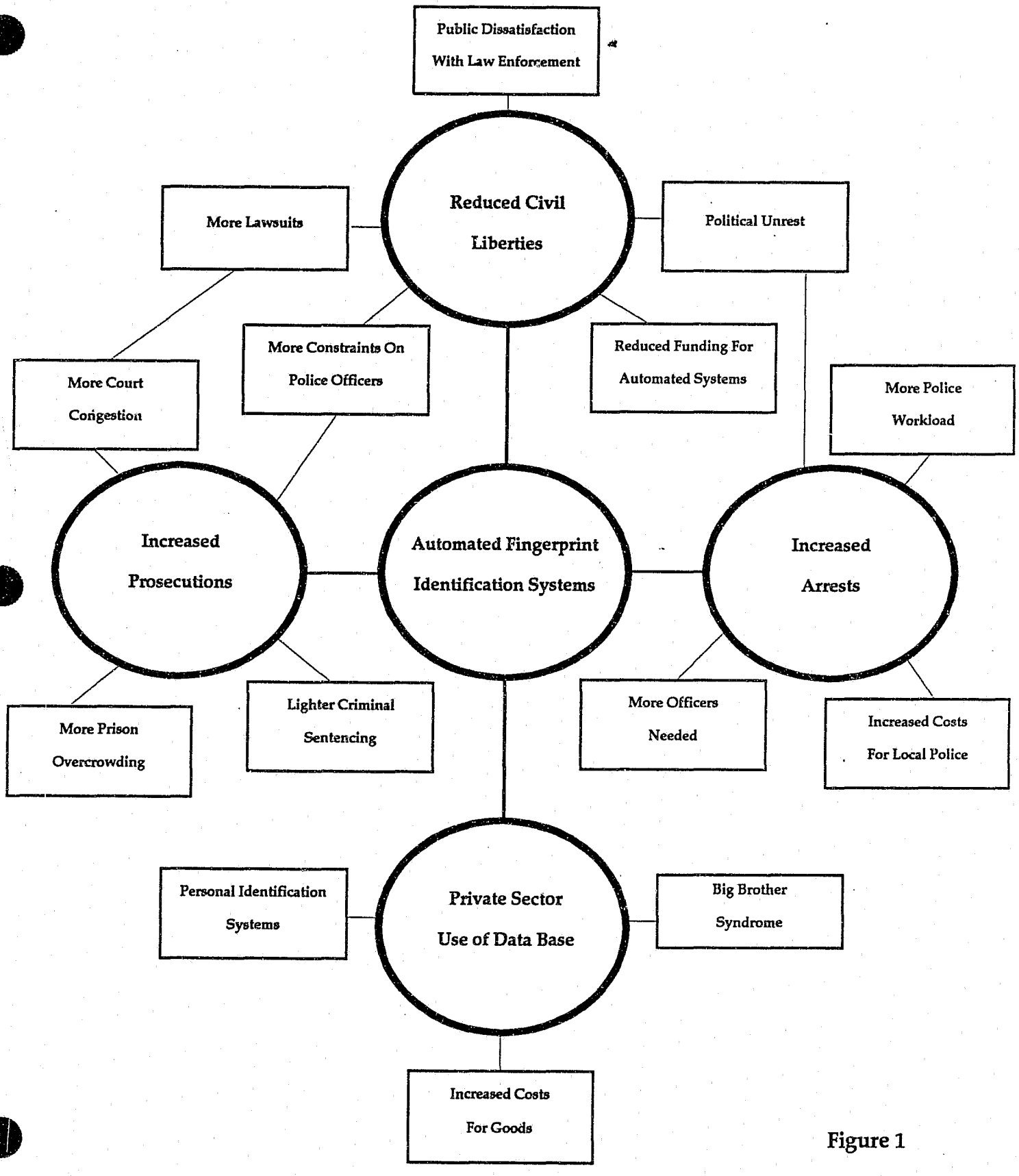


Figure 1

number of arrests that are made Statewide for criminal acts. The immediate effects of this increased workload will be felt first by the local jurisdictions that must provide the staffing and facilities to handle the arrested persons. Detectives will be required to fully investigate more cases as previously unknown suspects become known. More of the detective's time will be spent in court, as the cases are first filed and then as they are presented in court, through the preliminary hearing, pre-trial motions, and finally the trial process. Of course, all of this additional work will require clerical support and additional jail support. As suspects are identified and warrants of arrest are obtained, the number of officers involved in serving those warrants must increase. Finally, all of these increases require funding, and hence local jurisdictions can expect their fiscal requirements to increase at a pace consistent with the workload increase.

As the number of persons arrested for various offenses increases, so will the number of prosecutions. The currently congested court calendars will become further backlogged as the number of criminal filings increases. This will necessitate additional District Attorney support to present the cases and additional judges and court rooms to hear the cases. Again, clerical support for the increase will be necessary. Because fingerprints provide positive identification of a person, the number of convictions can also be expected to increase at a like rate. This will mean more opportunity for plea bargaining and the resultant lighter criminal sentences. Finally, the already overcrowded prison system will be pushed to the point where more and more convicts will receive early paroles. With more convicts on the street, the entire process becomes cyclical and continues to feed on itself.

The area of civil liberties and the constitutionality of fingerprint data bases requires a

more subtle review. Currently, all automated fingerprint data bases are made up of arrested persons and persons who have applied for jobs or licenses that require a background investigation. This severely limits the probability of an AFIS making a hit on a latent print. Clearly, the larger the number of fingerprints on file, the greater the chances of finding a match. If everyone's fingerprints were on file, then we would expect to solve all crimes in which a latent fingerprint was found. In the days before AFIS, there was no motivation to have such a large data base because a manual search of the files was not possible. Current and future technology will make it possible to search a huge data base in a matter of minutes. The question becomes whether or not the courts or the public will allow for the maintenance of fingerprint files on all citizens. In 1987, Homestead, Pennsylvania, had a series of six attacks on women. The local police were able to locate latent fingerprints from at least one of the crime scenes. They knew the suspect was black, and in an attempt to locate him, they asked each male black in the community to submit to fingerprinting in order to try and match the latent print. The community was in an uproar about the invasion of privacy, but most men went along with the request. As James Lieber, of the Pittsburgh American Civil Liberties Union said that "blacks must relinquish their privacy or become suspect".[18] The Homestead incident limited the request to a specific race, but that was only because the race of the suspect was known.

Some of the ramifications in the civil rights arena include more constraints being placed on law enforcement by the courts, more lawsuits for violation of civil rights and possible political unrest. If public dissatisfaction becomes too visible, then reduced funding for AFIS systems is sure to follow. This entire area of civil rights will be discussed further as the

[18] F.Trippett. Trying to Trace A Rapist, Time Magazine, September 14, 1987, p. 28.

results of the futures research are presented.

Finally, there is the consideration of the private sector making use of the available technology and requesting access to the fingerprint data base in the same manner as they have access to driving records and vehicle registration records. The live-scan technology that is emerging will allow for personal identification systems which are based on a person's fingerprints. In order to write a personal check at the supermarket, we would no longer have to present any form of identification other than our thumb, which would be inserted into a live-scan fingerprint reader. Within seconds, our identity would be confirmed and the check processed. There are many other areas in the private sector where the same technology would be applicable. Increased costs for all goods and services would be one logical outgrowth of the technology.

The field of futures research attempts to provide a view into the future in which the probability of certain events occurring is greater or less than if they were to randomly occur. The research does not attempt to predict *the* future, but rather offers alternative futures upon which policy decisions can be made in order to better plan for the changes which may occur.

This research will provide several alternative views of the future of law enforcement in California in order to provide policy makers with a model which they can use to best prepare their agencies for the changes which will occur in the next ten years because of the use of automated fingerprint systems. The methodology used in preparing these alternative scenarios is known as a modified conventional delphi. This is a process in which a group of knowledgeable individuals are asked to predict the levels of various trends and events

that may influence the issue being studied. It is clearly understood that their predictions will be imperfect, but the collective judgment of a group will generally be more accurate than that of any one individual.

For the purposes of this research, trends will be defined as any measurable changes in direction for a particular issue that cannot be defined with a specific time of occurrence. The value of the trend will vary over time, but the trend itself will always be present. For example, prison overcrowding would be defined as a trend since it can have measurable changes in direction, but does not have a specific time in which we can say that it has occurred. Events, on the other hand, are defined as having a specific time of occurrence and are easily characterized as having occurred or not. The prison population reaches 125 percent of capacity would be an event, as there is a measurable indicator which would allow us to say that the event has occurred.

A group of eleven individual's from various facets of law enforcement throughout the State of California was chosen to participate as the modified conventional delphi panel for this research. The group included a chief of police from a medium-sized agency (110 sworn), representatives from the identification bureaus of two large agencies (4000 plus sworn), and representatives from the Criminal Justice Coordinating Committee of a large county in California, from the State Attorney General's Office and from the Cal-Id Advisory Committee. Finally, two automation specialists from local police agencies rounded out the group.

The research panel was mailed a questionnaire that described the intent of the research and provided a background on the issue and sub-issues to be studied. They were asked to

provide their forecasts on a list of ten trends and ten events that they were given. The trends and events had been previously identified as having a potential influence on impact of AFIS in the State. The identification process included a scan of the literature on the topic, keeping in mind the STEEP (sociological, technical, environmental, economical and political) impact model and a brainstorming session with several individual's who were knowledgeable on the issues related to AFIS. This process produced a list of trends and events which were then reduced to ten of each for the purposes of the research. Appendix A presents the ten trends, and Appendix B presents the nine events that were felt to have two necessary qualities; one was that they be real-world possibilities and not far-fetched, and two, that they would have an impact on the issue of AFIS.

The panel was asked to complete the questionnaire and return it via the enclosed return envelopes. Ten of the eleven original packets that were sent out were returned. The modified conventional delphi process requires that the results of the first round mailing be tabulated in some form and a second round mailing be done which allows the participants to view the results of the group and modify their own responses, if they choose, based upon the group results. The responses from round one were summarized for the second mailing. The summary showed the high, low and median responses for each trend and event. Based upon that summary, the five trends and events that were identified to have the greatest potential impact on AFIS were chosen for the second mailing. This mailing also included a cross-impact analysis form. In completing the form, the participants were asked the following question, "If each event listed were to actually occur, how would that influence the levels of each trend presented and how would that affect the probability of occurrence of each of the other events listed?"

The second mailing was done and nine replies were received in a timely period. The balance of the futures research section is based upon the prediction of those nine individual's as to what the future may be for the specified trends and events.

Figure 2 represents the results of the delphi process for the five identified trends. For each trend, the group was asked five questions. Using 100 as a base level for today's level, what was the level of the trend five years ago and what will be and what should be the level of the trend five and ten years from now.

The five trends are:

Prison Overcrowding

New Technology for Suspect Identification

Illegal Immigration

Community Support for Law Enforcement

Overall Crime Rate

For each trend, the results of the delphi were compiled into high, low and median responses. These are presented in Figure 2 as indicated. A graphic representation and discussion of each trend will provide some insight into their predicted future and impact. Each graph of the individual trends shows the high, median and low responses of the group. The range of the responses is easily identified and becomes the most important factor in judging the validity of the group's work. The two key portions of the graphs are what will be the level of the trend (nominal), and what should be the level of the trend (normative) in the next five and ten years?

# TREND EVALUATION RESULTS

| TREND STATEMENT | LEVEL OF THE TREND (Today=100%) | | | | | |
|---|---|---|---|---|---|---|
| | 5 YEARS AGO | TODAY | 5 YEARS FROM NOW | | 10 YEARS FROM NOW | |
| | | | WILL BE | SHOULD BE | WILL BE | SHOULD BE |
| Prison Overcrowding | *100-80*<br>*80* | 100 | *150-120*<br>*125* | *100-75*<br>*90* | *150-90*<br>*125* | *95-75*<br>*90* |
| New Technology for Suspect Identification | *75-50*<br>*70* | 100 | *150-95*<br>*120* | *150-95*<br>*150* | *180-97*<br>*135* | *200-97*<br>*165* |
| Illegal Immigration | *100-75*<br>*80* | 100 | *125-80*<br>*125* | *100-40*<br>*75* | *175-75*<br>*125* | *100-40*<br>*80* |
| Community Support for Law Enforcement | *95-80*<br>*90* | 100 | *115-81*<br>*100* | *125-85*<br>*110* | *125-80*<br>*120* | *125-90*<br>*125* |
| Overall Crime Rate | *98-80*<br>*90* | 100 | *120-79*<br>*100* | *90-80*<br>*90* | *150-80*<br>*100* | *90-75*<br>*80* |

Note: The dual entries in each cell indicate the high-low responses and the number directly underneath represents the median response.

**Figure 2**

# PRISON OVERCROWDING

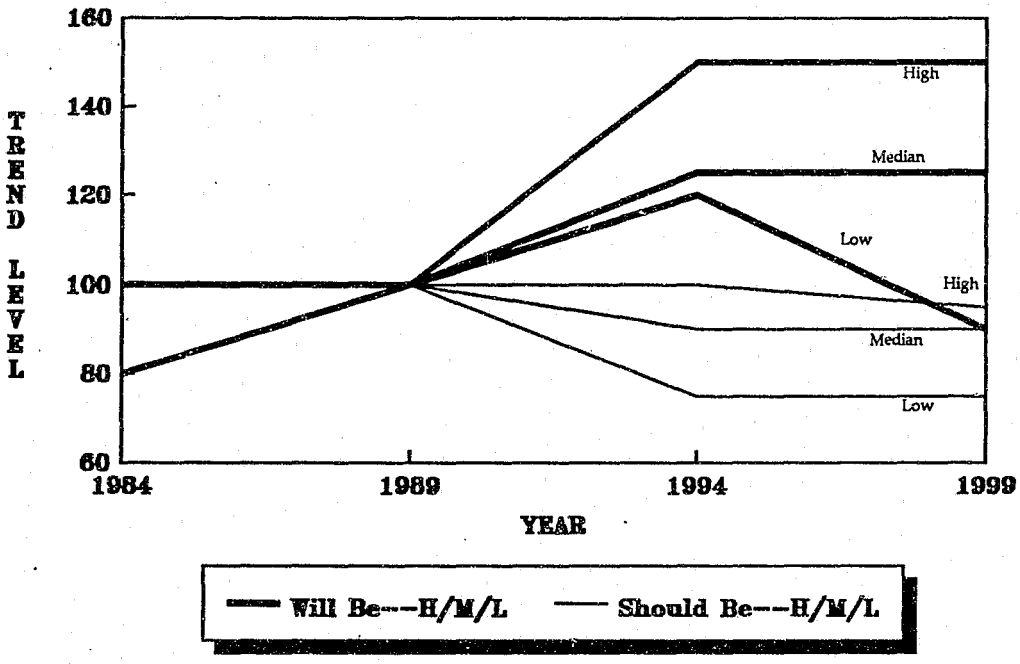


Figure 3

Figure 3 shows consensus among the panel members on the issue of prison overcrowding. It is clear that prison overcrowding has continued to rise for the past five years and is expected to do so at an increased pace in the next ten years. The panel also clearly indicates that the level of prison overcrowding should be much lower in the next ten years than it is expected to be. This trend has a subtle relationship to the impact of AFIS on California law enforcement. As the prisons become more and more overcrowded, it can be expected that more prisoners will receive early paroles due to the pressure placed upon the system to create more space for new arrivals. As these persons are returned to society, history has clearly shown that they will begin to commit crimes again. Widespread use of AFIS will accelerate the identification and prosecution of these individual's and the prompt return of them to prison. This will place additional burdens upon the prison system, forcing more early releases; thus, the process feeds on itself. Unfortunately, many other aspects of the

criminal justice system are impacted in the process. Local law enforcement, courts, prosecutors and the criminal records systems will all feel the burden of the additional workload as the cyclical process continues to grow in intensity. The net result moves towards an overload of the entire system.

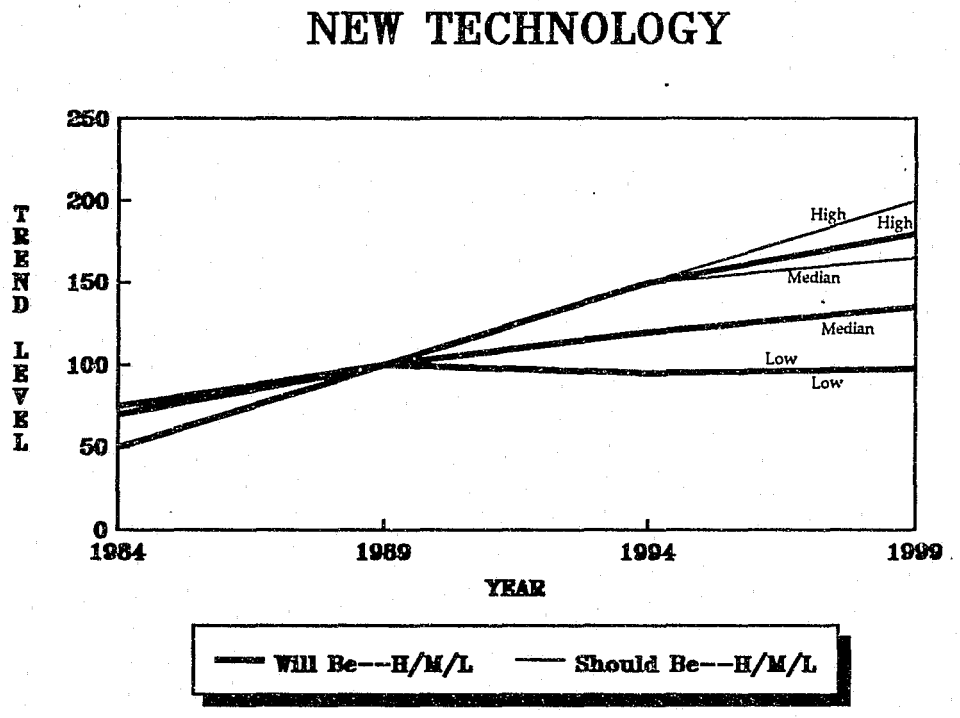


Figure 4

Figure 4 presents the panel results on the issue of new technology being used to assist in suspect identification. Again, there was close consensus among the panel members. It is interesting to note that they felt the expected level of the trend in the next ten years is just about where it should be. A continued, moderate amount of rise in the trend level is expected into the next century. The influence on AFIS can be easily predicted. As the technology continues, live-scan fingerprinting will become a reality, first in the jails within the State, and then expanding to the police vehicles. Technological advances in data

compression techniques will allow for the transmission of fingerprint information over the radio frequencies. The ability to locate and lift latent prints will increase as additional laser technology becomes available, with the ultimate goal of being able to scan a latent print directly at a crime scene by some sort of laser gun, similar to the way in which bar codes are scanned today. As all of these technological advances become available, the value and success of AFIS will continue to increase.

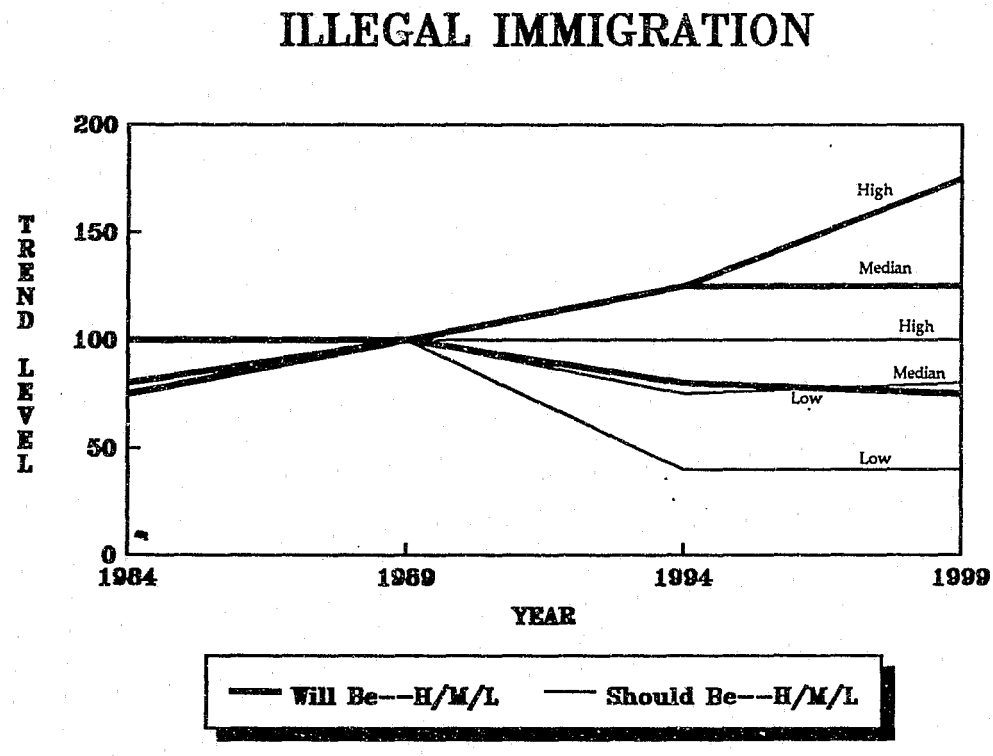


Figure 5

Figure 5 portrays the panel's feelings on the illegal immigration issue. Again, there is a fairly consistent response. The level of the trend is expected to continue its upward path into the next century. The panel would like to see illegal immigration reduced to about 80 percent of the current level which would place it at the same level it was five years ago. Interestingly, none of the panel members suggested that illegal immigration should be at

a zero or near zero level in the next ten years. There appears to be the realization that illegal immigration will continue at a fairly high level regardless of the steps taken to prevent it. The basis for the success of AFIS is the data base on which it draws to make comparisons. In the case of illegals committing crimes, it can be predicted that many of their fingerprints will not be in the data base, at least for first time offenders. Also, once identified, locating and arresting illegals is made more difficult by their lack of permanent status. Many simply return to their homes south of the border once they feel that they have been identified. Overall, illegal immigration can be expected to have a negative influence on the effectiveness, and hence the impact of automated fingerprint systems.

## COMMUNITY SUPPORT

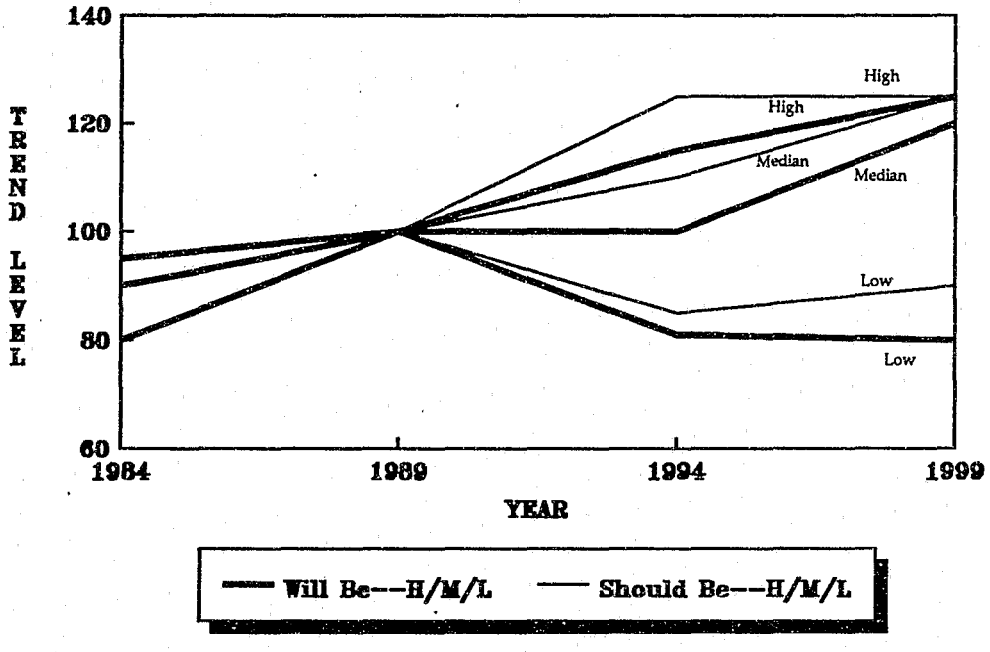


Figure 6

Figure 6 is the panel's response on the predicted levels of community support for law enforcement in the next ten years. The panel was less consistent on this prediction than on

the previous ones. There was general agreement that the level of the trend would be upward, but the range of responses was quite varied. Some felt that the trend would be downward while it should be upward and surprisingly, one felt that the trend was upward and should be downward. As the graph depicts, there is an overlap between the *will be* and *should be* responses indicating overall uncertainty on the part of the group. Community support for law enforcement has a direct bearing on the funding for law enforcement related programs. As indicated, the impact of AFIS will be on the entire range of law enforcement and criminal justice jurisdictions, and it can be expected that all of them will require increased funding to hire the necessary support personnel to handle the increased workload. If community support declines or shifts to other arenas, the impact of AFIS will be felt much stronger by these jurisdictions as they try to meet the increased workload with little or no additional support.

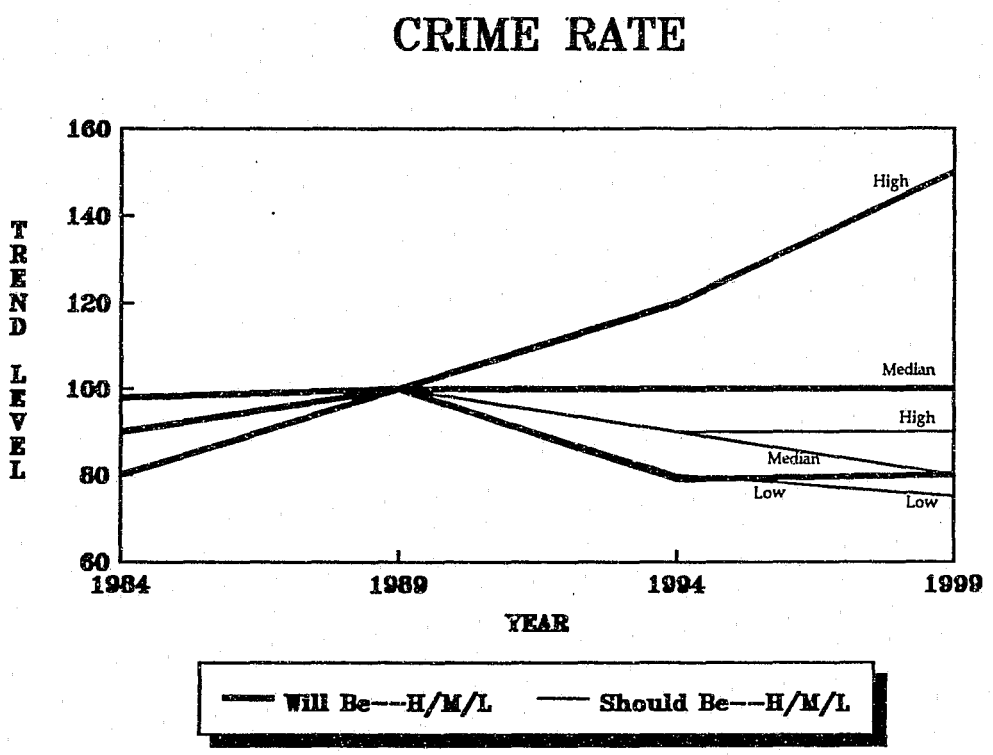


Figure 7

Finally, Figure 7 depicts the trend levels for the overall crime rate in the next ten years. The panel was again consistent on this trend, although more so for what should be rather than for what will be. The median response shows an expectation that the crime rate will remain the same for the next ten years, but the range is quite varied. The high response expects a 50 percent increase in the crime rate while the low response expects a 20 percent reduction. Based upon the most recently available statistics, the crime rate appears to be going up at a modest pace.[19] The panel was very consistent on their predictions for where the crime rate should be. A reduction of ten to twenty percent over the next ten years is their best estimate of where the crime rate should be. The impact of AFIS is dependent directly upon the crime rate. As more crimes are committed, more suspects will be identified through the AFIS process, and more will be arrested and sentenced to prison. With a continued rise in the crime rate, it would appear that more individuals are becoming involved in criminal behavior which means there will be a greater number of first time offenders. The identification of these first time offenders by their fingerprints will depend upon the direction taken by the State in attempting to increase the size of the data base and hence the probability of matching their fingerprints.

The trend levels, as predicted by the group, can be used to forecast an overall picture of California law enforcement in the next ten years. The group was also asked to forecast the probability of a set of events occurring during that same time period. The events, if they were to occur, could have an influence on the levels of the identified trends.

In forecasting events, the panel was asked to predict the year in which the probability

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[19] Crime and Delinquency in California, 1988, Office of the Attorney General, Bureau of Criminal Statistics, May 1989, p. 2.

of the event first exceeded zero, the probability of the event five and ten years from now, and the positive and negative impacts on the issue if the event were to occur. As in the case of the trend statements, the panel was first mailed a list of ten events which they were asked to rate. After their initial responses were calculated, the five events with the most significant probability were chosen and the panel was given the second mailing. The results of the second mailing were compiled and they are presented in Figure 8.

The five event statements are:

Mandatory fingerprinting required to get a driver's license

All fingerprint systems nationwide are linked together

Portable latent print laser scanner can retrieve virtually all crime scene prints

DNA process allows positive identification of virtually all suspects

Live-scan print search required for all firearm purchases

For each event, the results are presented as the high, low and median responses. Again, as with the trend statements, each result for the event statements are also presented in a graphic form. A discussion of each event in detail will offer insight into their impact on the issue. As with the trends, the range of responses becomes the more important statistic in the overall evaluation process.

Figure 9 depicts the panel responses on the issue of mandatory fingerprints required to get a driver's license. There was fairly consistent group response on this issue with the first year of greater than zero probability being 1992. The group felt than in the next ten years, the probability of the State requiring fingerprints to get a driver's license will be 80 percent.

# EVENT EVALUATION RESULTS

| EVENT STATEMENT | PROBABILITY | | | IMPACT ON THE ISSUE IF THE EVENT OCCURRED | |
|---|---|---|---|---|---|
| | YEAR THAT PROBABILITY FIRST EXCEEDS ZERO | 5 YEARS FROM NOW (0-100) | 10 YEARS FROM NOW (0-100) | POSITIVE (0-10) | NEGATIVE (0-10) |
| Mandatory fingerprinting required to get a driver's license. | *1994-1990*<br>*1992* | *95-30*<br>*70* | *100-50*<br>*80* | *10-8*<br>*10* | *1-0*<br>*0* |
| All fingerprint systems nationwide are linked together. | *1998-1990*<br>*1993* | *90-10*<br>*30* | *100-20*<br>*55* | *10-9*<br>*10* | *0-0*<br>*0* |
| Portable latent print laser scanner can retrieve virtually all crime scene prints. | *2005-1990*<br>*1992* | *75-10*<br>*50* | *90-25*<br>*75* | *10-6*<br>*10* | *4-0*<br>*0* |
| DNA process allows positive identification of virtually all suspects. | *2009-1990*<br>*1993* | *50-2*<br>*40* | *90-25*<br>*70* | *10-6*<br>*10* | *1-0*<br>*0* |
| Live-scan print search required for all firearm purchases. | *2000-1990*<br>*1992* | *80-10*<br>*50* | *90-20*<br>*85* | *10-8*<br>*9* | *1-0*<br>*0* |

Note: The dual entries in each cell indicate the high-low responses and the number directly underneath represents the median response.

Figure 8

# MANDATORY FINGERPRINTS

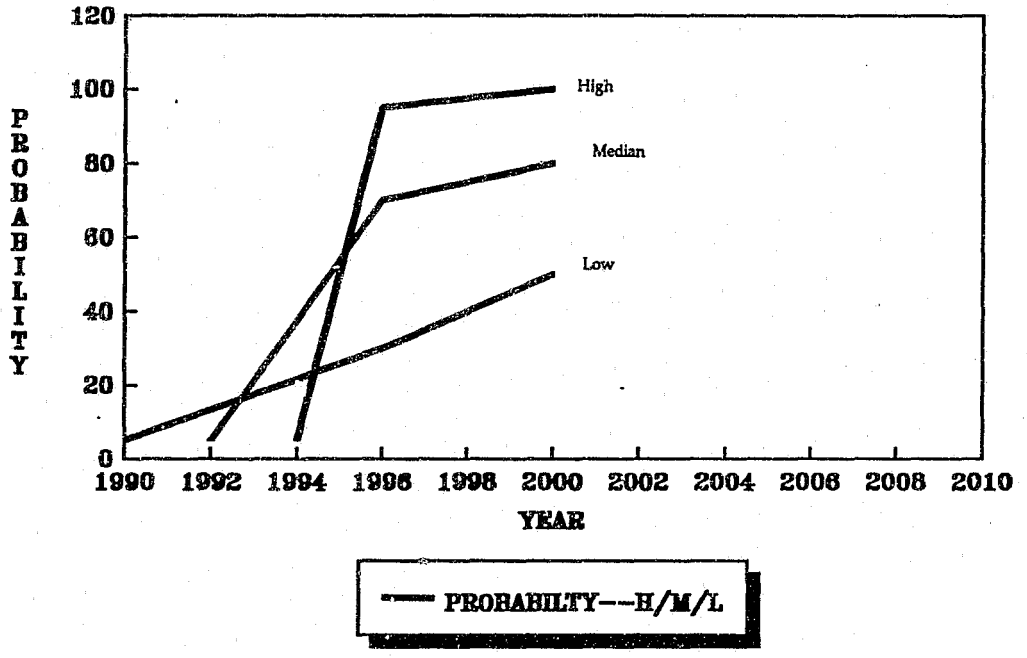


**Figure 9**

This prediction is significant from several aspects. One is that it will provide a means for the fingerprint data base to grow rapidly. As the group predicted, this will have a positive impact on AFIS as the possibilities of obtaining a latent print match will increase substantially as the data base grows. The group chose to ignore any negative impacts on the issue by the occurrence of this event, but there is definitely a need to examine the negative aspects. Currently, all ten-print cards on file are obtained from arrestees or applicants. There has been little discussion on the issue of civil rights pertaining to the State maintaining those files. If the State requires fingerprints to obtain a driver's license, the civil liberties and privacy rights of all individuals will be in question. The key question is whether or not the maintenance of a person's fingerprints on file is any different than maintaining their name, address, birth date, or other personal information. This will be a question of the court

system to answer, and their response will have a profound effect on the impact of AFIS throughout the State. As stated, the success and impact of AFIS is directly dependent upon the size and quality of the fingerprint data base. The panel has concluded that the benefits to the citizens far outweigh the loss of a portion of their individual privacy.

Figure 10 presents the panel results for the probability of all fingerprint systems nationwide being linked together into one large network. The panel responses varied widely on this event indicating uncertainty on their part. This is probably due to the

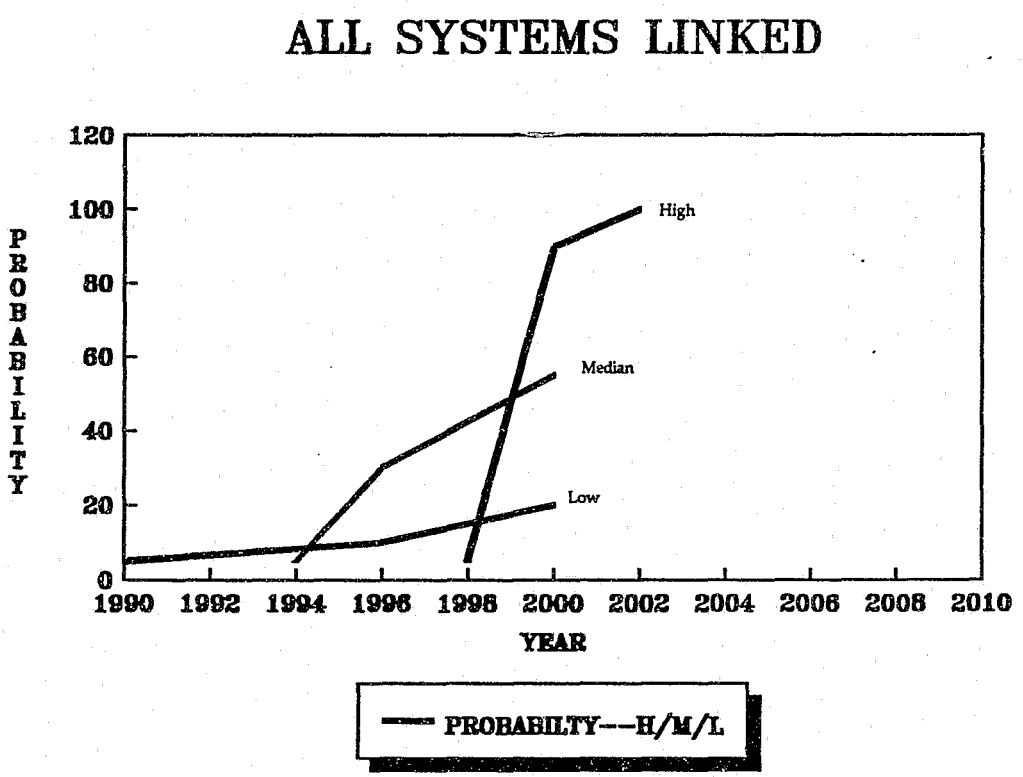


**Figure 10**

technical nature of the question and the lack of widespread knowledge on the subject. Currently, there are three predominant vendors in the AFIS arena. Each of them uses a different format and protocol for processing and storing their binary data. In order for the

systems to be able to communicate with one another, the vendors must agree upon and provide the software that will convert one system's format to another's. This has yet to occur and may be difficult to promote. The immediate solution is to use the transmission standard that the National Bureau of Standards has provided so that latent prints could be sent from one system to another as images, and then be searched in that system's data base. The group felt that if this event were to occur, it would have the maximum positive impact on the issue. One day, conceivably, a latent print could be entered into any state or local system, and that print would be transmitted to every other system in the country to locate a match. The impact of that technology on law enforcement nationwide would be staggering.

The panel responses to the probability of a portable latent print scanner being available

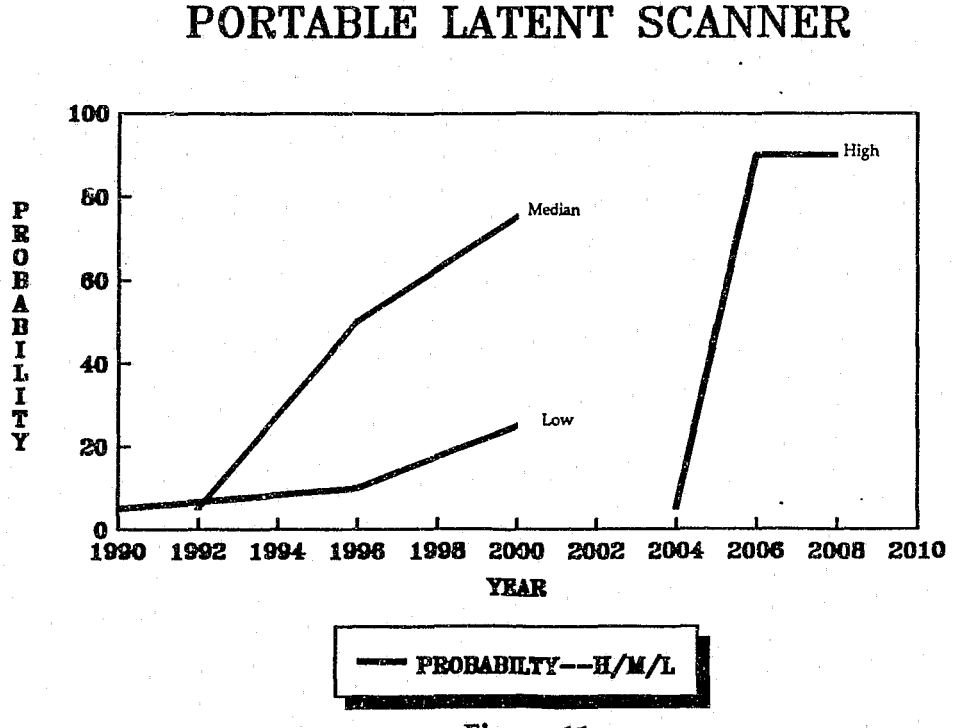


Figure 11

to lift latent prints is presented in Figure 11. Again, there is a wide range of responses from the panel. The technological nature of the question makes it difficult for the panel to come to a consensus. However, the panel does feel that by the year 2000 there will be a portable scanner available for crime scene use. The technology that currently is used to read bar codes, and that will be used in the near future to live-scan fingerprints, could certainly be expanded to live-scan latent prints. Based upon the last two events occurring, an investigator could examine a crime scene with a laser scanner which would automatically read any latent prints found. The scanner would then transmit those prints to the local AFIS which in turn would transmit them nationwide. Before the investigator even left the crime scene, he would have a positive identification on the latent prints.

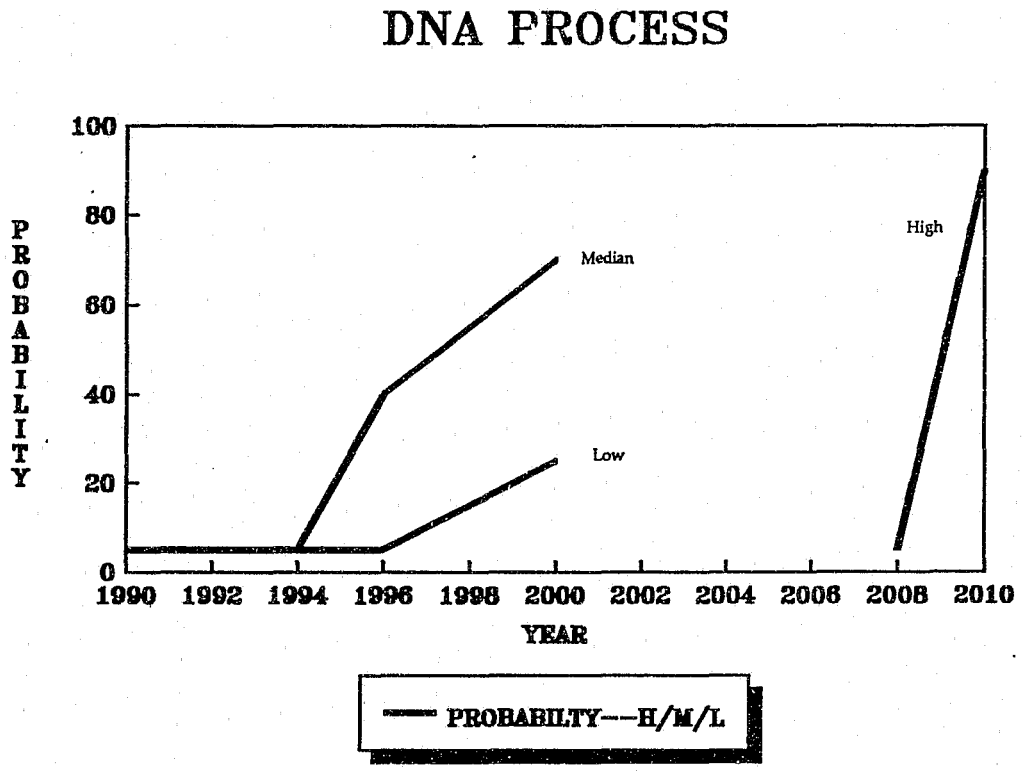


Figure 12

The panel's prediction for the availability of DNA technology to identify a suspect is presented in Figure 12. The panel responses were varied, but had more conformity on this event. They felt that the event has a 70-percent probability by the year 2000 and that it will have a very positive impact on the AFIS issue. The interpretation of these results depends upon one's definition of DNA identification systems. The actual term that is being used today is "DNA fingerprinting."[20] This implies that although the technology is different, DNA is really a form of traditional fingerprinting. This is true if one defines fingerprinting as using an individual's unique physical characteristics as a means of positive identification. DNA certainly fits this definition as the actual chemical make-up of an individual is used to define a unique set of characteristics that will positively identify him. On the other hand, if one defines DNA fingerprinting as totally different from traditional fingerprinting, then it is quite possible that traditional fingerprints will become meaningless as we move into the 20th century. The DNA process is in its infancy at the present time. It is slow, labor intensive and costly, just as fingerprint identification was ten years ago. However, as the technology advances, DNA identification can replace fingerprints as the primary means of positive identification of an individual. The impact of this would be as great, if not greater, than that of AFIS technology today.

Finally, Figure 13 presents the group responses on the issue of live-scan fingerprint searches required for all firearm purchases. This is an area in which the private sector use of the automated data base becomes apparent. The group median predicted an 85 percent probability that this will occur in the next ten years. This is one possible use of AFIS as a crime reduction tool. If criminals were totally prevented from purchasing firearms (even

[20] R. Lewis. Genetics Meets Forensics, Bioscience, January 1989, p. 6.

# FIREARM PURCHASES

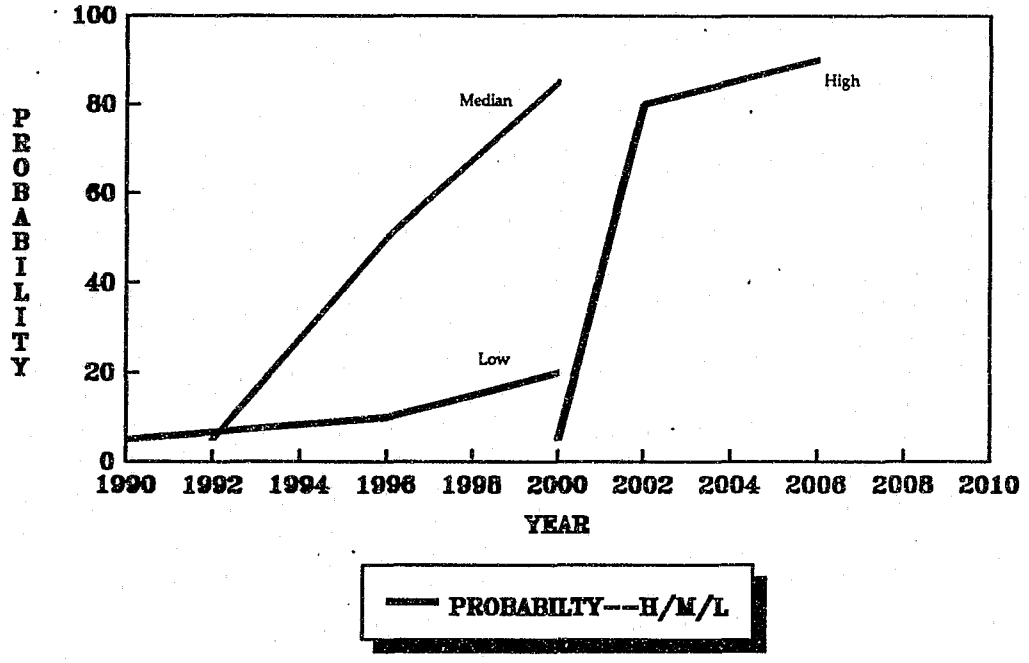


Figure 13

though they used an alias and were dishonest on the application form), the impact would be an overall reduction in the crime rate. Also, the system would allow for positive identification of the individual who purchased a firearm, and thus make the solution to a crime using that firearm an easier task. If the firearm program was successful, it could be expanded to other areas of the private sector, such as banking and credit cards, where it would also have an effect on reducing the crime rate. The privacy and civil rights issues also come into play in trying to establish this type of use of the data base. There is currently a move in California to restrict public access to the Department of Motor Vehicles files because of the privacy issue. This is again a subject for the court system to decide.

To this point, we have reviewed the results of the delphi panel's predictions on the five trends and five events that could have an impact on AFIS during the next decade. There is

also the possibility that each of the events could have an impact on the remaining four events and on all of the trends. As the event is played out, it may influence the level of a trend or affect the probability of one or more of the remaining events taking place. The cross-impact analysis is designed to predict this interaction amongst events and trends.

As part of the second mailing, the delphi panel was sent the cross-impact evaluation form. After completing the trends and events forms for the second time, the panel members were asked to complete the cross-impact analysis. For each of the five events, the members were asked two questions. One was to predict how the occurrence of each event would affect the probability of the other events occurring, and the second was to predict how the occurrence of each event would affect the predicted levels of the five trends. The responses could either be a positive or negative number based upon the direction that would be taken by each other event and trend as the current event unfolded.

The results of the cross-impact analysis were compiled into high, low and median responses and are presented in Figure 14. The group responses were fairly consistent over the entire range considering the technological nature of some of the event statements. An examination of the responses for each event statement will provide an overall picture of their cross-impact influences. For the purposes of this analysis, an event is defined to have a significant influence on another event or trend if the expected change in that event or trend is 20 percent or greater.

Requiring mandatory fingerprints to obtain a driver's license will have a significant effect on three other events, but not on any trends. The positive influence on linking systems together, portable scanners, and live-scan for firearms purchases was to be ex-

# CROSS-IMPACT EVALUATION RESULTS

| IF THIS EVENT ACTUALLY OCCURRED ↓ | HOW WOULD THE PROBABILITY OF THE EVENTS SHOWN BELOW BE AFFECTED? | | | | | HOW WOULD THE LEVEL OF THESE TRENDS BE AFFECTED? | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mandatory prints to get a license. | All print systems linked together. | Portable scanner to lift latents. | DNA process to identify. | Live-scan for firearm purchases. | Prison overcrowding. | New technology. | Illegal immigration. | Community support. | Overall crime rate. |
| Mandatory prints to get a license. | | 100-0<br>30 | 50-0<br>50 | 10-0<br>0 | 75-0<br>20 | 60-0<br>15 | 25-0<br>10 | 75-(20)<br>5 | 50-(15)<br>10 | 75-0<br>5 |
| All print systems linked together. | 100-15<br>30 | | 100-15<br>50 | 10-(10)<br>5 | 100-20<br>25 | 70-20<br>25 | 35-0<br>20 | 80-(20)<br>15 | 55-20<br>50 | 75-(5)<br>35 |
| Portable scanner to lift latents. | 100-0<br>20 | 100-0<br>25 | | 10-0<br>0 | 20-0<br>10 | 75-10<br>20 | 75-10<br>20 | 50-0<br>5 | 50-10<br>40 | 50-(5)<br>20 |
| DNA process to identify. | 10-0<br>0 | 10-(10)<br>0 | 10-(20)<br>0 | | 10-(20)<br>0 | 50-10<br>20 | 50-20<br>20 | 15-(25)<br>0 | 50-20<br>25 | 50-(5)<br>25 |
| Live-scan for firearm purchases. | 50-0<br>15 | 50-10<br>20 | 20-(10)<br>10 | 5-(10)<br>0 | | 10-5<br>5 | 30-5<br>15 | 25-0<br>5 | 75-10<br>30 | 10-(5)<br>10 |

Note: The dual entries in each cell indicate the high-low responses and the number directly underneath represents the median response. Numbers in () are negative.

Figure 14

pected. If fingerprints were required for all drivers in the State, the size of the fingerprint data base would increase substantially. Each of the affected events relies on that data base to be successful. As the size of the data base grows, more and more pressure would be placed upon the State to make the best use of it in reducing the crime rate. All three of these reactor events are likely candidates for funding under that scenario. The trend with the highest expected change as a result of this event occurring is prison overcrowding. This is also expected as the other technologies come into widespread use and the arrest rate climbs.

Linking all fingerprint systems together is seen by the panel as the most influential actor event. It has a significant influence on three other events and on four of the five trends. Again, the panel's predictions are as expected. Mandatory prints for a license, portable scanners and live-scan firearms purchases are all positively impacted. As the fingerprint systems around the nation are linked together, the size of the data base grows in huge proportions. The results of this expansion have already been discussed. It is interesting that the panel feels the linking of print systems would put pressure on the State to require fingerprints to obtain a license. The civil rights issue could be overshadowed by the momentum of linking systems together and the subsequent benefits that would be realized. The four trends that are impacted are also as expected. Prison overcrowding will rise as will funding for new technologies. The overall crime rate will be substantially reduced (remembering that a positive change in crime rate represents a reduction) and community support for law enforcement will increase by 50 percent as the public is presented with constant media stories of solved crimes and reduced crime rates.

The use of portable latent print scanners is also a strong actor event, though not quite

as strong as linking systems together. Again, the panel results are as expected. The group realized that all of the technological events are tied together and that the occurrence of one will have a positive influence on the occurrence of the others. Again, the success of all of these advances is dependent upon the size and quality of the fingerprint data base. Community support for law enforcement skyrockets again with the media publicity of success in reducing the crime rate.

The panel seemed to underestimate the potential impact of DNA fingerprinting on the five trends. As shown, DNA has no impact on the other events, but it shows a more mild increase than expected in the trend levels. It appears that the panel felt the overall impact of DNA technology, at least during the next decade, will be less than that of AFIS. This may be due to the fact that the DNA identification technology is just now emerging and has not been put to widespread use to date. Also, there may be a lack of understanding of that technology and its potential use in identifying an individual from a very minute sample of his tissue. I would expect that this same question asked five years from now would evoke a much stronger response from the panel. The panel did note that the strongest area of influence would be on community support for law enforcement. This reinforces the notion that law enforcement is a prime concern with the community and any efforts that are made in combating the crime rate should be well publicized to obtain the maximum benefit through community support.

Finally, the panel felt that live-scan firearm purchases were the least influential of the five events. It had a minimum effect on the other four events and likewise for four of the five trends. Again, community support gets a strong boost by our efforts in controlling gun

purchases. The greatest impact of this event, and one which the panel really wasn't able to comment on, was that it brings access to the data base to the private sector. This becomes a privacy-rights issue again, which may be overshadowed by the public demand for greater control of firearms.

As stated, the strongest actor event was linking all fingerprint systems together, and it must be considered in establishing policies and priorities for the next decade. That single event would have the greatest overall positive impact on law enforcement of all the issues studied. The strongest reactor in the group was community support. This is not surprising and reinforces the belief that the public is acutely aware of law enforcement issues, has the ability to understand them, and will lend support for those programs that are seen as a means of reducing crime and ensuring their safety.

The results of the futures research that was conducted have been presented in a graphic form in order to evaluate the results and make assumptions about the future, while presenting the data in an easily digested form. There is, however, a great deal of data to assimilate, and it may be difficult to keep track of all aspects of the results at one time. The futures scenario is a tool which allows the researcher to present the results in an integrated fashion. By bringing together a large number of projections and synthesizing a verbal picture of what the future may look like, the futures scenario provides an easily understood framework from which the astute manager can begin to formulate a strategic plan that will make best use of his resources in dealing with the future impacts of an issue.

There are a variety of scenario types that can be developed, each with its own value and focus. The ultimate goal of each is to provide the reader with a picture of the future that is

based upon the data and integrates that data into a well-thoughtout portrait of the implications for the future. This research will present three different scenarios, each focusing on a different portion of the results of the delphi panel. Scenario one will present a nominal future which, based on the data, will present a projection of what the future "will be" like in California law enforcement in the next ten years. Scenario two will present a normative future, which is again based on the data, but presents a projection of what the future "should be" in the next ten years. Finally, scenario three will be a hypothetical future which will take a look at what the future of law enforcement in California in the next ten years "could be."

**What will the future be?**

The year is 1998 and law enforcement in California looks somewhat different that it did ten years ago. There have been some tough times for administrators throughout the State. A dwindling tax base, combined with continued inflation, has made fiscal issues a top priority in everyone's agenda. The limited resources available at the State level have been allocated into a few top priority programs. The impact of those programs has been contributing to the overall mediocre situation throughout the State.

In 1992, the State legislature made it mandatory for all persons to be electronically fingerprinted when they applied for a driver's license. A live-scan laser fingerprint reader is used to scan an applicant's fingers and transmit the data to the State's central optical disk repository. The whole process is quite painless and takes no more than 30 seconds. At first there was a public outcry against the process as an invasion of privacy. The American Civil Liberties Union filed suit and several cases made their way through the appellate courts.

Finally, the State Supreme Court ruled that the keeping of electronic fingerprints on file is no more an invasion of privacy than any other form of record keeping. With that green light, the legislature moved ahead quickly with a full-fledged program, the intent of which was to have the fingerprints of every person in the State, aged 16 and above, to be on file. The technological advances made in the last several years in optical disk compression techniques have made this all possible.

The Cal-Id system is fully implemented, with each county and many local jurisdictions having a local input terminal (LIT). As the size of the fingerprint data base has grown, the number of suspects identified by their latent prints has also jumped rapidly. This has placed a burden on the smaller agencies as they don't have the manpower necessary to properly investigate each case. The District Attorney's offices have been flooded with cases which are based on fingerprint identifications. Court calendars have become even further back-logged, and defense attorneys are now requesting trials for all of their clients in an attempt to further bog the system down. The speedy trial legislation of the 1980's has long since been repealed.

The overall crime rate has remained about the same, but advances in laser technology have produced a portable laser scanner that can read latent prints directly and transmit them to the Cal-Id system. This has caused a rapid increase in the clearance rate. Also, the use of DNA fingerprinting is becoming more widespread as the cost drops. The courts have clearly ruled that the results of the DNA process are admissible as evidence. The focus now is on techniques for locating and preserving the minute amounts of body tissue that are needed for the analysis. Of course, unlike traditional fingerprints, there is no data base to

search for a match and the process will only be useful if a suspect has been identified.

One would think that community support for law enforcement would be way up, but there are some negatives in the picture. No one took the prison overcrowding issue of the late 1980's seriously, and little was done in the way of new construction or improved housing techniques. The focus was on prisoners having to pay their way through prison, by working in various trade and manufacturing plants that the State established. When the full impact of AFIS hit in 1994, the prison population began to soar. Typical prisons were operating at 200 percent of capacity, or more. Prisoners were being given early paroles just to make room for the new arrivals. A flood of serious offenders was paroled to the streets in 1995, and the public was not happy. Firearm sales were up, and because of the live-scan fingerprint process being required to purchase any firearm in the State, the Cal-Id system was feeling the crunch of too many inquiries.

The prison issue is now at the forefront of everyone's agenda. One legislator wants to buy Alcatraz prison from the National Park service and open it immediately to house the most serious offenders. Unfortunately, as the State finally allocates sufficient funding for prison construction, other areas of the criminal justice system will suffer from reduced or no funds. Several upgrades to the Cal-Id system have been placed on hold and no efforts are currently being made to link Cal-Id with the FBI system. The subtle costs of technology have finally caught up with us, and the future is uncertain.

**What should the future be?**

The Department of Corrections for the State of California was elated. It was the first time since the early 1970's that the prison population in California was below the rated capacity of the prison system. In fact, 1999 was to be a banner year for the Department as the last of nine new prisons built in the 90's was to be completed. The most startling fact in the midst of all of this success was that the conviction rate for criminal behavior in California was at an all-time high, and the crime rate was at an all-time low.

The success was not due to any one individual or department, but was due to a Statewide effort by all facets of law enforcement in California to really make an impact on crime in the State. It all began in the late 1980's with the widespread installation and use of the Cal-Id system. Funding had been forthcoming from the State for a Statewide network of LIT sites so that all jurisdictions would have equal access to the system. At first, all of the then current ten-print cards were purged to update their validity, and then all were loaded into the Cal-Id data base. All new ten-print cards obtained from arrestees were added to the data base promptly as they became available. The Cal-Id governing boards had the insight to realize that the size and quality of the data base would be the single most important factor in the success of the Cal-Id system.

In 1990, the first of the live-scan fingerprint readers was installed in a local jail. This scanner was able to read all ten fingers of an arrestee and transmit the data to the main system in about 30 seconds. Not only was this easing the pressure on local jailers and their workload, but it was allowing top quality prints to be entered directly into Cal-Id without having to use an LIT site. This freed up the LIT technicians Statewide to spend more of their time doing latent-print searches.

Late that same year, the legislature approved plans for installing live-scan fingerprint readers in all Department of Motor Vehicle offices and making it mandatory for all driver's license applicants to provide their fingerprints via the scanner. As soon as the law was passed, the ACLU filed a class-action suit against it as an infringement of privacy rights, but the now very conservative State Supreme Court ruled in favor of the legislation. Within four years, virtually every driver's fingerprints were on optical disk at the State repository.

In 1993, the first of the live-scan fingerprint readers was installed in a patrol car. The Cal-Info system was fully functional and provided the means of transmitting fingerprint data over the radio net and handled the interface to the Cal-Id system. At first, the response time was rather slow, but that improved as more experience was gained with the systems. This interface of systems allowed the field officer the ability to positively identify an individual in a matter of minutes. The ultimate goal of Cal-Info is to provide the officer with wants or warrants on the individual and any other information which may be pertinent and of value to him.

Live-scan technology was expanded to other areas. First, it was used in the purchase of firearms to positively identify the purchaser. It was quickly followed by use in the banking and credit industries as a means of positively identifying persons using credit cards and writing checks. As a result, the overall fraud rate in the State has dropped by 80 percent. This has helped in the reduction of the prison population.

One of the most beneficial technological advances was the widespread use of the portable laser scanner to locate crime scene latent prints. This device will not only locate virtually all latent prints, but will read them directly and transmit the stored information

directly to Cal-Id for a latent print search. This, coupled with advances in DNA technology, has made it almost impossible for a person to commit a crime in the State and not be identified.

The combined effect of all of these advances is that the crime rate has been reduced substantially, and as the crime rate went down, so did the prison population. Community support for law enforcement is at an all-time high, and the per capita spending on law enforcement related matters is at an all-time low. The strategic plans of the last decade have been well worth while.

**What could the future be?**

The Attorney General had called the meeting in response to the growing dissatisfaction with law enforcement in 1998. The public perception was that law enforcement had become a political issue, and everyone involved was looking out for their own best interests. To try and get a feel for local law enforcements position, the Attorney General asked ten Chiefs of Police to participate in today's conference.

Chief Johnson, the president of the Cal Chief's Association, began the presentations. He is the Chief in a predominantly black community. His concerns centered on civil rights and how the Cal-Id system has brought the vision of the world presented in H. G. Well's 1984 to fruition. It began in 1992, after the legislature passed a law requiring mandatory fingerprinting for all drivers in the State. At the same time, live scanning of fingerprints from patrol cars became a reality. The public, especially the minorities, felt like their constitutional rights were being abused. Police officers were concentrating the use of the

new equipment on the intense crime areas which happened to be composed of minorities. This left the impression that the legislation and technology had been used as a means of controlling the black and hispanic populations. Many members of those communities refused to renew their driver's licenses when the expiration date arrived. This proved to be a nightmare for the police and courts as citations were issued in increasing numbers for an expired license. These citations became warrants when the person did not appear as promised and overloaded the system. Johnson said community trust and support from his jurisdiction was at a minimum.

Chief Elwood, from northern California, spoke on the issue of corruption in State government. The technological advances in the last ten years had paved the way for graft to creep into the criminal justice system. The amounts of money involved in contracts for Cal-Id, live-scan, DNA research, and laser technology were such that certain politicians had taken advantage of the opportunity for their own benefit. It was also alleged that some members of the Department of Justice had received "favors" as a result of their recommendations on equipment and vendors. Huge sums of money were at stake, and the temptation was great at all levels.

Chief Crawford sits on the nationwide FBI committee which is attempting to link all of the fingerprint systems nationwide into a single network. He said that the support from the vendors has been minimal. They do not want to standardize on data formats as they feel they may lose their edge on the competition. The original intent of the Cal-Id system has been lost in the political bickering. Realizing that a lot of money would have to be allocated to prison construction as a result of Cal-Id, some politicians began backing off

their support for the system and recommended scaling down the overall system. They were trapped by their own shortsightedness. They didn't want to spend the money early on in the program to relieve the prison congestion, and now it was going to take its toll. Many were looking for a quiet way to put Cal-Id on the "back burner."

Several Chiefs spoke on the DNA issue. In the mid 90's, recombinant genetics and a few unfortunate mutations were in the forefront of the news. It was an era where the word "gene" evoked fear from the public and disdain from the politicians. All of the groundwork that had been laid, and all of the money that had been spent on the technology were being defeated by public distrust in that technology. There had been talk of a tissue data base, similar to the fingerprint data base, in which each citizen would be required to deposit a small sample of blood for DNA fingerprinting. All support was lost when the driver's license issue erupted.

One Chief, from a jurisdiction bordering Mexico, complained of the massive illegal immigration problem that still existed. His community was overrun with sanitation, shelter, and food problems as the illegals had no where to go. The Federal government, in an attempt to maintain good relations with Mexico and the Central American nations, had removed much of the emphasis from the immigration issue. It was left to the local jurisdictions to deal with the problem. Crime among the illegals was rampant, and Cal-Id was of no use in locating the perpetrators as their fingerprints were rarely on file.

The Attorney General listened to all of the presentations and then summarized their comments. Their dissatisfaction centered on the mishandled Cal-Id system and its ramifications into all areas of law enforcement. Prison overcrowding, technology, cooperation

between states and the Federal government were all important issues. The most important issue that surfaced, according to the Attorney General, was the lack of public trust and confidence in law enforcement and its leaders. Until that issue is dealt with, very little else can be accomplished. It was time to de-emphasize technology and build confidence in the law enforcement community.

## Strategic Planning

The future of law enforcement in California in the next decade, as it is impacted by automated fingerprint systems, has been defined in three separate scenarios in the futures section of this research. The scenarios provide an insight into how the trends and events that may affect law enforcement in the next ten years, may impact the operations of the various agencies involved. The intent of the three scenarios is to provide a basis for the strategic planning process. Strategic planning is a process in which the policy makers for an organization use all of the available information to formulate a probable future scenario, and then use that expected future as the basis for the long-range planning in the organization.

The SMEAC model offers a means of structuring the strategic planning process. It represents the *S*ituation, *M*ission, *E*xecution, *A*dministration, and Control portions of the strategic plan. A closer examination of each portion will present a clearer picture of the entire process.

Situation is an auditing process which looks at the external and internal influences that can and will affect the strategic plan. It is composed of the WOTS UP analysis and the Strategic Assumption Surfacing Technique (SAST). Both of these will be discussed in detail as they relate to the planning process.

Mission is an attempt to formalize the broad purpose and intent of the organization. The mission statement can be at a macro or micro level. The macro level speaks to the overall purpose and objectives of the organization, while the micro level addresses the specific issue

at hand. The micro statement should fit the model and be consistent with the overall macro statement.

Execution is the examination and selection of strategic plan alternatives that are designed to address the issue at hand. The Modified Policy Delphi will be used to present and choose the best suited alternatives.

Administration provides the detail necessary to implement the strategic plan that has been chosen. Items such as timelines, resource needs and specific action steps will be presented here. This section provides the base support for the transition management plan.

Control defines the feedback system that will be used to monitor the progress in the implementation process of the strategic plan.

There are some fundamental differences between strategic planning and the traditional long-range planning to which we have become accustomed. The long-range plan tends to define goals and objectives for performance over a period of time, but it does not present the specific steps that are necessary to achieve those goals and objectives. The strategic plan, on the other hand, allows for the development of specific action steps that will guide the organization in the immediate future in the proper direction to meet the objectives of the plan. The future is used as a means of improving the decisions that are being made in the present. The strategic plan also looks at the organization in the context of the real world and does not assume that all of the organizational activities are conducted in a vacuum. The environment plays a part in the constraints that are placed on the organization in trying to achieve its goals.

# Strategic Planning Process

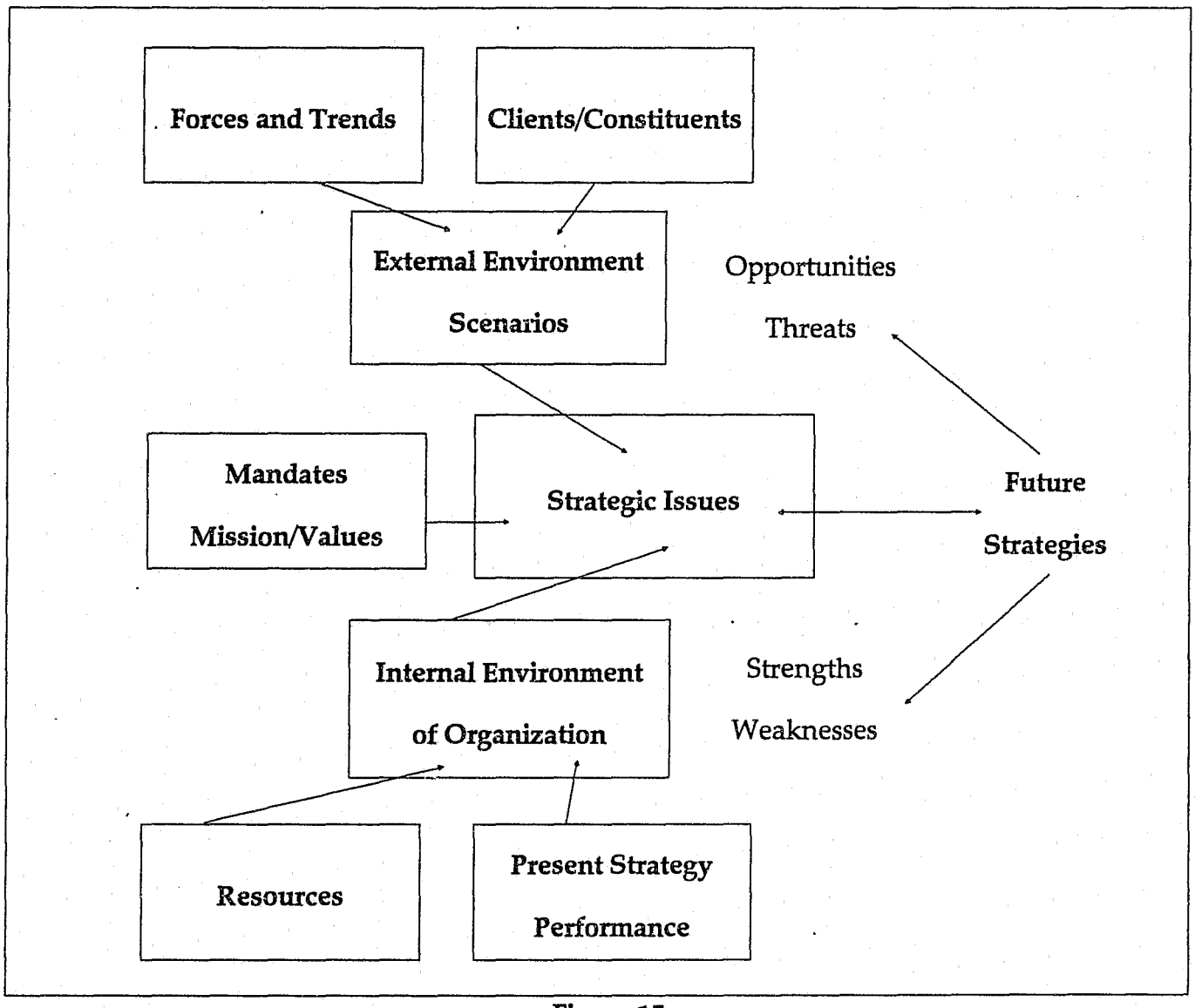


Figure 15

Finally, the strategic plan must involve individuals from all levels of the organization. The individuals who will be affected by the changes will be the most valuable in providing input into the planning process. This allows managers the opportunity to do long-range planning while still functioning in the realm of participatory management. The end result will be a plan which is easier to institute, more effective in impact and helps bring the

organization together. Figure 15 depicts the strategic planning process and the factors that will influence the decisions that are made.

The organization that will be examined in formulating a strategic plan is a mid-sized police department in a city of 100,000 population. The city functions under a City Manager/City Council form of government, with most of the administrative functions being carried out by the City Manager's Office. The city covers 17 square miles and is located in the eastern portion of Los Angeles County. The strategic plan will be based on the nominal scenario as presented in the futures section of this paper.

The community is still predominantly white, middle class, but it has been shifting in the last several years. There has been an influx of Black and Hispanic residents, and more recently the Asian community has grown significantly. Most of the residents are middle class, but there are several upper-class housing tracts in the eastern portion of the City. The areas surrounding the City are considered, for the most part, as lower middle- and lower-class housing tracts.

The City is bisected by Interstate 10, which is a major route out of and into the Los Angeles area. The freeway provides easy access to the community, both for legitimate visits and for the criminal element. Two large regional shopping centers are located along the freeway and contribute significantly to the City's sales tax base. Recently, several automotive dealerships have been located along the freeway in an effort by the City's Redevelopment Agency to further increase the sales tax base.

The Police Department consists of about 114 sworn officers and 40 civilians. There are

three major divisions in the Department consisting of the patrol, investigative and adminstrative functions. Each division is headed by a division Commander. The Department has its own jail facility with sufficient room to house 40 prisoners. Currently, only pre-arraigned persons are kept in the facility making it a Type I jail.

The Department has a Local Input Terminal (LIT) site to the Cal-Id system. Many surrounding agencies use the site for their Cal-Id input and latent print searches. The jail will receive one of the automated laser print scanners, with direct access to Cal-Id, as soon as they are available.

## WOTS UP ANALYSIS

| ENVIRONMENT | ORGANIZATION |
|---|---|
| *Opportunities:*<br><br>Technological Advances<br>Public Support<br>Reduced Costs<br>Reduced Crime Rate<br>Political Action | *Strengths:*<br><br>Increased Crime Solving Potential<br>Reduced Technician Workload<br>Reduced Jailer Workload<br>Re-Exam Organizational Structure<br>Expedite Background Investigations |
| *Threats:*<br><br>Public Perceptions<br>Political Pressure<br>Prison Overcrowding<br>Court Overcrowding<br>Civil Rights Issues | *Weaknesses:*<br><br>Increased Caseload<br>Training Issues<br>Jail Housing Overcrowding<br>Additional Staffing Needed<br>Local Funding Issues |

**Figure 16**

**Situation**

The WOTS UP analysis looks at the external and internal influences that may affect the organization and the planning process. The factors in the environment (external) are seen as either *O*pportunities or *T*hreats to the organization's goals and the internal organizational factors are seen as *S*trengths or *W*eaknesses that *U*nderlie *P*lanning.

In completing the WOTS UP analysis, both sworn and non-sworn members of the Department were interviewed and asked how AFIS would affect their job performance. They were asked to look at the internal Departmental functions that could be affected and also, to look at the environmental factors that influence their jobs and that would also be influenced by AFIS. The results of the survey are presented in Figure 16.

There were several key environmental or external opportunities that were identified by the group. The first was the potential for further and more dramatic advances in the technological aspects of AFIS. The live-scan technology was identified as the next major area of advancement. When live scan is in place in our jail facility, the overall workload for the jailers will be reduced. The jailers currently do three ten-print and one palm-print card on virtually all arrestees. This process can take as much as 15 to 20 minutes per arrestee. The live-scan technology, as predicted, will reduce this time down to less than five minutes. In addition, the information will be digitized and transmitted to Cal-Id automatically, reducing the workload for the fingerprint technicians. Looking into the future, as live scan becomes available in the patrol cars, the field officer will be more efficient in identifying persons and in locating any outstanding wants or warrants for that person. While being an opportunity, this will also be an internal weakness as the workload for officers, jailers

and clerical staff is increased with the increase in arrests.

The group felt that Statewide, the overall crime rate would begin and continue to decrease as the impacts of AFIS were felt. This would be expected as more and more persons who were committing crimes were identified and incarcerated. As the crime rate fell, several benefits would be apparent. One would be the increase in support for law enforcement. At the local level, this would be translated into additional funding for law enforcement or at least a reduction in the budgetary cuts that have become common in local jurisdictions throughout the State. Public support for law enforcement will also promote political action both at the local and State levels. Support from the political arena is mandatory for such programs as Cal-Info, Cal-Photo, and specialized local programs, such as concentrated drug enforcement. The shift in public opinion as to the effectiveness of law enforcement will have a significant influence at the political level.

The group also felt there would be a reduction in the costs associated with fingerprint processing at the State level. AFIS technology will have a significant impact on the ability of State criminal record bureaus to handle their ever increasing workload.[21] At the local level, this will mean faster response times from the State, and more accurate information being returned. As will be discussed later, the background investigation process will be expedited as a result.

Many of the opportunities in the environment can also be potential threats under the right circumstances. Increased public support can easily be lost as the public perception of

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[21] Automated Fingerprint Identification Systems: Technology and Policy Issues, U.S. Department of Justice, April 1987, p. 18.

law enforcement can be negatively impacted by AFIS. As the number of prosecutions and convictions increase and the prisons become more overcrowded, more and more prisoners will be paroled early. The public will perceive this as an overall lack of effectiveness of the criminal justice system. The media will promote the perception with articles on repeat offenders, halfway houses and the like. The State Parole Office can expect a large increase in their workload as more and more persons are paroled. This must mean additional funding for parole functions at the same time as public support for the prison and parole systems will be at a low. Locally, the number of persons who are on parole and living in the community will increase. This will mean an increased workload for officers as parolees can be expected to require more attention than the general public. Halfway houses in the community will be viewed in a negative light by the public. This will put additional pressure on the local agency to do something about the local parole situation.

Additional prisons will need to be built to house the increasing numbers of convicts and a battle can be expected in trying to find suitable locations for the prisons. The local jurisdictions can expect to lose public support as the issue of where to locate new prisons is debated.

The overcrowding of court calendars will also be an external threat. With that overcrowding comes lighter sentences and probation in lieu of jail time. This will worsen the public perception of the criminal justice system, with all of the ramifications already mentioned. Also, employee morale can be negatively affected as officers see their arrestees receiving little, or no jail time for their convictions. The quality of prosecutions, in all but the most publicized of cases, will suffer which may have an influence on our investigators

to do a less thorough case preparation before bringing it to the District Attorney. The net effect will be a reduction in quality throughout the system.

Finally, the civil rights issues that AFIS raises will be a large threat in the environment. The ramifications are clear as the Supreme Court rules that the AFIS database is too broad or can't legally use such a wide criteria for placing fingerprints into the system. With a ruling like that and the subsequent vast reduction in the size of the database, the overall effectiveness of AFIS will be reduced and may even be eliminated. Again, this impacts public perception, political support, and funding issues.

The internal organizational strengths that would surface as a result of AFIS were identified by the group. The increase in crime solving ability was foremost among the strengths. As AFIS becomes fully implemented, the ability to solve virtually all crimes in which fingerprints are located becomes a reality. The positive effects on community support, positive media coverage, and an overall increase in the morale of the organization would be realized from a very high crime clearance rate. This in turn would allow officers to spend more time on the "service" functions that we carry out, such as family mediation, community education, and dispute resolution.

There would also be a reduction in the workload of several positions in the organization. The jailers, as already mentioned, would be freed from the time consuming and mundane process of providing multiple fingerprints on every arrestee. The live-scan fingerprint reader will give them more time to attend to prisoner needs, conduct inspections and complete their paperwork. This would also relieve some of the clerical workload currently carried by the staff in the records bureau. The fingerprint technicians at the Department

would also be freed from the mundane process of inputting each ten-print card into the Cal-Id system. With live-scan and direct input into Cal-Id, the technician can spend more time working with crime scenes and latent prints. The live-scan latent print reader will, as predicted, allow the technician to locate virtually all latent prints at a crime scene. The additional time available to the technician will further increase the overall effectiveness of AFIS.

As the workload in the organization shifts, an examination of the overall organizational structure will be necessary. This is seen as a strength by the group as a means for the organization to adapt and grow to the changing environment. Some positions may be eliminated or reduced, while others will be increased to compensate for the changing work levels.

One final strength would be an improvement in the background investigation process. Currently, the Department must submit ten-print cards for all potential employees to the State and wait for a manual search of the repository in an attempt to locate a match. The process is slow and less than accurate. With the full Cal-Id implementation, the background investigator can submit prints directly to Cal-Id and get an immediate response. This will speed up the process and insure that the information obtained is accurate.

There are also internal weaknesses that were identified by the group. First is the increased caseload for detectives. As the number of persons identified by Cal-Id increases, so will the caseload for investigators. Each case will still require a thorough preparation, even though the suspect has been identified by fingerprints. As the nominal scenario predicts, defense attorneys will put pressure on the system by taking all cases to trial in an

attempt to save their clients. This will mean that investigators will be spending additional time in court and have less time to prepare their cases. The net result will be a need for increased staffing in those positions related to case preparation and investigation.

As the advances in technology continue, the Department will be required to train its personnel in the use of the new equipment. Live-scan readers, latent print scanners and the associated radio and computer equipment will require that the Department keep current in training and maintain accurate records of that training. Court cases may depend on the level and currency of the training provided for the personnel using the equipment.

A major internal weakness identified revolves around the local jail and its future role in the agency. Currently, the jail houses pre-arraignment arrestees only. These persons are turned over to the County jail system when they appear in court. As the State prisons and County jails become more and more overcrowded, the local agencies will be forced to house their own prisoners for extended periods of time. Increased jail population fosters increased costs and staffing needs. Poor public relations will ensue as more and more persons are released from jail on citation because there is no place to house them. Morale will also decrease as officers see their arrestees on the street before their shifts end.

The Department will require additional staffing at all levels to keep up with the increased workload. Clerical support, computer support and administrative support will all need to be increased to provide adequate levels of service. This will require increased funding and support from the political structure in the City. Poor public perceptions of law enforcement will force the agency to justify the fiscal needs in a hostile political climate. Astute planning will be required to offset the ever worsening public perceptions.

The final step in the situational analysis is the strategic assumption surfacing technique (SAST). The intent in this section is to identify the stakeholders in the operations of the Police Department and then identify the basic assumptions under which each stakeholder is operating. For the purposes of this discussion, a stakeholder is defined as any individual or group that might be affected by or might attempt to influence the operations of the Police Department. One particular type of stakeholder is the snaildarter, defined as one who, by surprise, can have a negative effect on the overall operation.

The following stakeholders have been identified as having two key characteristics. One is that they are influenced by or can influence the operations of the Police Department and two is that they will play an important part in the Department's response to the AFIS issue over the next decade.

(1) General Public

(2) Police Administration

(3) City Manager

(4) Police Union

(5) City Department Heads

(6) Business Community

(7) Court System

(8) District Attorney

(9) City Council

(10) Employee Associations

(11) State Legislature

(12) Governor

(13) Department of Justice

(14) Media

(15) Civil Rights Activists

(16) Private Vendors

Each of the identified stakeholders will operate on the issue with a basic underlying set of assumptions. While we cannot know for certain each stakeholder's assumptions, it would be valuable to anticipate under which assumptions each might be operating. This will provide the framework under which we can attempt to predict their behavior and modify our strategic plan to anticipate their actions. The basic assumptions for each stakeholder are:

(1) **General Public:** Concerned about their safety and what it will cost them. Easily influenced by the media. Crime is their top-most priority, and they expect something to be done about it. They expect prompt and courteous service from the police.

(2) **Police Administration:** Basic assumption is maintenance of the status quo. Concerned about reducing the crime rate, but cautious about new technology. Does not trust the media. Dedicated to providing the best service for the available funds. Issues such as prison overcrowding and court congestion are not their problem

and should be handled at the State level.

(3) **City Manager:** Most cost conscious of the group. Wants the Police Department to be part of City government and work with other Department Heads. Concerned about poor public perceptions of government. Feels the police may have too much power and authority in the community.

(4) **Police Union:** Prime concern is the number of sworn officers approved for the Department and the workload they carry. Will see AFIS as increasing their overall workload and will expect more positions and increased salaries.

(5) **City Department Heads:** Concerned about the amount of money the Police Department gets from the General Fund and the lack of influence they have on that figure. AFIS will require additional funds to be shifted to the Police Department at the other Departments expense.

(6) **Business Community:** Will expect the police to use AFIS to reduce the impact of crime on the businesses in the community. Pressure will be applied to allow access to the State fingerprint data base. Will expect more officers assigned to fraud type cases.

(7) **Court System:** Will be overrun with cases and will attempt to arbitrate them away. Sentences will be lighter and trials will be

expedited. Any cases prepared by the police which are not rock solid will be rejected. There will be friction between the court system and law enforcement.

(8) **District Attorney:** Will be pressured from both sides. Law enforcement will expect prosecutions for all cases with little negotiation. The court and prison systems will push for lenience, probation, and community service as sentences. The public influence will dictate the results.

(9) **City Council:** Concerned mainly with their image and with re-election. Any negative publicity is to be avoided. Crime is an important issue, but it will not overshadow everything else.

(10) **Employee Associations:** The non-sworn employees will also be concerned about workloads. Higher salaries will be demanded. High turnover rates can be expected.

(11) **State Legislature:** Controls the funding for AFIS, prison construction, and training through POST. Prime concerns are re-election and community support. Little concern for the problems of local agencies. Will not support any major changes in the system.

(12) **Governor:** Prime motivating factor behind technology in law enforcement. Wants to have an impact on the crime rate. Will

listen to local administrators and attempt to solve their problems. Wants law enforcement's support in the election process.

(13) **Department of Justice:** Will move ahead as quickly as possible with AFIS and related technology. Little concerns for the corrections issue. Can be a strong influence on District Attorneys and County courts.

(14) **Media:** Will take advantage of the situation to make headlines. Much will be made of lighter court sentences and prison overcrowding. Will have the strongest influence on public perception and support. Must be taken into account when doing the strategic plan.

(15) **Civil Rights Activists:** A snaildarter who could bring the entire system to a halt. Strong pressure against invasion of privacy issues. Will resist the AFIS data base. Can slow the court system to a grinding halt. Will have a strong influence on public perceptions.

(16) **Private Vendors:** The second snaildarter. Expect a lack of cooperation among vendors. Little likelihood for nationwide AFIS. Too much money at stake and too little governmental controls. Will promote their systems with private business to

access the AFIS data.

One useful way of presenting the stakeholders and of analyzing their significance is the

**SAST Map**

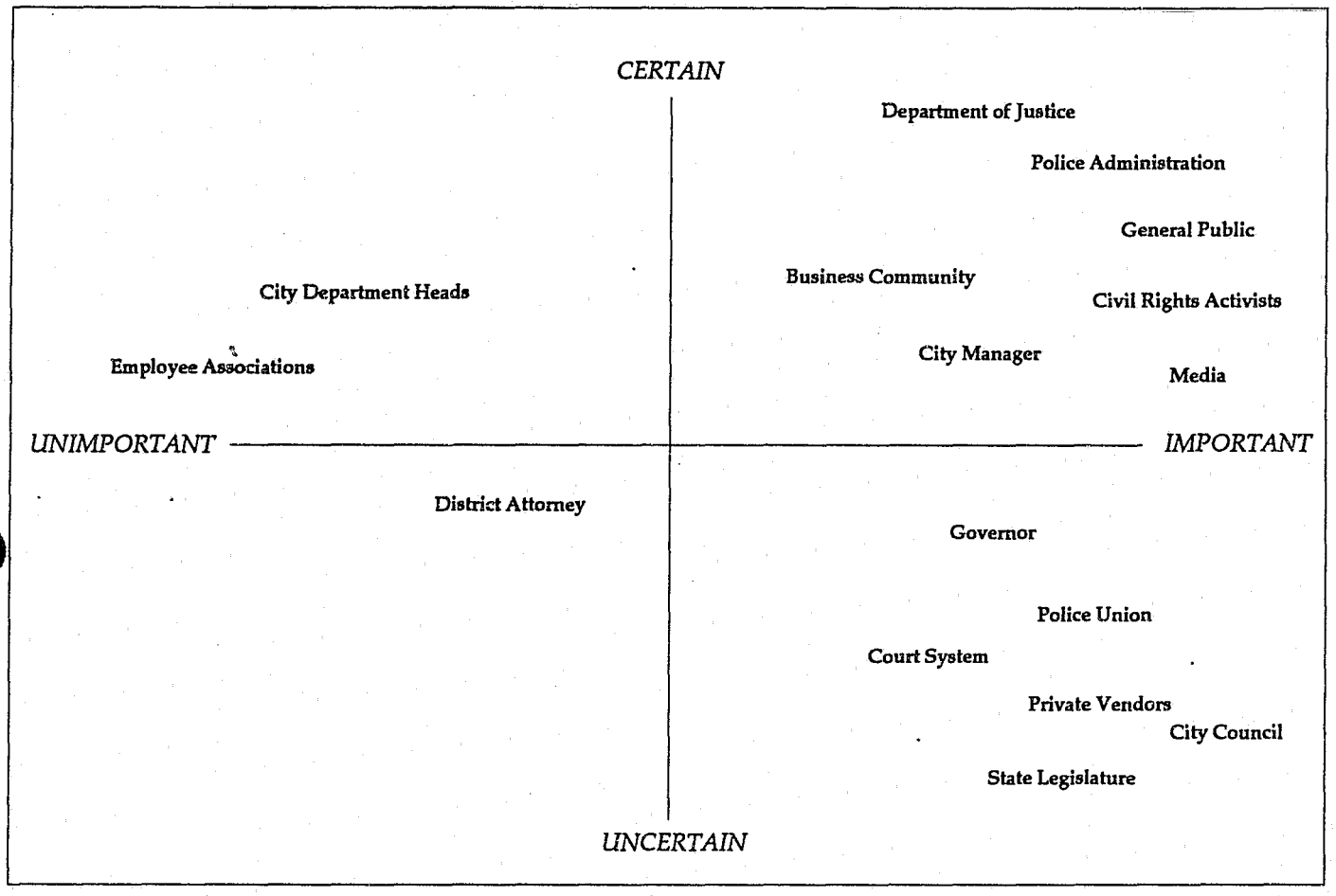


**Figure 17**

SAST map. The SAST map plots all of the stakeholders on a single grid which shows their relative importance to the issue and the degree of certainty given to the analysis of their assumptions. The map makes it easier to visualize all of the players and evaluate their potential influence on the strategic plan.

Figure 17 shows the stakeholders identified in the previous discussion and their relative positions of importance and certainty. Several key factors become immediately apparent when looking at the map. One is that the elected officials, which include the Governor, State Legislature, and City Council, are all important to the issue and are difficult to predict with any certainty. Any plan must take into account the fact that elected officials, although they may pledge support, can be expected to change their perspectives many times as the mood of the public and media shift on an issue.

A second key factor is that the civil rights activists and private vendors, both snaildarters, are very important to the successful implementation of the strategic plan. Also, there is uncertainty about the position of the private vendors which may change as the funding issues and political climate change. The civil rights activists are probably the most important single stakeholder, and their assumptions are fairly certain. The implications are clear that in order for any plan to be successful, the civil rights issue must be analyzed and dealt with effectively.

The media and public are also rated as very important to the implementation of the plan. There is an interesting situation involving the media and public. Their assumptions are rated with some degree of certainty, while the stakeholders which they supposedly influence, namely the elected officials, are rated with little certainty. The map indicates that special interest groups are probably responsible for the lack of certainty in predicting the actions of public officials and should be considered when developing the plan. Although too numerous to be considered as stakeholders, these special interest groups can be expected to influence the elected officials at least as much as public opinion and desires do.

Finally, the overall map distribution shows that all but three of the stakeholders assumptions are important to the organization in formulating the strategic plan. The three that are rated as relatively unimportant, should still be considered in formulating the plan, but with much less emphasis than the others.

**Mission Statement**

The Department has a mission statement which is updated every year as part of the budget process. The mission statement for 1989-1990 is as follows:

(1) Continue to maintain a safe environment throughout the community by providing high quality and responsive police services.

(2) Continue to involve citizens in the crime prevention effort through Neighborhood Watch programs.

(3) Continue to work with civic groups and other agencies in an effort to suppress gang and drug activity in the community.

(4) Enhance employee development through specialized training, thus increasing our level of service to the community.

(5) Further implement innovative technological advancements within the Department.

In addition to the mission statement, the City has developed an organizational values

statement which reflects those values that the employees felt were most important in providing the best service to the community. This statement was developed by the employees and presented to all employees at an organizational values workshop. Though police departments are typically seen as being apart from the rest of City government, the values statement was well received by the Police Department personnel. Because of their importance to the entire City government, including the Police Department, the organizational values are presented here:

(1) We are dedicated to service, committed to identifying and addressing individual and community needs, to enhance the quality of life in our city.

(2) We are a leader among cities. We are a progressive organization, reflecting pride, excellence, and strong leadership.

(3) We believe in the value of teamwork. We are united in our efforts to support, respect, and encourage individual talents and contributions directed toward our mutual goals, within a caring, positive, and productive environment.

(4) We encourage the open exchange of ideas and information among all employees to achieve effectively our common purpose.

(5) We are committed to a climate of trust and openness and encourage personal and professional growth through meaningful participation, training, and timely recognition. Each employee's

contribution is the key to our success.

6) We recognize the importance of change and challenge ourselves to be open minded and creative. We encourage innovation and recognize contributions towards this objective.

(7) We are individually and collectively responsible for the sound management of all resources to ensure fiscal stability.

(8) We take pride in ourselves, our organization, and our community, as we work together to deliver professional service to the people of our City.

Neither the mission statement nor the organizational values statement relate directly to the Department's response to the impact of AFIS; each sets the climate under which the Department operates. These underlying assumptions provide the guidelines under which the strategic plan will operate.

**Modified Policy Delphi**

As previously mentioned, the "what will be" scenario was chosen as the basis for the Strategic Planning Process. In that the topic of this study is primarily focused at the State level, it is anticipated that local jurisdictions will have little input into the State planning process. As a result, the local jurisdictions should be developing a strategic plan that will anticipate the future state of affairs and make the best use of available resources as the events begin to unfold. The basis of this future state of affairs is the "what will be" scenario.

In addition to formulating policy alternatives for their own jurisdiction, it was also requested that suggested policy alternatives be prepared for the various State and County agencies that could have an impact on the issue and the planning process. The strategic plan that has been developed will be presented in two parts. Section one will deal with the local jurisdictions and their alternative plans for the future, and section two will deal with the broader County and State jurisdictions and the suggested alternatives for their consideration.

The modified policy delphi is a process in which policy issues are examined by a group of individual's, alternatives are suggested, and through a group process, a consensus is reached on the most appropriate policy strategy to implement. The feasibility and desirability of each alternative strategy are evaluated and a ranking score is assigned to each. Based upon the scores, the two top choices and the most polarized choice are kept for further discussion. At the conclusion of the discussion process, the three strategies are scored again, and the highest scoring strategy is chosen as the basis for the strategic plan.

A group, consisting of the Chief of Police and his three Commanders, was chosen to participate in the modified policy delphi. The results of that process will be presented here and are the basis for the transition management section of this research.

**Local Strategies**

The following six policy strategies were distilled from a list prepared by the delphi panel. The thrust of each policy alternative was that the future state of the agency was known with some certainty and each alternative would provide the best means for allocating

resources under those circumstances.

(1) Prioritize misdemeanor crimes.

(2) Major public relations campaign.

(3) Personnel assigned to monitor local parolees.

(4) Major lobby campaign at the State level.

(5) More personnel assigned to the investigative functions.

(6) Civilianize forensic positions within the department.

A discussion of each alternative will provide an insight into how it prepares for the future as predicted.

**Prioritize misdemeanor crimes:** The future scenario predicts that the court system will be heavily overloaded with extended trial dates. Also, the prison system is well above its rated capacity and is releasing prisoners just to to make room for the new arrivals. Each year, the Department arrests and processes a large number of persons for low grade misdemeanor property crimes, such as shoplifting. These cases require the same preparation and District Attorney action as the felony cases and crimes against persons. It is suggested that an in-house process within the Police Department which will allow for the return of the stolen property and counseling of the offender, without taking the case to court, will ease the workload of all agencies involved. This process would be followed for a first or second offense only, with any subsequent arrests being processed in the traditional

manner.

**Major public relations campaign:** The scenario predicts that the public image of law enforcement will be at an all-time low. This is due to the large number of persons being paroled which the public will perceive as the criminal justice community not doing its job and flooding the streets with persons who should be in prison. The Department, in a pro-active move, could initiate a massive public relations campaign at all levels of the agency. Each employee who had contact with a citizen would take the time to explain the direction that law enforcement was going and the ramifications that direction was going to have on the community. The intent of the campaign would be to prepare the community for the situation as predicted and provide a buffer for the agency so that the negative perceptions by the public would not equate to budget cuts and an overall reduction in service levels.

**Personnel assigned to monitor local parolees:** The Department would assign at least one officer, perhaps more, to monitor all of the parolees who are living within the community. The scenario predicts that the communities will be flooded with parolees who have been released early in order to make room for additional persons sentenced to prison. The parolees will be an additional burden to the Department on two levels. First, the community will expect the Department to protect them from the potential threat that the parolees pose, and second, the parolees will in fact commit additional crimes which the Department will be required to investigate. While there is a parole agent assigned to each parolee, much closer monitoring will be needed than can be provided by the local parole agent.

**Major lobby campaign at the State level:** The City Council will need to make a commitment to expend funds in areas that will be applied towards a major lobbying effort by all local jurisdictions to force the State to build additional prisons, expand or upgrade the existing facilities, provide the additional personnel needed to support the facilities, and provide the support needed to monitor the increased level of parolees leaving the system. The feeling is that unless there is pressure put on the State, the prison issue will not be dealt with in a timely fashion.

**More personnel assigned to investigative functions:** With the success of the Cal-ID system, the number of cases that will need to be investigated and prepared for court will increase substantially. Although the overall crime rate may remain the same, the clearance rate will go up, and as it does, the workload for investigators will increase correspondingly. In order to insure that the quality of the investigations does not suffer and the cases are handled in a timely manner, additional personnel will be needed. The probability is that these will be new positions rather than a shifting of personnel from one area to another. Additional personnel equates to additional funding and all of the ramifications associated with that issue.

**Civilianize the forensic positions within the Department:** Currently there are four persons within the Department that are certified to use the Cal-Id system. Only one of these is qualified to testify in court, and he is a sworn officer. The suggestion is that the forensic positions specify a non-sworn person to fill the position. In addition, all of the technicians would be trained sufficiently so that they would qualify as fingerprint experts and be able to testify in court. With the large number of cases being filed, based upon fingerprint

identification, more court qualified technicians will be required to keep up with the court calendars and to stay current with the workload at the agency.

**External Strategies**

Based upon their discussions, the delphi group developed several alternatives which were intended to be applicable at the State level of strategic planning and policy formulation.

(1) Increase in in-house incarceration.

(2) Criminal over civil priority in court.

(3) Night and weekend court days.

(4) Prison construction using prisoners as workers.

(5) More emphasis on rehabilitation.

All of the alternatives center on the judicial and penal phases of the law enforcement process. The feelings of the group were that the system would need to be able to handle the large increase in prosecutions and convictions and at the same time, do something positive to break the cycle of parolees committing more crimes and being returned to prison. A brief discussion of each alternative follows.

**In-house incarceration:** This is a technological solution to the overcrowding problem that has been used successfully in several jurisdictions. The prisoner has an electronic monitor attached to an ankle or wrist and is confined to his home. If he attempts to leave

the residence, an alarm is sent to the local police department, and the prisoner will subsequently be confined in prison. This can be used with non-violent felons as a means of confining them without taking up a prison bed.

**Criminal over civil court priority:** The State must mandate that in all jurisdictions, criminal trials will take priority over civil cases. This could provide many more court rooms and judges to handle the increased criminal caseload, but of course, the civil calendar will suffer.

**Night and weekend court days:** This has also been used on a limited basis to help relieve congestion in the criminal courts. Judges could be contracted to work the additional time, or local attorneys could be assigned to hear the preliminary cases. This process could free the normal courts from having to hear preliminary and traffic cases so that they could concentrate on the criminal hearings.

**Prison construction using prisoners as workers:** This was suggested as one means of significantly reducing the costs associated with new prisons. All inmates in the prison system who qualified would be able to work on the construction projects and would be paid at a significant, but reduced rate. This would also have the benefit of preparing them for a job once they were paroled from prison.

**More emphasis on rehabilitation:** The group felt that this was really the key to a successful program. Until the cycle of arrest, conviction, sentence, and parole can be broken, little impact could be made on the overall issue. This area requires prompt and significant attention at the State level.

The delphi panel completed the process using the six alternative local strategies as presented. For each strategy, the feasibility and desirability of the option were evaluated and the alternatives were placed in rank order. Based upon the group scores, the alternative that was chosen as the one which would have the greatest impact was the prioritization of criminal offenses. This strategy will be used as the basis for the transition management plan.

## Transition Management Plan

The delphi panel has established a policy direction that they would like to see the City institute. This strategy is based upon the predictions in the "what will be" scenario that would have a direct impact upon the local agency. These predictions include increased workloads for investigative and clerical staff, much increased congestion in the court system and prison system, and the expectation that the community will receive an increase in parolees as the number of persons released from prison increases. In response to these impacts, the panel felt that a prioritization of misdemeanor criminal offenses should be established. The proposed strategy will do several things towards reducing the impact of AFIS technology on the local agency.

A description of the proposed plan and its implications will assist in understanding how it will reduce the negative effects of AFIS on the agency, and hopefully, on the entire system. The group felt that the number of criminal cases that could be filed in court would increase substantially as a result of full AFIS implementation. Since the agency only has a limited number of investigators to prepare, file, and testify on those cases, it was decided that certain low-grade offenses could and should be handled at the local level. The criteria decided upon was that of certain misdemeanor crimes wherein the suspect had no more than one prior offense. The majority of these crimes would fall into the shoplifting and simple assault categories. However, these two categories make up a substantial portion of the cases filed in court each month.

If an individual qualified for the program and if the individual was cooperative with the investigator, a recommendation could be made that the property be returned or paid

for and the individual would be counseled and released. In the case of a simple assault, a counseling session would be scheduled with the suspect and victim with possible damages to be paid by the suspect. The individual would be expected to sign a waiver which indicated that he had in fact committed the crime and would return or pay for the property, or pay the damages assessed. This form would be kept with his arrest file and could be used to indicate prior offenses, if needed.

The results of this program would be that a fifteen-minute counseling session would replace a full investigation, preparation for court, preliminary hearings, and jury or court trials. Investigators would be freed up to work on felony cases, and the burden on court calendars would be reduced. By freeing up one or two investigators, more time could be spent on the parolee issue and on providing a feeling of security in the community. The net effect of this strategy would be the addition of several more officers on the Department, without incurring the associated costs.

**Critical Mass**

In order to develop a transition plan to implement this strategy, the group identified the critical mass of individuals whose support would be crucial in order for the plan to be successful. Each of the key participants will be evaluated as to their current commitment to the plan, the minimum level required of them, and a strategy to be used with each member in order to ensure implementation of the plan. The critical mass was identified as follows:

(1) Police Chief

(2) City Manager

(3) City Council

(4) District Attorney

(5) Police Union

(6) Business Community

(7) Commanders

Six of the seven identified members of the critical mass, were also previously identified as stakeholders in the entire AFIS issue. Their passive, if not active, support of the strategic plan will be required in order for the plan to be successful. A discussion of each member's views, their current position, expected position, and a means for moving them into the support arena provides the basis for the transition management plan.

The Police Chief developed the strategy as presented here. He is a pro-active administrator who realizes that unless some steps are taken to reduce the impact of the increased workload, both the quantity and quality of his Department's work will suffer. After an in-depth analysis of the various alternatives as presented, he chose the option which would have the greatest impact on the issue. Although the option is a new and risky approach to law enforcement, he was not afraid to extend his agency into the new arena. Figure 18 is the Readiness/Capability chart. The chart is intended to show the critical-mass

actors, their readiness to accept the changes that have been proposed, and their capability to implement the change. As indicated on the chart, the Chief is high in both readiness and capability. This is not to imply that he alone can implement the plan, but he will lead the other members of the critical mass in the direction of implementation. His influence will be used on several other members of the group to change their views on the proposed

## READINESS/CAPABILITY

| Actors | Readiness | | | Capability | | |
|---|---|---|---|---|---|---|
| | High | Medium | Low | High | Medium | Low |
| Police Chief | X | | | X | | |
| City Manager | | X | | X | | |
| City Council | | | X | X | | |
| District Attorney | | | X | | X | |
| Police Union | | X | | | | X |
| Business Community | | | X | | X | |
| Commanders | X | | | | X | |

**Figure 18**

changes.

The City Manager is a politically conservative individual whose prime concern is the levels of service to the community and the outward appearance of his City to potential business interests that may be considering moving their offices into the jurisdiction. The City Manager is very responsive to the City Council, which at the present time is somewhat unstable. He has traditionally supported the Police Chief when innovative programs such

as drug enforcement teams, canine units, school resource officers and drunk driving teams were proposed. However, in this case the City Manager will be reluctant to lend his support. As Figure 18 indicates, the City Manager has a medium readiness to accept the plan, but a high capability to impact it. He will be concerned that poor media coverage combined with low community support may have long lasting negative ramifications for the City. He will definitely expect to see strong business support for the plan before he commits himself.

The City Council will be reluctant to support the program, probably on the basis that it is something new and controversial, and could adversely affect their tenure on the council. The City has a very active Chamber of Commerce which is very influential with the Council. It can be anticipated that at least some of the members of the Chamber will be strongly opposed to the plan. This will translate into a lack of Council support. Figure 18 indicates that the Council has a low readiness to accept the plan and a high capability to impact it. The media can also have a significant effect on the mood of the Council. If there is negative publicity about the program, the Council will lose whatever interest they had. They will not be persuaded by the cost savings that the program generates to an extent that cost savings alone will win their support. It will be up to the strong political forces in the City to generate sufficient support for the plan.

The District Attorney, as indicated in Figure 18, will not be ready to accept the new plan. This is due to the traditional role that the District Attorney's Office plays in the law enforcement community. The D.A. is charged with two roles in our system. One is to evaluate the merits of a case against a person and to decide if the evidence is sufficient to

warrant a prosecution. The second is to actually present the case in court with the intended result being a successful prosecution. Subtley included in these roles is the responsibility to ensure that the accused individual receives a fair and impartial trial. The plan, as outlined, removes the District Attorney from the loop and allows a suspect to admit his guilt without benefit of the District Attorney reviewing the evidence in the case. There exists the potential for alienation of a person's rights in this process, and the District Attorney will be strongly opposed. It will be necessary for the Chief and his staff to convince the District Attorney that those concerns will be closely monitored to ensure a fair and impartial program. There will be strong benefits for the District Attorney's office should the program be successful and be implemented Countywide, and it is these benefits that the Chief must use as his selling tools.

The Police Union will take a middle of the road stance on the issue. While the Union cannot directly prevent the program from being initiated, their lack of support can be harmful in the public perception and Department morale arenas. The concern of the Union will be that new assignments and additional workloads may be added to investigative personnel as they take on the role of counselors, rather than the agency adding additional personnel to handle the increased caseloads. Also, the patrol officer may be reluctant to arrest suspects in misdemeanor cases, expecting that the person will be released with no prosecution. The Union may fear that the program would later be expanded to include traffic citations or low-grade felony cases. Overall Department morale could suffer if the Union became disenchanted with the program. The Police Commanders, who are also part of the critical mass, will have a key role in ensuring that the Union is kept fully aware of the program and its successes as well as any anticipated changes that may need to be made.

The business community, represented by the Chamber of Commerce, will be reluctant to give their support to the program. The City has a very strong Chamber that prides itself on strong support for law enforcement in the community. They also expect that persons arrested for property crimes against their businesses will be prosecuted to the fullest extent of the law. The members of the Chamber will not want to see shoplifters go free with merely a counseling session. They will fear that as the program gains wide recognition, the number of shoplifters will increase and in fact, the shoplifter will be attracted to this community knowing that their chances of being prosecuted may be less than in surrounding areas. The City Manager will have to play a key role in persuading the Chamber to lend its support, at least for a trial basis. There are benefits to the business community that can be used to sell the program. Investigators will have more time to devote to major crimes in the area and hopefully reduce the robbery and burglary rates in the community. Also, under the plan, the businessmen will have a greater likelihood of getting their property returned, with additional damages paid, than they currently do. As with the Police Union, the business community can not stop the program, but they can strongly influence overall community support.

The three Police Commanders will be responsible to ensure that the program implementation in the Department is successful. They must structure the details of the program to achieve the best possible benefits from the increased time that the investigators have. They are the primary liaison with the majority of the Department's sworn personnel and must convey a thorough understanding of the program to all members of the Department. The Commanders will be responsible for the actual "nuts and bolts" details of the program, and once the program is working, they will be the liaisons with the outside agencies and groups

that are impacted by the program. As Figure 18 represents, they have a high level of readiness to support the plan and will be expected to feedback on any issues that surface as the details of the plan are placed into action. The Chief will be responsible for the political issues that surface while the Commanders will be responsible for the mechanical or technical issues.

**Commitment Planning and Negotiation**

In their book Organizational Transitions, Beckhard and Harris speak of specific intervention strategies that can be used to create the proper "conditions for commitment."[22] The intent of the strategies is to give the administrator a set of tools to deal with resistance to change. The first step in the process is to plot the current commitment to the overall plan that each member of the critical mass has. Based upon an assessment of their respective commitments, a determination is made whether or not an individual member needs to change his commitment level and, if so, in which direction. Figure 19 displays the commitment planning level for each member of the identified critical mass. The "X" portion of the chart represents their current commitment to the program and the "O" portion represents the position that they should be in to best serve the implementation of the plan. It is the purpose of the intervention strategies to assist in moving an individual from his "X" location to his "O" location. A discussion of each member of the critical mass, and of the necessary position changes that are required for successful implementation of the plan, will provide the basis for the management structure that will be defined to supervise the overall efforts.

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[22] Beckhard, R. and Harris, R. Organizational Transitions. Addison-Wesley Publishing Company, 1987, p. 94.

# Commitment Planning

| Actors in Critical Mass | Block Change | Let Change Happen | Help Change Happen | Make Change Happen |
|---|---|---|---|---|
| Police Chief | | | | XO |
| City Manager | | X ——→ | O | |
| City Council | X ——→ | O | | |
| District Attorney | X ——————→ | | O | |
| Police Union | | X ——→ | O | |
| Business Community | X ——→ | O | | |
| Commanders | | | O ←—— | X |

Figure 19

The Police Chief requires little discussion. The plan, as put forth, was his recommendation to reduce the burden caused by the increased workloads as a result of AFIS technology. As seen in Figure 19, his current position and his expected position on the issue is to make it happen. The Chief will be the motivating factor behind the implementation of the plan within the Department, and he will be the major political influence with the other members of the critical mass that are external to the Department. The Chief will have three members of the critical mass to concentrate on. The City Manager, District Attorney, and Business Community will all need special attention to persuade them to at least let the change happen. The specific techniques for each will be presented in their respective sections. The Chief will expect that once the City Manager has been convinced, he will be responsible to lead the Council in the desired direction.

As previously mentioned, the City Manager has traditionally supported the Chief in his innovative plans. He is a conservative manager who is very concerned with the image that the City conveys to both the public and the business interests. He is currently involved in a long- range plan to improve the overall image of the City and of the area in which it is located. The intent of his plan is to attract new business to the area in order to substantially increase the sales tax base of the City. Currently, sales tax provides for about one-fourth of the City's revenue and is the major contributor to the General Fund. In order for the City to remain solvent in the next few years, the sales tax base must be increased. The City Manager is also very concerned about the level of service that the community receives. He expects all employees to be responsive to community needs and provide the best service possible from their respective offices.

With this background, the Chief will need to structure his presentation to the City Manager in a way which will reinforce those two prime areas of concern. The Chief has two strong selling points. The first is that his plan will provide additional investigative time to follow up on the major crimes that strike the business community. High burglary and robbery rates within the business community can create an atmosphere of fear that will prevent new business from moving into the area. On the other hand, a good clearance rate and strong support of the business community by investigative personnel can create an atmosphere of safety and partnership that will attract new business to the community. The second selling point is the additional man power and time that will be available to create that same sense of safety and partnership within the community. The parolee issue can be dealt with using some of the available investigative time, and the image of officers on the street maintaining close contact with this segment of the population will increase the overall

feelings of safety within the community. The Police Department is a service organization, and every opportunity must be made to reflect that image to the public.

The City Council will be the primary responsibility of the City Manager. The factors that motivate the Council are centered around their tenure in office and their image with the public. The City currently has an argumentative Council which is split on most issues. This translates into a poor image for the City, both with the public and with the potential new business interests. This provides an opportunity for the City Manager to unify the Council around a couple of key issues and improve the overall image of the City at the same time. The City Manager will attempt to unify the Council around the benefits of the plan which will enhance their positions in the community. As more emphasis is placed upon major crime investigation and as the public perception of a safer community is increased, the Council will realize the benefits in increased support at election time, more positive media coverage, and renewed business interest in the area. In order for the plan to succeed, the Council will only have to move into the "let it happen" category as shown in Figure 19. The risk to the Council is minimal because they will not necessarily be vocal or outspoken on the issue. By taking a subtle position, the Council will allow the plan to move forward, while placing themselves at minimum risk.

Perhaps the most difficult of the commitment changes that need be made rests with the District Attorney. Figure 19 shows that the District Attorney will need to make a major shift in commitment level. Currently, the District Attorney will want to block the change. This is mainly due to the loss of control their office will have if they give up the total authority that the District Attorney's Office currently has. It is always difficult to get someone to

release a little bit of their authority and power. The Chief will be the primary negotiator with the District Attorney. He must be cautious not to let the discussions turn into a power struggle for authority to decide the ultimate dispositions of misdemeanor cases. Rather, the Chief must convince the District Attorney that this plan will free up his deputies to spend more time on the major cases and help remove the backlogs from the courts. The District Attorney is an elected position, and this plan can be used to improve the image of the office and provide good exposure in the media for the organization. The Chief will want the District Attorney to actively help the plan succeed. This may include training and support from deputies as well as promoting the program with other jurisdictions. Also, the Chief will expect the major cases which are filed with the District Attorney to receive more time and attention than the current workloads will allow.

The Police Union will be the primary responsibility of the three Commanders. The Chief will provide the overall structure and expect the Commanders to carry the message to the officers. This will include a background on the issue, the intent of the plan, the details of its implementation, and a method for feedback on its successes and failures. Participation on the part of the Union will be important in all phases of the implementation. It will be crucial that the Union be included in the feedback loop so that they can feel as though they have a voice in the plan. The prime concerns of the Union will be the loss of possible sworn positions, the possible negative effects on overall morale, and the workloads of investigators. Each of these can be dealt with by the Commanders if an open line of communication is established and strongly supported. As Figure 19 indicates, the Union will be expected to commit to helping the change happen. Their support with the public, especially with the business community, will be the most crucial influence on the overall perception

of the plan. The Chief must be open to their suggestions and responsive to their needs. The atmosphere of honesty and support that is created with the Union on the issue will be transmitted to the public via the normal contacts that officers have with citizens.

The business community will be another area that the Chief must devote much effort. He is currently well respected by the Chamber of Commerce, and they have supported many of his other programs. Education will be the key to success in this arena. The Chief must make the business community aware of the impacts that AFIS technology has brought, the ramifications of those impacts for the business community as a whole, and the improvements that will be realized with the implementation of the Chief's plan. The Chamber will be receptive to an honest and logical approach, but will be reluctant to lend their full support. Fortunately, as Figure 19 displays, the business community need only let the change happen for the program to be successful. It can be expected that after the program has been in place for some time and has proved to be a success, the business community will rally in strong support and be influential in assisting other jurisdictions in implementing a similar plan. The strongest benefit to the business community is in the additional officers and time that can and will be devoted to the major crimes that affect them. Through the education process, the Chief must also convince them that the suspect who is counseled and released is not getting away with something and will find himself in court if the offense were to occur again. The key here is to overcome the perception that persons who commit misdemeanors in this community will not be properly dealt with. Education and information will provide the relief from that misconception.

Finally, the Commanders will need little motivation from the Chief even though they

are crucial to the success of the plan. Figure 19 does indicate that because of their enthusiasm and support for the Chief, their current level of commitment is to make the change happen. The Chief will expect that they move into the "help it happen" category, at least until all of the political ground work for the plan has been laid. He does not want the Department to give the perception that everyone is strongly moving forward with the implementation of the plan until the timing is right. If the Commanders were to indicate that they are going to make the change happen, it might be perceived as an authoritative, rather than participative process. The Commanders will be dealing with the Union in all phases of the implementation and don't want to give the impression that things are moving forward, like it or not. Also, the Chief wants to maintain the strong perception that the plan is his and is under his control. The support that he develops in the political arena will hinge on his maintaining a strong, hands-on image through the entire process.

**Management Structure**

The Transition Management Plan and the players involved have all been defined. The next step in the process is to define a management structure that will be able to effectively put the plan into action. In this case, there will be several steps, decisions, or acts that must be accomplished in order to move forward with the implementation. Breaking the overall process down into its component parts provides a means for assigning tasks to individual players and for keeping the entire transition team informed on the status of the plan.

The Responsibility Chart is a means of assessing alternative behaviors for each member of the critical mass in a series of actions constructed to bring about the desired change. Each member can be assigned one of five roles in each individual action item. The roles are

defined as follows:

R = Primary Responsibility (not necessarily authority): This person is responsible for the decision or action item and for its implementation. He may or may not have the authority for approval of the strategy devised.

A = Approval (right to veto): The person has the final say so as to whether the strategy for implementation of the specific action is appropriate.

S = Support (put resources towards): The person is expected to support the strategy and put their resources towards the successful implementation of the action.

I = Inform (to be consulted before action): The person is to be consulted before the action is taken and should be kept apprised of its status.

- = Not relevant to this item: This person is not a key player in this particular action.

The initial responsibility chart is very broad in scope. Each of the decisions or actions that need to be made will in turn cause a multitude of further decisions or actions to be taken. Each individual actor who is responsible for a particular action will need to create a responsibility chart for that specific action and indicate who their key players are and

# Responsibility

| Decisions/Actions | Police Chief | City Manager | City Council | District Attorney | Police Union | Business Community | Commanders |
|---|---|---|---|---|---|---|---|
| Broadly Define Plan | R | - | - | S | - | - | S |
| Assess Legal Issues | R | A | - | S | I | - | S |
| Determine City Position | S | R | I | - | - | - | - |
| Assess Legal Ramifications | S | R | S | I | S | - | I |
| Propose Plan to Council | S | R | S | - | - | I | I |
| Determine Business Support | R | S | S | - | I | S | I |
| Establish Policy and Procedure | A | S | I | I | I | I | R |
| Personnel Training | A | I | I | S | S | I | R |
| Community Education | R | S | S | S | S | S | S |
| Inform Media | R | S | I | I | I | I | S |

Figure 20

what roles they will take in the accomplishment of the specific goal. The intent is to lay out a framework of actions that need to be accomplished before the plan can be implemented. Each member of the critical mass would be able to see their exact functions for any particular action and also see how they would interact with other members of the group.

An examination of each specific action and its importance to the overall plan will provide some insight into the management structure that is to carry out the plan. Since he is the project director, all of the approval functions rest with the Chief of Police. Figure 20 represents the responsibility chart for implementation of the prioritization of misdemeanor crimes plan.

As indicated in Figure 20, the decisions or actions that have been listed deal mainly with the broad aspects of the plan. The individual specifics will be defined by the individuals who will be responsible for the written plan itself. Because the strategy is a new concept in law enforcement and is apt to be met with opposition from several key groups, the focus of the management team will be on those areas.

The first step is a broad definition of the plan and, as indicated, this is the responsibility of the Chief of Police. He will receive support from the District Attorney in assessing the legal issues and from the Commanders in doing the research and background material necessary to present a well-documented plan. Once the plan has been defined on paper, the next step is to do a detailed analysis of the legal issues involved. Again, the Chief will be responsible, but he has given up his approval authority to the City Manger. It is at this point in the process that the Chief will want to discuss the plan with the City Manager, get his input, and if possible, his tentative approval. Support will again come from the District Attorney and from the Commanders. Finally, the Chief will choose this time to inform the Police Union of his intentions and ask for their preliminary input.

The next several steps will be the responsibility of the City Manager. He has reviewed the plan with the Chief and has given his approval. He will now want to begin the discussions with the City Council to get their initial responses. This is a sensitive process that could be disastrous to the entire strategy if not handled properly. The Chief will assist with any questions which the City Manager may have as the Council is briefed. The actual decision on whether to have a Council study session or to meet with each member of the Council individually is left up to the City Manager.

Assuming the Council is receptive to the plan, the City Manager will want a full assessment of the legal ramifications for the City. One major concern will be potential City liability for failing to prosecute an individual, especially if that same person commits further crimes. The City Manager will expect strong support from the Chief and the City Attorney. This is the first phase in which the Police Union will have an active role. The concern here is whether or not the Union will be motivated to file some type of legal action to block the plan, based on meet-and-confer issues.

A formal presentation to the Council is the next step in order to get their approval for the plan. Council support will be needed in the next phase which is to try and establish support or at least acceptance by the business community. The influence of the Council members, many of whom are part of the business community, will assist in winning their support. The next section will discuss some of the technologies and methods that can be used in this phase of the process to ensure success.

Now that all of the key players are supporting or accepting the plan, the final phases of the implementation shifts back to the Police department. The Chief will have the ultimate authority to approve each phase, but his three Commanders will be responsible for the next two. The establishment of the written policies and procedures which will be distributed to all personnel and will become part of the Department manual rests with the Commanders. They will keep all of the key players informed of the progress as the details are worked out.

The next step is training for all members of the Department to ensure that they understand the mechanics of the plan and the reasons for it. It is crucial that a feedback loop be established at this point so that once the plan is operational, the Department will

have immediate access to feedback information about how the plan is working and any changes which need to be made. The real success of the plan will be in its acceptance by all members of the Department.

The final two phases of implementation deal with education. The media will be used as a tool for educating the community as to the need for the plan, what they can expect in service levels as the plan begins operation and where to go for further information if questions arise. All of the members of the critical mass will be expected to participate in a support role in presenting the material to the public. Every public contact provides an opportunity to explain and ensure an understanding of the plan. The media will be kept informed of the status of the operations as events unfold in a pro-active effort to keep the media in an informational, rather than adversarial role.

**Technologies and Methods**

The Chief has laid the proper foundation for the successful implementation of the plan. He has prepared his implementation strategy and has been faithful to it. However, he also realizes that all plans are apt to meet with at least some resistance and unexpected roadblocks. In this light, he has reviewed some of the technologies and methods available to him to assist the members of the critical mass in carrying out their specific functions in the implementation process. He has also examined how to make use of those technologies, where appropriate, to ease the transition process for the members.

The following technologies have been identified and may be useful in the transition process:

**Training:** One common area of concern in all transitions is the fear and anxiety that can accompany the process. The root of much of this fear and anxiety can be found in a person's concern that he or she may not be able to learn or adapt to the new situation and may, in fact, fail in the transition process. The best means of ensuring that gross anxiety does not occur is to provide adequate training early on in the transition process. The sooner that one feels like he understands the changes involved and feels comfortable with the new procedures involved, the less likely he will be apprehensive about the change.

**Meetings:** A lack of information is another means of creating fear and anxiety in someone, and it also fosters their belief that they are not important to the change process. It should be the project manager's goal to have an informed and involved organization. Every member of the organization should know what the change is about, why it is occurring, and the role they will play in the transition process. One method for ensuring that all of the members are kept informed is to have meetings at all levels of the organization to brief the members on the status of the change process and to answer any questions they may have about the change. This also provides an excellent opportunity to get feedback from the group and to assess the success of the implementation process.

**Team Development:** There are very few change processes which can be accomplished by one person. Since, in most cases, a group of individual's will be intimately involved in managing the transition, it is imperative that they all be working as a unified force towards a common goal. The ease in which the members of the critical mass can exchange information among themselves and work together will be a measure of how successful the transition will be. The project manager must work towards developing a team concept with

the critical mass and reinforce that concept throughout the transition process. He must be sensitive to the cues which can indicate that there is dissension amongst the members and take steps to remedy the situation immediately.

**Responsibility Chart:** The responsibility chart can be used as a means of focusing each person's efforts in the transition process. Not only can it be used with the critical mass to indicate their areas of responsibility and support, but it can also be an excellent means of providing guidance to all members of the organization throughout the transition proce An organizational chart helps each member of the organization see where they fit into the overall operation and also gives them a sense of belonging to the group. Likewise, a responsibility chart can do the same thing during a transition period. It allows each member of the organization to see where they fit into the entire change process and allows them to feel like they are part of the change, no matter how slight their involvement.

**Pilot Project:** It is very difficult to implement any substantial change in one large step. It is much easier to break the change down into a series of smaller steps that when complete, will combine to complete the entire project. If the change is substantial to the organization, a pilot project can be designed to test the viability of the steps involved in the process. Through the pilot project, information can be obtained on the methods employed to implement the change, any modifications that need be made in the transition plan, and in fact, whether or not the transition plan will accomplish the end state that we have envisioned. It is a built-in feedback process that can better guide the management through the transition process.

**Experiment:** The whole purpose of the transition management plan is to accomplish

something we have labeled "change." By definition, change means that we are going to be doing something different than was done before. This means that we are going to have to experiment with different methods and procedures until we find the ones that are most successful with and beneficial to the changed organization. We have determined that a need existed for the change and typically, the need revolves around a process that is stagnant and unproductive. Having committed to the need for the change, one must also be prepared to deviate from current practices and look to new and exciting means of accomplishing the goals. If one particular method is unsuccessful, it should serve as a map towards those that will bring success.

**Temporary Management Structures:** In many cases, the traditional structure of an organization is not the one which is best suited to manage a substantial change. Established hierarchy and communication lines can prevent the needed information from being passed in both directions. Part of the reasons identified for needing the change may be based upon the current management structure and a lack of communications between members. By defining a temporary structure to implement the change process, we are better assured of establishing new lines of communication and of obtaining a fresh approach to the process. Again, the key here is that we have already committed to the change process and are looking for the most beneficial means of accomplishing it.

## Conclusion and Implications For The Future

This research began with the question, "What will be the impact of automated fingerprint systems on California law enforcement by the year 1999?" The focus of the study was not on the technology of automated fingerprint systems, but rather on the impacts that the technology will have. Currently, the Cal-Id system is operational Statewide and has been looked at as a model for other jurisdictions to follow in their establishment of AFIS systems. Many suspects have been identified by the Cal-Id system and cases have been cleared that would have otherwise gone unsolved. There has been positive media coverage of the system and about some of the more noteworthy cases that have been solved. The most widely publicized was the arrest and prosecution of the "Nightstalker" in Los Angeles County. There is little doubt that the system can be a very effective tool for law enforcement.

There are, however, other issues that are raised by the technology and have yet to be answered. This research presented several of those issues and offered a strategic plan to best prepare for the impacts of one of them. Technology is increasing at an astounding rate, but it is still only technology. The human interaction with that technology provides the basis for our understanding of the issues involved. Three of those issues were presented here:

How will the criminal justice system deal with the increase in arrests and prosecutions that are an expected result from automated fingerprint systems use?

What are the constitutional issues that will be raised concerning the storage and use of

an individual's fingerprints?

What impact will DNA fingerprinting have on the use and value of conventional fingerprints as a means of identifying criminals?

A futures research was conducted in an attempt to answer those questions. Based upon the results of the research, three scenarios were developed which portrayed three distinctly different futures for law enforcement in California in the next ten years. One of those scenarios was chosen as the basis for a strategic plan to manage the changes which were going to occur. As the plan developed, it became apparent that most of the focus was to be at the State level, leaving little that the local jurisdiction could do to prepare for the changes. The strategic plan was thus presented in two parts. One would concentrate on the capabilities of the local jurisdiction and the other would make recommendations to the various County and State agencies that were in a position to manage the changes to come. In an effort to make this research applicable to my own agency, as well as others throughout the State, and in an attempt to provide some valuable and meaningful direction that those agencies could move in, I chose to develop a transition management plan that was targeted at the local level. This leaves the key transition plan for the State agencies to be done in a future study.

Also, it became apparent that the sub-issues presented were too complex to all be answered in this paper. An in-depth discussion of each sub-issue was done, and the futures research included questions targeted at each of the sub-issues. Based upon the results of the futures research, one sub-issue became the focus of the strategic plan and transition management sections. While civil rights issues and DNA technology were deemed to be

important by the delphi panel, they felt the key issue was the increase in arrests and prosecutions and the negative effects it could have on the entire law enforcement community in California.

The Strategic Planning Process was used to identify stakeholders, assess their positions and expectations, and develop a plan which would make the best use of resources in preparing for the future, as portrayed. The plan would be required to fit into the Department's overall mission, as defined by the mission statement, and be workable enough that a transition management plan could be developed to implement the strategy. A modified policy delphi group was used to develop alternative strategies and to distill the list down to the one which would have the greatest positive impact for the agency. This is not to say that the other strategies presented should not be discounted as offering additional directions that the Department could move in to further prepare for the future.

The concept of prioritizing misdemeanor crimes was presented by the group as a new and innovative means of closing a criminal case. The strategy would allow investigative personnel to shift their focus to the more serious crimes and, at the same time, relieve some of the burden that is placed upon the District Attorney's Office and on the court system. Counseling and punitive damages would replace the traditional prosecution and sentencing phases of a case. The investigator would also take on the role of counselor in the clearance of these cases. This plan is intended for the first, or perhaps second time offender, with any subsequent cases being filed with the District Attorney for prosecution. It would also be expected that there would be little leniency for those individuals that had been a part of the program and continued to commit offenses.

A transition management plan was developed which would define a temporary management structure to place the strategic plan into operation. The critical mass of individuals, whose support was mandatory, was defined and each was given specific roles to play in the transition process. Specific strategies were discussed and the expected scenario was played out as the individual steps of the transition plan were carried out. All that remains is an assessment of the overall strategy, its successes and failures, and a determination of whether or not it should remain as is, be modified, or be canceled as not accomplishing the goals which it intended to achieve.

There remains, however, a large number of implications for the future that could not be a part of this study. AFIS technology is here and will continue to become more sophisticated. What about the civil rights of individuals as we move ahead? What types of plans and strategies will need to be developed to deal with this issue? Will DNA technology open up a whole new arena of issues that may come back to impact the AFIS issue? What will be done at the State level to overcome the overcrowding and parole issues? Who is going to take a lead role in making the normative scenario the vision of the future?

These, and many other questions, will need to be answered if California law enforcement is going to move into the 21st century as an effective and viable segment of the government structure. The strategies proposed here can be successful with the efforts and dedication of those involved. It remains to be seen what future strategies and visions are presented as directions for us to devote our energies.

# Appendix A

**Initial Candidate Trends**

Community Support For Law Enforcement

Prison Overcrowding

Overall Crime Rate

New Technology For Suspect Identification

State Supreme Court Conservatism

Media Publicity About Cal-Id

Illegal Immigration

Law Enforcement Funding

Public Support For Maximum Court Sentencing

Public Perception Of Law Enforcement Success

# Appendix B

**Initial Candidate Events**

Supreme Court Rules Against Using Fingerprints For In-Field Identification

State Allows Private Sector Access To Fingerprint Database

Mandatory Fingerprinting Required To Get A Driver's License

All Fingerprint Systems Nationwide Are Linked Together

All Aliens Must Be Fingerprinted And Added To The Automated Data Base

Portable Latent Print Laser Scanner Can Retrieve Virtually All Crime Scene Fingerprints

DNA Process Allows Positive Identification Of Virtually All Suspects

Live-Scan Print Search Required For All Firearm Purchases

Supreme Court Rules Fingerprint Data Base For Non-Criminals Violates Privacy Rights