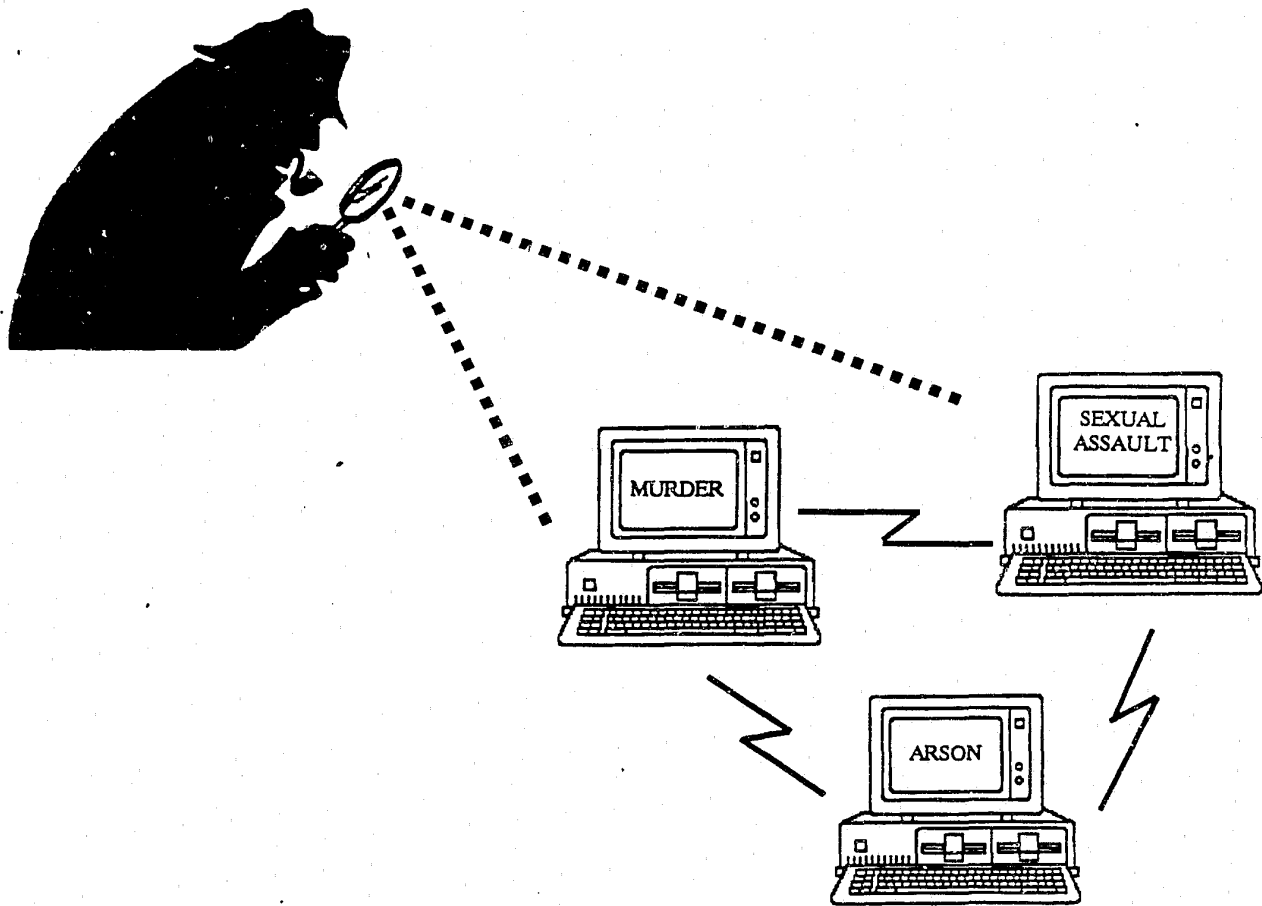130541

BEYOND SHERLOCK HOLMES - SOLVING SERIAL CRIMES IN THE 21st CENTURY

By

ROBERT J. LUCA

11-0207

COMMAND COLLEGE CLASS XI

PEACE OFFICERS STANDARDS AND TRAINING (POST)

SACRAMENTO, CALIFORNIA

JANUARY 1991

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).

NATIONAL INSTITUTE OF JUSTICE

NATIONAL CRIMINAL JUSTICE REFERENCE SERVICE

(NIJ/NCJRS)

ABSTRACT

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Beyond Sherlock Holmes - Solving Serial Crimes in the 21st Century.

Abstract

The monograph consists of a futures study on the feasibility of establishing

a state-wide relational data base to aid in the solving of the serial crimes

of homicide, sexual assault, and arson by the year 2000. A strategic plan

and a transition plan was developed with the California Department of

Justice, Division of Law Enforcement as a model. The research revealed key

trends regarding criminal investigation information management and analysis,

such as standards for data collection, and regionalization of criminal data

bases. A key event identified was legislation mandating standardized input

of Modus Operandi and victimology on specified unsolved crimes. Policy

recommendations focus on building consensus and cooperation within law

enforcement in the sharing of information regionally, and garnering support

for legislation to support a state-wide system. The transition·management

plan presents a management structure and strategy with supporting

technologies. The report includes survey, forecasting and impact analysis

in text with additional graphics and instruments in appendices, and

references.

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Executive Summary

The serial offender is a unique criminal who is driven by an internal desire
and motivation to commit a specific crime again and again. Each of the
violators, be they serial murderers, sex offenders, or arsonists, commit
their crimes in unique ways which establish patterns of criminal behavior.
These criminals are multi-jurisdictional in nature and their victims are
selected at random.

Law enforcement's future success in tracking, identifying, and apprehending
these criminals depends on the ability to manage and analyze information
about these crimes.

Research conducted included the examination of current systems such as the
FBI Violent Criminal Apprehension Program (VICAP) and the California
Department of Justice Violent Crimes Information Center (VCIC). These
systems have achieved minimal success to date as their current data bases
are limited.

Through the use of specific forecasting and planning techniques, this
project examines the feasibility of establishing a state-wide relational
data base to store and analyze all Modus Operandi, victimology, and crime
scene information on the unsolved crimes of homicide, sexual assault and
arson within California.

Through the use of the nominal group technique, seven trends and events were
developed. The trends determined to have significant impact on the issue
were standards for data collection input, regionalization of criminal data
bases, and recognition by law enforcement for the need of criminal
information management. The three events considered to be most critical
were new legislation to mandate uniform data entry and reporting of criminal
MO information, merger of a major police jurisdiction, and affordable new
technology which impacts the linkage of existing crime analysis data bases.
These impacting trends and events became the basis for development of
policies and a strategy to produce desired change.

The California Department of Justice, Division of Law Enforcement was used
as the model organization due to its unique responsibilities of providing
information and other support services to local law enforcement within
California. Through the use of a modified policy delphi, eight policy
recommendations were developed.

Each of the policy recommendations were found to be critical in achieving an incremental transition toward acceptance by law enforcement and the public of the value that a criminal relational data base would have in solving and preventing crimes of a serial nature. A strategy was presented which would require internal policy decisions within the model organization to be a starting point in encouraging a regionalized approach by local law enforcement in the management of criminal information specific to homicides, sexual assaults, and arsons.

The goal of the policies and transition strategies developed is to bring an appreciation to law enforcement of the power of information sharing to solve crimes. Hopefully, this will encourage support for legislation to mandate uniform reporting of MO, victimology, and crime scene information into a centralized data base.

Crime analysis and information management are far reaching issues which law enforcement must come to grips with in the future. Technology is only part of the answer. Law enforcement's success in effective crime solving in the 21st Century will be dependent on its ability to share and manage information about crimes and criminals.

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INTRODUCTION

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Background

During the Summer of 1990, a college town in Florida is gripped with fear as a string of gruesome serial murders rises to five. Each of the five homicides bears distinct characteristics which indicate these crimes have been committed by a serial killer.[1] In the small town of Rocklin, California, a seventeen year-old girl is killed and the gunman turns the weapon on himself after the homicide.

A crime analyst in the Department of Justice's (DOJ) Serious Habitual Offender Program (SHOP) recognized similarities in a Stanford University Police composite photo of a suspected rapist to a photo published in the local newspaper of the gunman in Rocklin. Further investigation by authorities uncovered similarities in four rapes and attempted rapes which took place at Stanford University in Palo Alto, California. This led to the discovery that the suspect, who killed the seventeen year-old Rocklin girl and then committed suicide, was in fact the same person responsible for one rape and three attempted rapes on the Stanford University campus. Each of the rapes committed had become increasingly more violent.[2]

A series of fires in California appear to have been started with the same incendiary device and accelerant. A serial arsonist is terrorizing the West during the worst fire season of the decade. On June 19, 1990, a man is arrested who is suspected of setting 100 wildfires in California since 1982.[3]

All of these cases share the commonality of one individual responsible for a series of crimes which bear a distinct method of operation or "MO" pattern. The individuals committing these types of crimes are also driven by an internal motivation to commit these crimes repeatedly over time.

In his article entitled, The New Predators, Crime Enters the Future, Steven A. Eger defines the serial criminal as "predators committing violent acts who are becoming more mobile and engaging their prey in widely different areas".[4]

The crimes of homicide, sexual assault, and arson may be perpetrated by a repeat offender whose Modus Operandi (MO) establishes a unique pattern or relationship to the crimes or victims which, when analyzed, can substantially narrow the scope of suspects and even link an individual to the crimes committed. Information gathered from one crime scene which by itself may not be sufficient for the identification of a suspect, when tied to additional information from another scene, will eventually build a profile or "picture" of a suspect and allow for his identification and arrest.

In 1985, the National Institute of Justice (NIJ) funded a series of workshops that brought together knowledgeable, experienced and highly respected law enforcement managers, investigators, computer analysts, and

scholars to develop a guide for establishing and administering multi-agency investigative teams (MAIT) to pursue serial offenders. The relevant findings of this task force which are germane to this project are that "studies of successful investigations reveal that invariably the killer's name was buried in task force files or stored in a computer." Serious violent crimes many times remain unsolved because of the failure to coordinate seemingly unrelated pieces of information to establish a criminal relationship. When relationships or connections between crimes occurring in another jurisdiction, or even the same jurisdiction, remain unconnected, a suspect remains unidentified and continues victimizing innocent persons.[5]

In California, we have had more than our share of victimization by serial killers. The names of serial killers such as Herbert Mullin, who was convicted of ten serial murders; Edmund Kemper, who killed at least seven women; "The Zodiac Killer", still at large, who has murdered and sexually assaulted several persons in San Francisco; Kenneth Biachi, the "Hillside Strangler", who was convicted along with Angelo Buono for killing nine young women in Los Angeles; Juan Corona, convicted of the murder of twenty or more migrant farm workers; and Gerald Gallegos, convicted of murdering a college couple and suspected of killing four others in Utah and another in Oregon, are all familiar to law enforcement. [6]

Almost all of these killers chose their victims completely at random. No relationship existed between the victims and the killers other than the one that was established at the moment each victim entered the killer's sight. However, there were similarities in the manner in which each killer murdered his victims which established an MO and the basis for connecting the perpetrator to the crimes.

This pattern or MO is of critical importance because investigators rely on the relationship between killer and victim as the basis for solving homicides.

Project Objective

The focus of this project is to examine the potential for establishing a state-wide relational criminal data base which would integrate criminal information files on unsolved homicides, sexual assaults, and arsons for the express purpose of establishing relationships between these unsolved crimes based upon MO, victimology, and crime scene evidence. This study does not address in detail the specific technology of the software known as relational data base software, but instead focuses on the people and organizational issues involved in implementing such a system.

In addition to examining the feasibility of a state-wide criminal relational data base by the year 2000, the following sub-issues were identified for study:

1. Will law enforcement share the necessary information to make a state-wide relational data base system effective?

2. What potential will such a system have in identifying and solving serial crimes?

3. Will demand for efficient crime solving support establishment of a state-wide system through legislation?

For the purpose of this study, a relational data base will be defined as a data base requiring one to think about information in new ways. A simple data base, the type in which most police information is stored today, can be compared to a file cabinet containing specific information. But relational data bases have no real world analogy, although that of a room full of file cabinets with clerks dashing from one cabinet to another comes close. Put simply, a relational data base program is one that can handle relationships between different files.[7] The concept of a relational data base is not new. The model was first proposed by E. F. Codd in 1970. It was not until the early 1980's that commercially developed relational data bases became available. IBM's SQL/DS Relational Softwares, Oracle, and DB-4 are early examples.[8] Many other relational software packages are available and these are just now being put into full application by the private sector.

This project will examine the application of this relatively new and developing software to serial crime analysis. The target will be to forecast the future potential of relational data bases to solve serial crimes in California. Through scanning relevant literature, conducting structured interviews with subject area experts, and the use of forecasting methods, a probable future will be examined.

Current Applications

Violent Criminal Apprehension Program (VICAP)

In order to achieve a valid forecast of the future, one must examine what exists today.

In 1984, the Federal Department of Justice launched an effort to improve
information sharing about suspected serial killings. That effort, called
the Violent Criminal Apprehension Program, or VICAP, was established as a
national clearing house of data by local police agencies on homicides or
suspected homicides, especially those involving mutilation, dismemberment,
or violent sexual trauma. VICAP has developed a standard form that runs 15
pages and asks 189 questions about the victim's identification and physical
description. The form also asks for information about the offender (if
anything is known about him), any vehicle believed to have been used in the
crime, and the offense itself - where the body was found; how the offender
deceived the victim or otherwise made his "approach"; whether the victim was
bound, gagged, or blindfolded; the cause of death; any evidence of torture
or sexual assault, and other specific details. The VICAP form is designed
for computer analysis. Most of the questions are answered through check
off. Thus, the thousands of details about reported killings can be broken
down in hundreds of ways and the FBI's relational computer software can
search for patterns.[9]

The goal of a successful relational data base to track and potentially
identify serial criminals is that such tracking will identify serial
criminals before they can run up huge tolls of human misery in homicides,
sexual assaults, arsons, and other crimes. The VICAP concept was the idea
of Pierce Brooks, a ten year veteran with the Los Angeles Police Department,
who had been assigned two different homicides. He believed that both
killers had killed before and decided to attempt to find out if similar
murders had occurred elsewhere in the country. The year was 1958 and his
available resources were sparse. There was no national information center
or state or local information centers which collected information on

unsolved homicides. There was a teletype system, but teletypes were easily lost and many were not even read. Brooks employed a new tact in investigating these homicides. He began going to the city library and reviewing major city newspapers looking for stories describing similar cases. [10]

The use of the library for research of similar cases during a homicide investigation in the late 1950s was a primitive forerunner of VICAP, and it was that idea and effort that spawned the idea that grew into today's VICAP. Plans are under way to expand the VICAP data base to include unsolved sexual assault cases.

VICAP has had its successes. In the Northwest, a series of campground killings involving eight murders occurring in Washington, Oregon, and Montana, were all linked by the VICAP computer and a suspect in these homicides is now in custody. However, the VICAP computer - like any computer - is only as effective as the information entered. Over twenty thousand murders occur every year nationwide, but only about 1,100 are reported annually to VICAP, leaving many serious serial crimes unrelated and unconnected as the serial perpetrator moves from jurisdiction to jurisdiction in our mobile society.

In addition to VICAP, ten states currently utilize or are in the process of establishing their own data bases to analyze serial crimes. Currently, 38 states participate in VICAP with forms being voluntarily submitted to VICAP which contain MO information on homicides. A telephone survey of the 38 participating VICAP states determined that submission of VICAP forms to the

FBI ranged from one per year in Mississippi to 300 per year in New York. Several states reported that they only submitted forms to VICAP when they thought their suspect was possibly a serial murderer.

Only Kansas, Mississippi, and Virginia maintain a state system which examines MO on homicides, sexual assaults, and arsons. Fifteen other states, including California, maintain systems which examine information on homicides and sexual assaults. All states rely on voluntary submission from local law enforcement and have limited data bases of information.

Violent Crimes Information Center (VCIC)

In California, Senate Bill 2288, signed into law in September 1988, established Penal Code Section 14202 which required the California Department of Justice (DOJ) to establish and maintain a Violent Crime Information Center (VCIC). The Center was charged the responsibility of developing an automated MO system referred to as the Violent Crime Information System (VCIS) which included developing an on-line missing persons system referred to as Missing/Unidentified Persons System (MUPS) and establishing and maintaining an investigative support unit (ISU). The California Department of Justice had made moves in this direction when in early 1988, a software package was obtained from the New York State Police. The software package, HALT - Homicide Analysis Lead Tracking System, was built upon the research conducted by the FBI to create VICAP with enhancements and improvements developed by the New York State Police.[11]

From July 1986 through June 1987, a number of homicides involving young females occurred in Sacramento, San Joaquin, El Dorado, and Amador

counties. Independent investigative efforts on the part of the involved law
enforcement agencies identified some similarities in these killings. During
July and September of 1987, two additional homicides occurred in El Dorado
County and one in the State of Nevada. Linkages in these cases not only
involved physical evidence but also MO of the offender. Based upon
information gathered through a joint meeting of all agencies involved in the
investigation, a suspect was developed and subsequently arrested for five
homicides, known as the I-5 Serial Homicides. Had this information been
automated on a routine basis into a relational MO data base, the linkage of
these related crimes to the I-5 Killer might have been made much earlier in
the investigation.

The Department of Justice, via the constitutional office of the Attorney
General, provides supportive enforcement services to law enforcement
agencies throughout California through the Division of Law Enforcement
(DLE). In addition, legislative mandates require DOJ to maintain records of
criminal activity, arrests, and disposition records; to process applications
for licensing and employment clearance; and to provide local law enforcement
agencies with access to this information. Prior to Penal Code Section
14202, there was no central point within DOJ for collecting, analyzing,
reporting, or storing MO information on violent crimes and linking that
information to missing and unidentified persons, sex offender files, and
other DOJ data bases. This not only hindered early identification of
possible suspects or victims associated with specific violent crimes, it
also resulted in repeat offenders going undetected thereby increasing
potential for life threatening situations. Several files existed within
DOJ, some manual and some automated, which were not available for quick
access either internally or externally. The goal of the VCIS was to link

information within the DOJ from sex offender registration, narcotic registration, arson registration, missing and unidentified persons file, and an existing Homicide Analysis Unit (HAU) so that electronic access could be made into each of these systems. Additionally, operating as a relational data base, VCIS, as designed, would do automated searches for similar MOs in homicides and conduct special searches as appropriate to link similarities in potential serial homicides. VCIS has been operational since October 1989 and currently stores records from 800 unsolved homicides. The system has been successful in identifying missing and unidentified persons, but has not experienced success in linking a serial offender to a series of crimes as the current data base is very limited.

Most applications have been after the fact in that agencies suspecting a serial crime series will enter information into VCIS to determine if the system confirms their suspicion that they have in fact identified a serial criminal. Voluntary support in terms of submission of information on unsolved crimes has been minimal, therefore, the system has not been tested to full potential.

Submission of crime information into VCIS is through manual forms. Additionally, access by the VCIC/VCIS data base to other automated systems within DOJ is incomplete and access to MO data bases within local law enforcement in California does not exist at all. VCIC and VICAP are both viable systems which have not even begun to achieve their potential in terms of crime solving primarily because law enforcement personnel do not fully understand the value of information input.

The Challenge

The burgeoning California population, estimated to be in excess of 34 million by the year 2000,[12] and the mobility of serial offenders raises the potential for increased victimization by serial predators in California. At a recent Multi-Agency Investigative Team (MAIT) Conference, criminal justice professionals examined 15 serial murder cases and determined that at least 227 individuals had been murdered by 15 killers.[13] This significant repeat offender level is not unique to homicides. Law enforcement also recognizes that sexual assaults and arsons have a high incidence of repeat offenses by the same individual.

The nation's murder toll will likely reach a record high of 23,200 this year and increase through the 1990's according to a report released by the Majority staff of the Senate Judiciary Committee. Murders increased 8% in the early months of this year compared to the same period last year. "If this pace continues--and there's every reason to believe that it will--1990 will be the bloodiest year in American history", said committee chairman Joseph R. Byden, Jr., who ordered the study. Furthermore, demographic factors suggest 1990 will be "but the first of many record murder years". California is expected to have the greatest number of murders this year, 3,442 according to Judiciary Committee projections.[14] A number of these murders will be committed by serial offenders. Disturbing new statistics are emerging on the sheer incidence of sex crimes. A recent Senate Judiciary Committee hearing on violent crime against women concluded that rape has increased four times as fast as the overall crime rate over the last decade. A woman is raped every six minutes, the committee said. Many

of these criminals who commit sexual assault are repeat offenders.[15]In
California, it is estimated the average sex offender commits 300 sex crimes
during his criminal career.

Will California law enforcement meet the challenge of the next decade by
moving forward as a leader in the organization of our information systems?
Can California develop a functional and efficient criminal data base system
which can allow for need to know access by local law enforcement? The
relational data base technology to achieve this exists today. The potential
willingness of law enforcement to share the necessary information to impact
the solving of these crimes is a people and policy issue, not a technology
issue. Current and future trends and events are the driving forces which
will impact a change in the criminal justice community, and establish the
foundation from which the forecasting portion of this project will emerge.

FUTURES STUDY

What is the feasibility of a state-wide criminal
relational data base for solving serial crimes by the
year 2000?

Futures Methodology

The initial step employed in the forecasting process was to gather together
a group of subject area experts in order to obtain information for
forecasting. Nominal group participants were selected based upon
their knowledge and expertise in the areas of homicide investigation, serial
crime analysis, profiling, and automated systems. Experts from within
government and from the private sector were selected.

A confirmation letter was sent to each of the nine participants which
further defined the issue and sub-issues to be examined. Included with the
correspondence was a futures wheel (Appendix A) showing information on data
base linkage possibilities. The participants selected for the nominal group
panel consisted of a police captain in charge of criminal investigations for
a mid-sized metropolitan police department, a police lieutenant in charge of
homicide investigations for a major California sheriff's office, an FBI
representative of VICAP, the DOJ VCIC program manager, a managing
criminalist from DOJ's Bureau of Forensic Services, a DOJ violent crime
criminal profiler (a recent graduate of the FBI's National Center for the
Analysis of Violent Crime Profiling Center ten-month fellowship program), a
representative from the DOJ Law Enforcement Data Center (an expert on

relational data bases and their applications), a representative from the
private sector whose company specializes in relational data bases and their
applications, and a Special Agent in Charge of DOJ's Bureau of
Investigation.

On September 19, 1990, the panel met at DOJ's Division of Law Enforcement
headquarters in Sacramento. The nominal group processes and procedures were
reviewed with additional explanation given of trends and events. An
explanation of STEEP was also given to the panel in order to stimulate
thinking along the lines of how trends and events would impact the issue in
question. Social, Technological, Environmental, Economic, and Political
impacts to the issue were discussed briefly with the panel.

The panel was prepared with individual listings of trends and events and
during the brainstorming period of NGT, additional trends and events were
added. A list of 21 trends and 22 events were examined and discussed during
the NGT exercise. (Appendix A)

Following discussion and two rounds of voting, the following seven trends
and events were identified and defined by the panel.

Selected Trends:

1. Standards for Data Collection Input - Degree to which coding of
    information in automated systems is standardized for the input of Modus
    Operandi (MO) information.

2. <u>Regionalization of Criminal Data.Bases</u> - The combining or sharing of criminal information data bases within a designated region by law enforcement agencies, particularly information on unsolved crimes.

3. <u>Recognition by Law Enforcement of the Need For Criminal Information Management</u> - The level of awareness by law enforcement in general of the importance of the management of criminal information as an effective tool in solving and preventing crimes.

4. <u>Distrust of Centralized Data Bases</u> - The perception by law enforcement that information will be inadvertently or intentionally disseminated thus compromising an ongoing sensitive investigation.

5. <u>Demand by the Public for Basic Police Service</u> - The demand by the public for protection from violent criminals through outward visual enforcement such as increased police visibility on patrol.

6. <u>Private Industry Emphasis on Systems Integration</u> - Private industry level of interest on research and development of software to integrate systems and to network between information data bases.

7. <u>Layers of Process Between the Law Enforcement User and a Centralized Data Base</u> - The potential for direct access by the end user, i.e., criminal investigator conducting a criminal investigation.

Selected Events

The following seven events were selected as most likely to impact the issue based upon analysis and discussion during the NGT process.

1. New Legislation Mandates State Uniform Data Entry of Criminal Modus Operandi Information - Legislation is enacted which would mandate the uniform data input by local law enforcement to a state centralized data base all information relating to unsolved homicides, sexual assaults, and arsons.

2. Surplus Discretionary Funds Become Available to Law Enforcement - The state budget experiences a surplus and discretionary funds become available to law enforcement, specifically for the development of integrated information systems.

3. Merger of Major Police Jurisdiction Takes Place - A large sheriff's office and police department in California merge their law enforcement services and their automated criminal information systems forcing the consolidation and standardization of criminal information.

4. Serial Criminal Victimizes Prominent Well-Known Person - A prominent person in California is victimized by a serial criminal causing high media attention to current technology and resources available for the solving of serial crimes.

5. <u>State/National Media Attention</u> - Serial crimes become the subject of intense media coverage both state-wide and nationally generating public interest and support for public resources to be put towards the establishment of data bases to track and identify serial criminals.

6. <u>Technological Breakthrough which Allows for an Affordable Linkage of Existing Data Bases</u> - New technology emerges which allows for the electronic linking of existing data bases which currently operate on different systems.

7. <u>Centralized Criminal Data Base Achieves a Major Success and is Viewed by the Public as Justification for the Prevention of Crime, Specifically Serial Crimes</u> - The public recognizes that funding is appropriate for automated systems that would greatly enhance the ability of law enforcement to identify and apprehend serial criminals prior to multiple and extensive serial crimes taking place.

<u>Trend Analysis</u>

TREND 1 - <u>Standards for Data Collection Input</u> - The level of this trend, using the median estimates of the nominal group would indicate that during the next five years, law enforcement agencies will continue to develop independent information systems for storage of criminal data. This trend direction is evidenced by the proliferation of personal computer use in law enforcement agencies and the increasing interest and computer literacy in police officers driving independent establishment of systems. The median projections would indicate that after 1995, there would be a rise in the standardization of data input as the need for management of criminal

information on a regional and state-wide level increases. It is interesting to note that this particular trend had a high range estimate indicating a strong possible movement between today and 1995 towards the standardization of data collection and input, at least regionally.

TREND 2 - Regionalization of Criminal Data Bases - The trend direction indicated by the median score shows a steady increase towards the regionalization of criminal data bases in California. This is already evidenced today in many areas within California where networks have been established to centralize criminal information within a particular county. This has been established already in San Diego County with their Automated Regional Justice Information Center (ARJIS). Significant difference in range was noted between 1995 and the year 2000 with the median estimate showing a rapid increase during those five years and the low estimate showing somewhat of a decrease between the years 1995 and 2000. This indicates that possibly the greatest pressure for regionalization of criminal data bases could occur during the next five years.

TREND 3 - Law Enforcement Recognizes the Need for Criminal Information Management - The median, high, and low ranges are fairly consistent in forecasting this trend. All call for an upward movement within law enforcement in the recognition of the value of sharing information in solving crimes.

TREND 4 - Level of Trust of Centralized Data Bases - The median range forecast for this trend indicated that the level of trust for centralized data bases would be decreasing over time. During NGT panel discussions, it

was evident that those persons having extensive experience in homicide investigations believe that certain information concerning perpetrators of crimes in their jurisdictions is necessary to be withheld for use only when a suspect is apprehended. Most tenured homicide and sexual assault investigators feel that there is a risk involved in allowing critical "hold back" information to be documented and entered into a centralized data base which can be accessed by others. It was believed by those members of the NGT panel that as the move towards networking of this type of information continues, that the individual investigators involved in these types of cases will continue to distrust the security of centralized systems. The high range forecast indicated a continuation of the current distrust level to the year 2000 with the median and low forecast showing a slight decline between 1995 and the year 2000.

TREND 5 - <u>Demand of the Public for Basic Police Service</u> - The median and low range forecasts were similar between 1990 and 1995 with the median forecast rising from 1995 to the year 2000. The high range forecast also indicated an extreme rise in demand for basic police services between 1990 and 1995 with a decline between 1995 and the year 2000. The median range forecast indicates a continuing level static to today's level in the public's demand for basic police services, i.e., increased visibility of police patrols and reduction of violent crimes.

TREND 6 - <u>Private Industry Emphasis on Systems Integration</u> - All three forecasts indicated a dramatic upward trend between the year 1990 and 1995 and a continuing upward trend for the following five years. This was based upon discussions within the panel which involved the general belief that the

private sector was developing software which would allow different operating systems to communicate with each other. The consensus of the panel is significant on this trend as this type of technology would allow for greater access and sharing of data stored in a multitude of data bases throughout the state.

TREND 7 - Excess Layers of Systems Between End User - This trend was generally projected to remain static based upon the median forecast of the panel and to decline slightly between 1995 and the year 2000. The high and low ranges of this forecast also indicated a decline in the complexity of systems and user friendly possibilities in the future which would close the gap between the system and the end user, i.e., data base system and homicide investigator at the local police department.

Event Analysis

EVENT 1 - New Legislation Mandates Uniform Data Collection and Entry Into Centralized Data Base - The group median score was a 50% probability of this event occurring five years from now, increasing to 75% by the year 2000. As indicated by the median score in the event evaluation table, it would be five years before the probability reached 50%. At that point, the event of mandated legislation would have a 50% chance of occurring or not occurring. Within a ten year period the panel viewed this event as having a 75% probability and creating a positive impact on the issue.

EVENT 2 - Surplus Discretionary State Funds Become Available - Based on the median scores obtained from the NGT panel, the probability of this event occurring seems slim to none. The years until the probability exceeds zero

was four and the potential of surplus funds being identified five years from now was a negligible 10% and ten years from now only rose to 20%. The fact that potential surplus funds would be made available to law enforcement was seen as positive. In discussions, it was determined that this was based upon the fact that when surplus funds become available, projects such as a centralized criminal relational data base which are discretionary become much more viable.

EVENT 3 - <u>Merger of Major Police Jurisdictions</u> - Median scores indicated that it would be approximately eight years until the probability of this event happening exceeded zero. Major jurisdiction was defined as a county or community wherein the population exceeded one million. The panel indicated a 50% probability of this happening by 1995 and a 75% probability of this occurring by the year 2000. This event was viewed as having a positive effect on the issue.

EVENT 4 - <u>Serial Criminal Victimizes Prominent Person</u> - The median score relevant to the years until the probability exceeds zero was three years with a 50% chance of this event occurring within the next five years and a 75% chance of this event occurring within the next ten years. This event would have a positive effect in generating legislation. The discussion concerning the impact of this event occurring revolved around the fact that much legislation today is event driven, i.e., an incident involving the victimization of a prominent person would cause pressure and result in action by the Legislature to consider proposed legislation to establish a data base or other means to prevent the future occurrence of these crimes.

EVENT 5 - <u>State and National Media Attention</u> - The median score of the panel indicated that it would be five years before the probability of this event occurring and that by 1995, there would be a 75% chance of obtaining public support for a centralized system with the potential of preventing additional victims of serial criminals, particularly the crime of sexual assault. The median score of public support for such systems was seen to be approximately 90% by the year 2000. This type of support by active civic groups such as Women Against Rape was determined to have a very positive impact on the issue if the event occurred.

EVENT 6 - <u>Technological Breakthrough Allows for Affordable Linkage of Existing Data Bases</u> - The median score from the panel indicated that the probability of this event occurring would exceed zero within three years and that the event had a 60% probability of actually occurring by the year 1995 and a 90% probability of occurring by the year 2000. Technological advancement was seen by the panel as having a very positive impact on the issue in terms of actually allowing criminal information to be directly input into a centralized data base from existing criminal data bases throughout the state.

EVENT 7 - <u>Centralized Criminal Data Base Achieves Major Success and is Viewed by the Public as Justification for Use in Serial Crime Prevention</u> - This event was seen as having the probability of occurring within five years but with a very low percentage by 1995, and only a 50/50 chance of occurring by the year 2000. This event, if it occurred, would have a positive effect on the issue as public support would be required in order to obtain legislation for a data base specifically established for collecting data for

the analysis of serial crimes with a goal towards apprehending the serial criminal as early as possible, eliminating the potential of multiple victims. Documentation used for trend and event analyses is contained in Appendix A.

Cross Impact Analysis

The following analysis addresses the inter-related impacts among forecasted trends and events based on the median scores contained in the cross impact chart. (Appendix A)

Event 1 - New Legislation Mandates Uniform Data Entry and Sharing of Information. Positive impacts of this event totalled seven with the most significantly impacted trends being Trend 1 - Standards for Data Collection, Trend 2 - Regionalization of Criminal Data Bases, and Trend 3 - Law Enforcement's Recognition of the Need for Criminal Information Management.

Event 2 - Surplus Discretionary Funds Become Available. Event 2 had a total impact on trends and events of four with the most significant impact being to Trend 2 - Regionalization of Criminal Data Bases.

Event 3 - The Merger of Major Police Jurisdictions - This event had a total impact of 5 on other events and trends. The most significant impact was on Trend 2 - Regionalization of Criminal Data Bases, and Trend 3 - Law Enforcement's Recognition of the Need for Criminal Information Management.

Event 4 - Serial Criminal Victimizes Prominent Person - This event impacted seven other events or trends with major impact to Event 7 - Data Base for

Serial Crimes and Analysis Success Accepted as Justification for Use in
Crime Prevention, and Trend 3 - Law Enforcement Recognizes the Need for
Criminal Information Management.

Event 5 - State and National Media Attention Supported by Civic Groups for
Serial Crimes Data Base - This event slightly impacted three other trends
and events with the most significant impact being to Event 1 - Legislation.

Event 6 - Technological Breakthrough Which Allows for Affordable Linkage of
Existing Data Bases - This event impacted six trends and events with the
most significant and noteworthy impact being to Trend 1 - Standards for Data
Collection, and Trend 2 - the Regionalization of Criminal Data Bases.

Event 7 - Centralized Criminal Data Base Achieves Major Success and is
Viewed by the Public as Justification for Use in Serial Crime Prevention -
This event impacted five other trends and events but in a minimal manner.
The most significant impact was on Trend 4 - Level of Trust of Centralized
Data Bases in that as greater acceptance of automated systems in terms of
information gathering and dissemination takes place, greater trust in these
systems will develop. Results and success will produce confidence in the
system.

The most forceful actors or impacts were Event 1 - Legislation, Event 2 -
Surplus Funds, Event 4 - A Prominent Person is Victimized by a Serial
Criminal, and Event 6 - Technological Breakthrough Allows Affordable Linkage
of Existing Data Bases. Each of these events, if they were to take place,
would have a significant impact on the effectiveness of the state-wide
relational data base by mandating standardized information input either into
regional data bases or into a centralized state-wide system.

Supporting information and tables regarding trend and event analyses and the cross impact analysis are contained in Appendix A.

Alternative Future Scenarios

From the data obtained and developed, primarily from the trends and events identified in the NGT process, and from the results of the cross impact analysis, future scenarios have been developed to provide a picture or vision of the future with the purpose of presenting choices and alternatives for strategic planning. The three scenarios developed are exploratory, hypothetical, and normative.

Scenario #1 - Exploratory (Most Likely)

Detective Holmes had worked in Homicide the past eight years, having been transferred from the Sexual Assault Detail in January of 1991. Since his assignment to Homicide, he had watched both the state's population and the violent crime and homicide rate increase dramatically. Today he was sure he was on the trail of a serial killer. Two homicides had occurred in his jurisdiction during the past two months involving the same MO. Detective Holmes had spent the morning phoning homicide detectives in surrounding jurisdictions to determine whether or not they had had similar crimes in their jurisdiction. Additionally, he had contacted the FBI VICAP to determine whether or not similar homicides had occurred on a national level. Detective Holmes had not submitted a VICAP form on his two homicides, and although the FBI was cooperative in taking the information from him verbally, they requested he submit forms on both of the homicides.

Detective Holmes had also phoned DOJ to make an inquiry into their VCIS.
The DOJ analyst had agreed to take the information over the phone but also
requested that Detective Holmes submit the VCIS form so that the information
on his two unsolved homicides could be entered into the computer and an
automated search conducted. Detective Holmes was understandably
frustrated. All this time on the phone and he had gained no new information
to help him in his investigation. Rather than fill out the extended forms
for VICAP and VCIS, Detective Holmes decided to enter the information
directly into the regionalized criminal data base which encompassed three
surrounding counties. Within minutes, Detective Holmes had entered the
information directly into his PC and fed it into the relational data base
located within his region. The architecture for this regional data base was
unique to the region and therefore inaccessible to the VCIS program located
at DOJ in Sacramento or the FBI's VICAP. Holmes would still have to
complete the VCIS forms in order to do a state-wide search for homicides
similar to the two that he was now investigating. Holmes simply did not
have the time to do this. He wondered why there couldn't be direct access
from his PC into regional data bases which would be linked to the state
relational data base which in turn could feed the information into VICAP so
that within a reasonable amount of time, Detective Holmes could receive
feedback concerning similar homicides not only regionally and state-wide,
but also nationally. Having worked in Homicide for eight years, Detective
Holmes was aware of the sensitivities of entering specific information with
regard to homicide cases. Many homicide investigators felt that it was
necessary to keep "hold back" information confidential until the perpetrator
was apprehended. Detective Holmes was even reluctant to enter specifics
concerning his crimes into the regional relational data base. Security of

that information always concerned him. Detective Holmes had the same experience when he was assigned to the Sexual Assault Unit eight years ago. Detective Holmes had arrested a serial rapist who had been terrorizing his community for over six months only after reading a law enforcement bulletin issued by a county in the north state describing a similar MO along with a description of the rapist. This description subsequently matched a partial description provided by one of the victims in Holmes' investigation and the suspect was subsequently identified and arrested. Had this information been somehow brought together within an automated system, these links might have been made much sooner, preventing further attacks by the suspect on innocent victims. Detective Holmes lamented, "With all the new technology, law enforcement was still failing to use it effectively to solve crimes."

Scenario #2 - Hypothetical (What if?)

The Director of the Division of Law Enforcement was exasperated. He had just returned from the FY 96/97 budget hearings at the Legislature, and funding for the VCIS had been slashed. During the seven years of operation, the VCIC had steadily lost interest with local law enforcement. Regionalized MO data bases had grown up around the state led principally by the Los Angeles Police Department "Hit Man" system which consisted of a relational data base which worked as a pointer system to match similar types of homicides. In an effort to assure quality control of input, the VCIC program had steadfastly maintained their policy of handwritten forms or crime reports that were required to be mailed directly to Sacramento for input into the automated system. Even though it had been obvious that the success of VICAP was limited by voluntary submission of information, no

action had been taken to either standardize electronic data input or require input into the centralized state system. With the loss of funding, the hope of a state-wide interactive relational data base had been lost and the ability to coordinate unsolved violent crime information on a state-wide basis had slipped away. A great opportunity to make the criminal investigative process more efficient vanished due to the DOJ's inability to be flexible in designing and making available a truly user friendly on-line system which would give the criminal investigator instant access to state-wide information on serial crimes and provide an automated pointer system putting one detective immediately in touch with another detective having information on similar crimes.

Scenario #3 - Normative (Can be or Desired and Attainable. This desired and attainable scenario assumes that the path or the outcome is not only good, but has some probability of being achieved.)

The Attorney General leaned back in his chair reflecting on his past eight years in office. The early `90s had been turbulent with both the population and crime rate rising. Willful homicide had risen 8%, forcible rapes had risen 10%, and arson within the state had also shown a dramatic increase. Particularly in the areas of sexual assault and arson, repeat offenders were the primary cause of the rising crime rate. Budgets had been tight and for the Attorney General to fulfill his campaign promise to provide better and more efficient support and analytical service to local law enforcement, he had spent many hours lobbying the Legislature on proposals that would enhance law enforcement effectiveness. One of his greatest successes had been to obtain legislation which mandated uniform data input on unsolved homicides, sexual assaults, and arson. This legislation, passed in 1996,

set up a network of regions in California for the input of MO information on all unsolved homicides, sexual assaults and arsons. The Attorney General could not claim full credit for the passage of this legislation, as the bill had in fact been defeated in the Legislature once and was vetoed by the Governor on a second occasion due to lack of funding available in the state budget. In 1995, an unfortunate incident occurred when the wife of the Speaker of the House was sexually assaulted by an individual who was later arrested and found to be responsible for some 27 sexual assaults throughout California. Had the system which the Attorney General proposed through legislation been implemented, this serial violator may well have been apprehended before sexually assaulting the Speaker's wife and several other victims who followed. It was this incident which, in fact, rejuvenated the hope for this legislation joined with the fact that in 1996, the first budget surplus in four years became available and a bill which provided 70% state funding to the local agencies for regionalization of their criminal information data bases was passed.

It was now possible in California for a homicide detective to sit down at his personal computer (PC) and access a network within his region to make inquiry on other data bases within his region to determine if a homicide, sexual assault, or arson of a similar nature had taken place. Once the MO elements or victimology had been entered by the detective for the crime he was investigating, an automatic search would occur for similar crimes or victims within that region. If, in fact, no "hits" occurred within that region, the detective could initiate a search to adjoining regions and subsequently search the central data base located at the Department of Justice in Sacramento. Within hours, a homicide or sexual assault

investigator could expect to receive results through the system which would report to him similar crimes or victims within the state and direct him to a contact person within the jurisdiction where the similarities appeared. Additionally, searches could be made of adjoining states' data bases and directly into the FBI VICAP system. The system had been designed as a pointer system protecting sensitive information provided by sexual assault, homicide and arson detectives -- information which they felt should remain confidential and not accessible to all who made inquiry. Between CAL ID (the automated fingerprint system); CAL PHOTO, which made "mug shots" readily available to law enforcement agencies state-wide; DNA technology; and the implementation of the state-wide relational data base for serial crimes, the Attorney General felt he had given local law enforcement the tools they needed to meet the crime challenges of the 21st Century.

STRATEGIC MANAGEMENT

A model plan for the implementation of a state-wide
relational data base for the serial crimes of
homicide, sexual assault, and arson.

Strategic Management Plan Objective

The objective of the strategic management plan is to develop a mission statement supported by policies. The policy development and strategic plan enables the evaluation of the critical trends and events with respect to the issue question, sub-issues, and policy options. The focus of policy formation is to support the desirable trends to directly influence the events and create a greater potential for the normative or desirable scenario to occur while limiting the possibility of undesirable events occurring.

Methodology

Methodologies utilized to evaluate the organization's capability to implement change through the development of influential policy include Situational Capability Analysis (WOTS-UP), Strategic Assumption Surfacing Technique (SAST) map, and a Modified Policy Delphi. Supporting documentation for these methods and additional data is contained in APPENDIX B.

Mission Statement

The first step in the strategic plan is to develop macro and micro mission statements. For the purposes of this study, the model organization will be the California Department of Justice, Division of Law Enforcement. This model is similar to the majority of states wherein the Department of Justice is the state-wide repository for centralized criminal records, fingerprints, and other criminal information. The trends and events discussed in Section II of this study would also impact similar states' criminal information agencies in their attempt to centralize a criminal information analysis system to provide linking and analysis of serial crimes to identify offenders.

Macro Mission Statement

The mission of the Division of Law Enforcement is to provide
accurate and timely information and investigative assistance
to preserve and enhance the safety of California's citizens.
Through the ingenuity and commitment of its employees and the
use of the latest technology, the Division provides the
highest quality of accurate and timely information and
investigative services. The Division assumes a leadership
role in training, coordinating, enforcement, and
technological support to the criminal justice system and to
the public.

Micro Mission Statement

The California Department of Justice, Division of Law Enforcement, Violent Crime Information Center will establish a state-wide relational data base for the analysis of serial crimes by:

- Developing a state-wide plan for the regionalization of criminal information relating to homicides, sexual assaults, and arsons;

- Providing information analysis to local law enforcement for the identification and apprehension of persons responsible for violent serial crimes;

- Establishing regional advisory boards in southern, central and northern California to coordinate and foster cooperation among law enforcement agencies in sharing criminal, victim, missing persons, and Modus Operandi information;

- Developing and providing technology for automated linkages between regional Modus Operandi data bases and the centralized data base within the Department of Justice between other states and with the FBI's Violent Criminal Apprehension Program (VICAP);

- Seeking support for legislative authorization to mandate standardized Modus Operandi information input on unsolved crimes of homicide, sexual assault and arson.

Situational Analysis - WOTS-UP

A situational analysis is accomplished through analysis of Weaknesses, Opportunities, Threats, and Strengths in relation to the organization. These assessments were developed by a panel of potential end users of the system, and consisted of homicide and sexual assault investigators, representatives from the currently established VCIC, and a DOJ manager closely affiliated with the current crime analysis programs at DOJ. The group brainstormed a list of weaknesses, opportunities, threats, and strengths with discussion and clarification taking place after the brainstorming segment.

The following environmental threats and opportunities were identified:

Threats:

1. Lack of cooperation of local agencies due to a lack of trust in the automated system for the following reasons:

   A. Investigators wanting to maintain key information in unsolved crimes;

   B. Lack of trust by investigators in the security of confidential information provided to an automated system;

   C. Provincial attitudes of homicide, sexual assault, and arson investigators towards the ownership of their specific investigations and the desire to personally solve the crime occurring in their jurisdiction.

   D. Political considerations of local jurisdictions with regard to who will obtain the credit and acknowledgment for the solving of a heinous crime within their jurisdiction.

2. Current lack of major successes in the VICAP system and other criminal automated MO systems, particularly in the area of homicides.

3. Unwillingness of local agencies to take on additional workload in terms of input of the necessary information to make such a system viable.

4. Unwillingness to convert current operating systems used by major local agencies into one compatible state-wide system.

5. The additional up front costs to be born by a local agency in regionalizing their data bases into compatible regional or state-wide network systems.

6. Public concept that the centralizing of all information data bases and the networking of information raises right to privacy issues.

7. Political opposition to such a state-wide system based on funding required.

Opportunities:

1. Past legislation creating FBI VICAP and the DOJ VCIC support establishment of automated criminal investigation information and analysis systems on serial crimes.

2. Provides an enhanced level of law enforcement services to support active investigations.

3. Provides more networking of relational data bases taking place, i.e., personal computers and work stations.

4. Offers capability to more efficiently deal with serial crimes and offenders by early identification and arrest of repeat offenders.

5. Makes the investigative process more efficient by providing time saving information and potential linkage of crimes.

6. Sharing of public domain software which can be made available at minimal costs to participating law enforcement agencies.

The same panel was asked to examine the internal strengths and weaknesses and rate the capability for change within the Division of Law Enforcement. The internal strengths and weaknesses are as follows:

Strengths:

1. Managers committed to applications of new technology to assist local law enforcement.

2. In-house experts in relational data base applications.

3. VCIS, Serious Habitual Offender Program, Missing/Unidentified Persons System currently operational at the Division of Law Enforcement.

4. The Division of Law Enforcement has successfully implemented state-wide systems, such as CAL-ID, in the past.

5. State-wide advisory committees on CAL-ID, SHOP, and CAL Photo currently exist.

Weaknesses:

1. Multiple data bases exist within the Division of Law Enforcement which have no interface capabilities with other DOJ files. These include automated and manual files which contain information about crimes, criminals, and victims.

2. There is a lack of standardized methods to capture information from local law enforcement, i.e., some information is garnered from local agency reports, other information is garnered from forms supplied by the DOJ, and at other times information is provided telephonically by the local agency.

3. Programs within the Division of Law Enforcement compete for funding and legislative support for their programs.

4. Current data bases at the Division of Law Enforcement regarding MO information are limited and do not contain sufficient information to assess their true value in supporting local law enforcement.

5. Current case acceptance criteria for the VCIS Program is inconsistently applied regarding information input.

6. Current submission of information from local agencies is on a voluntary basis.

7. Law enforcement liaison and background and training to local agencies regarding current VCIC system by DOJ is lacking and the law enforcement perspective is not marketed.

Organizational Capability for Change Analysis

A capability analysis was conducted to determine the organization's ability to change. The Division of Law Enforcement was used as a model. Six Division of Law Enforcement managers familiar with the subject area of the project were polled and provided their assessments.

The organizational capability/readiness analysis indicated that managers possess the mentality, skill, and knowledge to bring about change. This is particularly true in areas where past experiences have met with success. One area voiced as a concern would be internal competition for resources to pursue individual programs. Top management is talented and consistently looks for new and innovative ways to provide service to local law enforcement. The organizational climate supports change and innovation, and in the past, program managers who have developed innovative services to law enforcement have been given the responsibility to implement and run the

programs. This has had excellent results in encouraging mid-level
management to seek and implement effective changes. The organizational
competence is one which seeks familiar change but builds on what is
currently familiar and develops from that new and innovative services to law
enforcement. Middle management within the Division of Law Enforcement does
seek and support change. The support of top management also exists as can
be evidenced by the success of programs such as CAL-ID, DNA, SHOP, and other
innovative programs currently within the Division of Law Enforcement. The
only apparent road block to the implementation of innovative change within
the Division of Law Enforcement is the lack of funding available to augment
and establish new technology and programs. An Organization Capability for
Change Chart was developed and is included in Appendix B.

Strategic Assumption Surfacing Technique (SAST)

The Strategic Assumption Surfacing Technique (SAST) was used to identify
those persons or organizations (stakeholders) who are likely to be affected
by the implementation of a state-wide relational data base. These people or
organizations are impacted by the issue in a positive or negative way or
otherwise have a concern with the issue. The same panel which was utilized
in the WOTS-UP analysis was utilized to assist in identifying the
stakeholders and additionally, to identify any snaildarters, individuals or
organizations who, although not obvious, could possibly cause potential
difficulties in the implementation of the strategy. The following
stakeholders/snaildarters were identified. Those appearing in bold
represent the eight stakeholders most impacted by the issue; a snaildarter
and a potential snaildarter are indicated by bolding and underlining.

- The Attorney General

- Director, Division of Law Enforcement

- State Legislature

- The Governor's Office

- Local government jurisdictions

- Sheriffs and Chiefs of Police

- The Public

- Division of Law Enforcement program managers

- Professional organizations, i.e., CPOA, Cal Chiefs

- Private vendors of hardware and software for relational data bases

- Special interest groups, i.e., National Organization of Women (NOW)

- The media

- Federal Bureau of Investigation - VICAP

- California Law Enforcement Telecommunications System (CLETS)

- The Governor's Office

- State-wide CLETS advisory committees

- **District attorneys (Potential Snaildarter)**

- **American Civil Liberties Union (ACLU)**

Stakeholder Analysis

Each stakeholder identified as being most impacted or having the most impact on the issue is listed along with the issue related assumptions made about them which describe their basic values and beliefs about the issue under study and about the criminal justice system in general.

1. The Attorney General

    -   is the chief law officer of the state (directs and mandates
        programs); and is committed to developing, proposing and lobbying
        for legislation to improve the quality of law enforcement services
        in California.

2. The Director of the Division of Law Enforcement

    -   possesses the ability to redirect resources within the Division of
        Law Enforcement, and can champion legislative proposals with law
        enforcement, the Attorney General and the Legislature.

3. The State Legislature

    -   supports legislation which is politically prudent, and tends to be
        politically sensitive to large law enforcement groups such as CPOA
        and California Chiefs Association.

4. Division of Law Enforcement Program Managers

    -   are committed to improving and enhancing automated systems, and
        would support a program if it did not adversely affect their
        individual programs.

5. Local Government Jurisdictions

    -   resist mandated state programs without state funding.

6. Chiefs of Police and Sheriffs

    -   may support a system if it did not create additional financial
        burdens and if direct results for their jurisdiction could be
        shown.

7. <u>FBI VICAP</u>

  - would encourage standardization of input and output information within the state and linking to VICAP.

8. <u>American Civil Liberties Union</u> (Snaildarter)

  - would question the effect of merging criminal information systems together and the potential of these systems to track individuals, and generally would question privacy act issues relating to individuals.

9. <u>District Attorneys</u> (Possible Snaildarter)

  - would question discovery of information issues within automated system and how that would impact the prosecution of a suspect or future suspect.

Having identified the most relevant stakeholders and potential snaildarters, a strategic assumption surfacing technique chart was prepared. The following chart presents a picture of where the stakeholders are in relation to the issue. Two measurements are obtained by this chart - the stakeholders' importance to the issue and the certainty of that assumption.

STRATEGIC ASSUMPTION SURFACING CHART

```
                           CERTAIN

                             │                    1
                             │              2
                             │                  6
                   7         │                  3
                             │           4
                             │        5
LEAST IMPORTANT  ────────────┼──────────────────  MOST IMPORTANT
                             │
                             │        8
                             │
                             │              9
                         UNCERTAIN
```
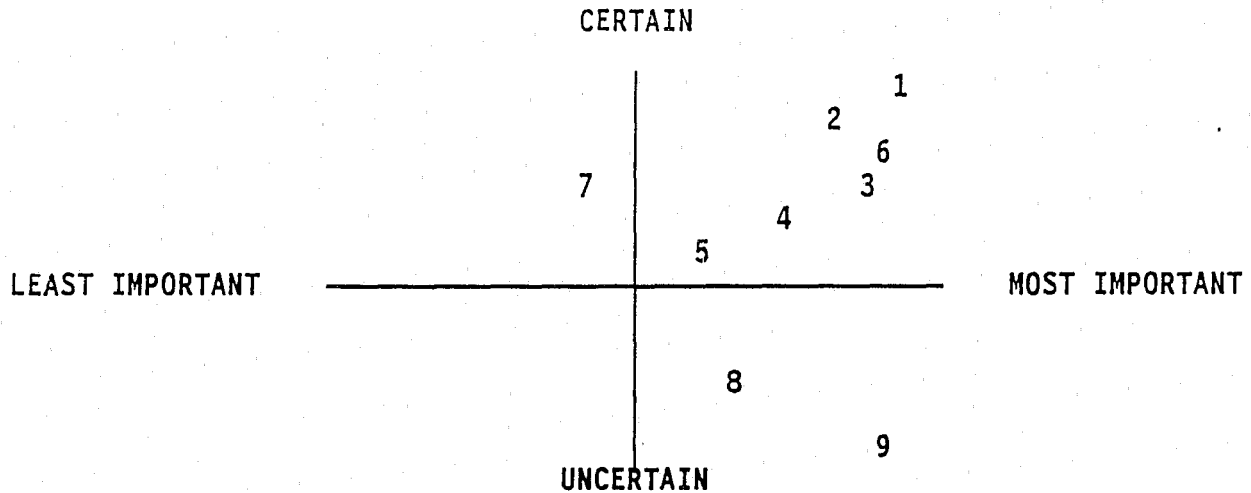
1 = Attorney General

2 = Director, Division of Law Enforcement

3 = State Legislature

4 = DLE Program Managers (Violent Crimes Information Center and Law
      Enforcement Data Center)

5 = Local Government Jurisdictions

6 = Chiefs of Police and Sheriffs

7 = FBI Violent Criminal Apprehension Program

8 = American Civil Liberties Union (Snaildarter)

9 = District Attorneys (Potential Snaildarter)

Modified Policy Delphi

A modified policy delphi panel was polled on eight policy alternatives.
Panel members consisted of a chief law enforcement executive, four law
enforcement managers and potential users of the relational data base, two
private consultants, and two Division of Law Enforcement criminal data base
systems managers. Panel members were provided with a brief background on
the issue and a copy of the normative scenario and were asked to rate the
policy alternatives as to their feasibility and desirability in creating a
climate which would increase the probability of the desired and attainable
scenario taking place. Following the initial rating, panel members were
provided with the median score for each policy rated and the low and high
score for each policy, and were asked if they wished to adjust their
scores. Only two panel members adjusted their scores, and this did not
impact the median scores initially received. Modified policy delphi results
are included in Appendix B.

Policy Considerations

The following policies are presented in rank order based upon the results of
the total scores received from the modified policy delphi survey.

Policy 1

DOJ will initiate and participate in legislative hearings into the
phenomenon of serial crimes, particularly in the area of sexual
assaults where the offender is most likely to repeat his crime time
after time and with increasing violence and aggression.

Pros:
- Brings the issue of serial crimes into public exposure;
- Potential for gaining support of legislative committees;
- Educates legislature on serial crime problem within the state;
- Allows input from representative advisory body prior to systems design;
- Maintains end user perspectives.

Cons:
- Could raise suspicions of privacy issues in liberal legislators;
- Could considerably slow down attempts to develop a state-wide system via dissenting opinions;
- Cost of implementation may kill the opportunity for a bill;
- Proposal of additional mandatory reporting, i.e. state imposed program on local agency could seriously hamper proposed legislation;

Policy 2

Expand the current VCIC to include a data base of unsolved sexual assaults and arsons with DOJ providing additional analytical support and linkage to the Department's Criminal Investigative Profiler creating "one stop shopping" for local law enforcement in the analysis, review, and linking of the serial crimes of homicide, sexual assault, and arson.

Pros:
- Simplified service in serial crime analysis provided to local law enforcement;
- Facilitates passage of legislation required to implement system by mandates to local agencies.

Cons:
- Submission of information would still be voluntary, limiting data base and success potential;
- Cost of expansion of current program would be born by the Division of Law Enforcement;

Policy 3

Establish a technology examine committee within the Division of Law Enforcement to review current technology applications in the area of relational data bases to determine potential linkages of existing criminal information and analytical systems currently operating at DOJ and within law enforcement in California.

Pros:
- Coordinates current technology effort within the Division of Law Enforcement;
- Could establish linkages of current systems through applications of automation technology;
- Facilitates local agencies' abilities to access centralized criminal information data bases through a single point;

Cons:
- Could appear to local law enforcement that the Department of Justice is in the business of marketing technology;
- Cost of formation of committee and research required to be born by the Division of Law Enforcement;
- Will require major commitment of Department of Justice resources to accomplish.

Policy 4

Establish a state-wide advisory committee with representation of law enforcement in the south, central and north sections of the state to develop a regionalized plan for the sharing of MO information on serial crimes, and to act as an advisory committee to the Attorney General in the development of specific legislation which would implement an integrated state-wide data base and analysis system for serial crimes.

Pros:
- Would bring local law enforcement together on advisory committees to examine the issue of regionalized relational data bases;
- Provides for an in-house group of designated "experts" from within the Department charged with the responsibility for keeping abreast of the latest in technological developments;
- Would help gain commitment and support of local law enforcement for MO systems;
- Could eliminate the need for legislation through consensus and voluntary participation by major agencies within California.

Cons:
- Local law enforcement may have lack of interest in the issue as they are currently faced with major drug and gang problems within their jurisdictions;
- May be viewed as just another advisory committee that they do not have time to participate in.

Policy 5

Formation of a technology advisory committee within the DOJ which would include private sector representation to evaluate new technology capabilities in the electronic linking of dissimilar hardware and

software systems. Committee would act as a clearing house for high

tech developments in relational data bases for local law enforcement

inquiries and local applications.

Pros:
- Would provide for a central technology clearing house for automated criminal MO systems within the state;
- Would save the costs of research efforts by local agencies;
- Increases the "power" of the data base by including other serial crimes which have the potential for suspect identification.
- Could provide "public domain" software which would defray local development costs.

Cons:
- May appear that DOJ is usurping this responsibility from local law enforcement;
- Local law enforcement may believe that their contacts with the private sector and their ability to evaluate technology is greater than that of DOJ;
- Creates additional crime categories which local law enforcement may be required to report.

Policy 6

Develop and create support within law enforcement for legislation to

mandate the systematic reporting to the DOJ of MO information on the

specified unsolved crimes of homicide, sexual assault, and arson.

Pros:
- Legislation would standardize reporting and create a centralized data base on all unsolved homicides, sexual assaults, and arsons allowing for a greater opportunity of linking similar crimes and victims to identify suspects;
- Would standardize reporting formats and assure standardized input into the FBI's VICAP program;
- Places DOJ in a leadership, coordinating role and fosters state-wide cooperative efforts toward the sharing of serial crime information in support of an automated MO system.

Cons:
- Legislation of mandated reporting to DOJ would create additional local agency workload;
- Costs of converting current hardware/software applications born by local agencies;
- Requires the dedication of DOJ personnel and resources to plan, coordinate, and fund these meetings;
- Pulls key personnel from homicide, sexual assault, and arson duties.

Policy 7

DOJ will sponsor semi-annual meetings for homicide, sexual assault, and

arson investigators to discuss applications of the latest technology to

the analysis of serial crimes and additionally, to provide a forum for

personal contact among the investigators to foster the sharing of the

critical information needed to make an automated MO system viable and

successful.

Pros:
- Provides an opportunity to market the automated MO system;
- Creates an environment for sharing the successes of automated MO systems;
- Provides a training opportunity for investigators in the use of automated MO systems.

Cons:
- Costs for local agencies to attend these meetings;
- Loss of investigators' time while attending conferences.
- Local agencies may be unwilling to share critical information related to particular cases in an open forum.

Policy 8

Automate all current data bases within DOJ to electronically link

information in missing persons file, sex offender registration file,

serious habitual offender file; and automated criminal history file to

allow single point access to information in these files through a

central location within the Division of Law Enforcement.

Pros:
- Would allow "one stop shopping" at DOJ for local law enforcement in criminal justice inquiries related to unsolved crimes;
- Would eliminate manual systems currently in operation.

Cons:
- Additional costs for hardware/software interfaces, development or rewriting current data processing programs must be accomplished without additional funding.

Implementation Strategies

With stakeholders, snaildarters, and policies identified, a strategic implementation plan must be developed. Each policy selected plays a significant role in supporting the macro mission of the Division of Law Enforcement and the micro mission of establishing a state-wide relational data base. Therefore, all eight selected policies were evaluated in terms of action required and time lines.

Policy 1 - Initiate and participate in legislative hearings on the issue of serial crimes.

Action Required: The Legislature routinely holds hearings on matters of public interest during the interim between sessions (September through January) each year. The Department of Justice, Division of Law Enforcement, through its Legislative Unit, is able bring issues forward to legislative committees which serve the public good. To bring the issue of serial crimes to the attention of the Legislature would help to also bring this to the attention of the public, particularly with respect to the increase in the incidence of sexual assaults within the State of California. The conceptual support of the Attorney General and the interest within the Attorney General's Legislative Liaison Unit would have to be attained.

Time line: September 1991 to January 1992.

Policy 2 - Expand current VCIS to include sexual assaults and arsons.

Action Required: Through coordination with the State Fire Marshal's Office, and by establishing liaison with arson investigators state-wide, voluntary submissions of unsolved arsons could be requested from these agencies for entry into VCIS. This process could easily be established by redirection of internal resources within the Division of Law Enforcement to assist in the arson system development and the subsequent additional work load required for the standardization of information and input into VCIS.

Time line: Sexual assault - data entry currently under way; arson information system could be operational within one year through use of existing software functionality and system developments already completed.

Policy 3 - Establish technology review and clearing house at the Department of Justice for the use of relational data base technology in the analysis of serial crimes.

Action Required: This could be established within a very short time within the Division of Law Enforcement by relying on internal consultants from the Law Enforcement Data Center and VCIC program personnel with technical expertise and experience in the use of such systems. This committee would be charged with obtaining information on relational data bases in use both within the state and outside the state and providing the sharing of that information both internally and externally to assist with establishing compatible relational regional data bases among law enforcement agencies in California.

Time line: Within three months, a working committee could be
established to develop policies and guidelines and implementation of
this policy could be established within six months to one year.

Policy 4 - Establish a state-wide advisory committee with law enforcement
representation from the south, central and north sections of the state to
develop a plan for the regionalized sharing of MO information on serial
crimes, and to act as an advisory committee to the Attorney General in the
development of specific legislation which would implement an integrated
state-wide data base and analysis system for serial crimes.

Action Required: Several advisory committees/client user groups
currently exist representing law enforcement from throughout the
state. California Law Enforcement Communications Network Advisory
Committee could form a subcommittee to address the issue of
regionalized and centralized data bases for MO information. The
California ID Advisory Committee, which worked very hard and was
successful in implementing the state-wide automated fingerprint system,
would be another very knowledgeable group with which to pursue this
policy recommendation.

Time line: Within twelve months, a subcommittee from these existing
advisory groups could be established to address the issue.

Policy 5 - Within the Division of Law Enforcement, form a technology
application committee.

Action Required: In partnership with the private sector, DOJ would

review all criminal data bases in use by California law enforcement and by DOJ and explore the "black box" possibilities of linking dissimilar software systems containing necessary information for a viable MO analysis system and linking these systems together in order to provide information to a central data base for analysis.

Time line: Establishment of this committee would take approximately three to six months with a study of this type possibly taking a year or more. Costs could be absorbed internally by the Division of Law Enforcement and the private sector consultants could be utilized with minimum costs based upon the opportunity that knowledge of such technology availability would create a large market not only within California, but throughout the United States.

Policy 6 - Develop law enforcement support for legislation to mandate uniform reporting of MO information on unsolved homicides, sexual assaults, and arsons.

Action Required: Ultimately, mandated reporting of the unsolved crimes of homicide, sexual assault, and arson would have to take place in order to make a state-wide system to analyze MO and victimology successful. The support must be built within law enforcement as mandated reporting and standardization will place additional responsibility on these agencies, potentially, with no additional state funding. Through the meetings of law enforcement associations such as CPOA, Cal Chiefs, and other professional organizations within California, program managers in the VCIC could present valuable information which would encourage law enforcement administrators to

support potential legislation mandating the input of information either regionally or into a central state system in order to identify serial offenders. The potential of using such a system for other crimes beyond homicide, sexual assault, and arson is unlimited and the prospect for centralized analysis of such other crimes as burglary, auto theft, and others should be used as a marketing strategy towards law enforcement.

Time line: Education and training of law enforcement as to the system's benefits is a long term process. Gaining law enforcement support for additional mandated reporting will be a long term undertaking. The prospect of gaining the kind of support needed for such legislation could take five to six years. Based on trend and event analyses, it is possible that some form of legislation will be viable to support such a system by the year 2000.

Policy 7 - The Department of Justice will sponsor semi-annual meetings for the homicide, sexual assault, and arson investigators to discuss latest technology applications and Modus Operandi analysis and provide a forum of personal contact among investigators.

Action Required: These meetings would serve as a catalyst and an information sharing opportunity for criminal investigators to discuss issues relating to the serial crimes they investigate. It would also offer a forum for Division of Law Enforcement to educate those investigators in the use of relational data bases and other automated systems which provide leads and information in solving serial crimes.

Time line: Twelve to eighteen months to establish a recognized need for such meetings and to assess the interest in local law enforcement as to the relative need and benefits.

Policy 8 - <u>Automate all DOJ data bases to allow electronic access into these law enforcement data bases by local law enforcement</u>.

Action Required: This is currently under way within the Division of Law Enforcement with the concept of the DOJ Integrated Access Link (DIAL) program.

Time line: Ongoing study. Implementation within the next twelve months for strictly in-house but ultimately available to outside agencies.

Each of the eight policies developed received significantly high ratings from the delphi panel. The policies are interrelated and incremental, and formulate a progressive strategic plan which provides direction both internally and externally.

TRANSITION MANAGEMENT

A plan to manage the transition from current
applications of relational data bases to the
possibilities of the future.

Transition Plan

Moving forward from today into tomorrow inevitably involves change -- change not only in the way individuals think about an issue, but also change in organizational cultures and values. Quite naturally, humans in organizations are resistant to change because change represents the unknown and the unknown is often feared. For transition to be effective, the transition process must be well thought out and managed. The transition plan must also be communicated effectively and every effort must be made to define and clarify the course of action.

The transition plan was developed based upon forecasting information developed in the Strategic Management Plan dealing with the organization's readiness for change, stakeholder analysis, and policy analyses. The techniques employed in the development of the transition plan are:

-   Critical Mass Identification - defined as those individuals/groups whose support is needed for the implementation of successful change, and those whose strong opposition would likely lead to failure of the strategy;

- <u>Commitment Planning</u> - the technique used to determine the present level of commitment and the needed level of commitment to implement a particular change;

- <u>Determining a Management Structure</u> - organizing a transition team in such a way as to assure greater success in implementation of the strategy;

- <u>Responsibility Charting</u> - the use of an organized system to fix levels of responsibility and clarify expectations necessary to implement important change.

Critical Mass Identification

The following members/groups have been identified as the critical mass:

- The Attorney General
- The Director of the Division of Law Enforcement
- The State Legislature
- Local Government Jurisdictions
- Sheriffs/Chiefs of Police
- Division of Law Enforcement Managers
- American Civil Liberties Union
- District Attorneys

Critical Mass Assumptions

The Attorney General - The Attorney General in his role as the chief law officer of the state has traditionally supported the establishment of services to support local law enforcement. Politically, the Attorney General would have to be sensitive to the desires and needs of the chiefs of police and sheriffs within the state. The Attorney General must consider the political consequences of supporting legislation which mandates the expenditure of resources, both personnel and financial, of local jurisdictions in order to support a regional or state-wide criminal information relational data base for serial crimes. The Attorney General could safely support the data base establishment and concept, but would have to be careful concerning legislative mandates. The Attorney General himself is a key actor in marketing such a program within the state. Ultimately, any legislation to mandate uniform reporting and regionalization of criminal information data bases must have the support of the Attorney General to become a reality.

The Director, Division of Law Enforcement - The responsibility of the Director of the Division of Law Enforcement is to carry out the mandates of the Attorney General. Past directors of the Division of Law Enforcement have actively pursued new technology to assist and support local law enforcement. Therefore, it can be assumed that future directors will also be given the mandate to utilize the most current technology in the support of local law enforcement efforts. The Director plays a significant role in major professional law enforcement organizations within California, such as California Peace Officers Association, California Chiefs of Police, California Sheriffs' Association, and other groups. The Director possesses

the ability and opportunity to market new systems and new ideas to local law enforcement administrators. The Director's full support of a state-wide system is essential in gaining local law enforcement administrators' support and in encouraging them to regionalize their existing data bases. Much could be accomplished by the Director in terms of increasing the current voluntary input of information into the existing VCIS. The support of the Director of the Division of Law Enforcement is critical to the successful implementation of the strategy.

The Legislature - The Legislature is a political body influenced heavily by its constituency and by special interest groups. Crime will continue to be an issue with the Legislature although past experience would indicate that the Legislature only reacts quickly to incidents which shock the public conscience, such as the Stockton schoolyard massacre of January, 1989. Garnering legislative assistance to support systems to provide coordinated information on serial crimes would be a difficult task without a major incident involving a serial criminal taking place. Currently and for the next few years, one can assume that with tight state budgets, funding for both DOJ and comparable funding to local agencies for the regionalization of information will not be a high priority. The Legislature will also be sensitive to the desires of their local constituencies, particularly when it comes to enacting legislation which mandates reporting and places a financial burden on local governments.

Local Government Jurisdictions - Both sheriffs and chiefs of police would need the support of their local government jurisdictions to take the first step in the implementation of the strategy. To agree within their own region to share critical MO information on unsolved serial crimes and to

standardize the input of information within their region to conform to the state-wide system, would certainly involve compromise, coordination, and some financial impact. The cost benefit analysis of doing this, i.e., in terms of protecting the public from violent crimes, would be examined carefully by local government jurisdictions. In order for sheriffs and chiefs of police to support the strategy, they must have the support of their local government jurisdictions. This will take a considerable amount of time and effort during a period when the majority of law enforcement financial resources is being targeted to fight the gang and drug problems within these jurisdictions.

Sheriffs/Chiefs of Police - The sheriffs and chiefs of police within the state are also facing budget reductions and certainly would be resistant to state mandated programs which impose additional costs to their programs. The sheriffs and chiefs of police would be supportive of services which make their investigators more efficient in the work that they do. The sheriffs/chiefs of police would be a "hard sell" in terms of mandated input of information. The regionalization of such an MO system within the larger jurisdictions would probably be supported by sheriffs/chiefs of police if the costs either were absorbed by the state or minimized. Increased voluntary submission of MO information to DOJ would certainly be a possibility through marketing and a DOJ commitment of related services such as analysis and criminal profiling provided back to the local agencies in return.

Division of Law Enforcement Program Managers - This group, by far, would be the greatest supporters of the strategy. The current managers within the VCIC are excited about the possibility and the potential of a truly state-

wide integrated relational data base for serial crimes. They understand

clearly that steps toward this must be preceded by the standardization of

information input and the potentially mandated reporting requirements by

local agencies. The commitment of this group must be towards marketing the

value of the information in the data base and creating successes within the

current system. Program managers within the DOJ Law Enforcement Data Center

must be willing to introduce cutting edge relational data base technology

and other technologies which will make the system more effective and

efficient in its analysis of information. The specific program managers

within VCIC must be willing to meet with local law enforcement to educate

them of the benefits of such a system. Program managers must also provide

quick and accurate feedback to local law enforcement on requested automated

searches and analytical functions, and demonstrate successes in order to

develop and support justification for the need of mandated standardized

input.

American Civil Liberties Union (Snaildarter) - The American Civil

Liberties Union may oppose any move by local law enforcement to create data

bases with extensive amounts of information on individuals.

District Attorneys (Potential Snaildarter) The district attorneys have been

listed as "potential snaildarters" as future legal issues may result when

information which identifies or links a suspect to a crime is obtained from

automated systems. The potential exists for discovery of other information

within that system that could potentially jeopardize future prosecutions or

ongoing cases. Obviously, the centralization of all criminal information

relating to particular offenders could, in fact, possibly subject that

system to discovery motions by defense attorneys. During the implementation

of this strategy, sufficient arguments must be made and legal research accomplished to overcome opposition from the legal community within the criminal justice system. Generally, the district attorneys support law enforcement and would provide sufficient input to overcome this potential roadblock.

Commitment Planning

Commitment Planning Chart

Actor	Block It	Let It Happen	Help It Happen	Make It Happen
Attorney General			0_____	X
Director, DLE		0_____	X	
Legislature	0_____			_____X
Local Government	0_____	X		
Sheriffs/Chiefs	0_____		X	
DLE Prog Managers			X	
ACLU	0_____	X		
District Attorneys		0___ · ___	X	

0 = Current Position   X = Desired Position

The commitment planning chart identifies where critical mass actors currently are and where they need to be in order to implement the proposed strategy. In terms of legislative mandates, obviously, the Attorney General and the Legislature are the most critical actors in effecting change which would mandate standardized input of MO information. The Director of the Division of Law Enforcement and the sheriffs/chiefs of police are the next most critical actors and would be most important in the pursuit of a secondary strategy of increasing the voluntary input of MO information on homicides into the VCIS, and increasing the scope of the system to include sexual assaults and arsons.

Management Structure for Planned Transition

In dealing with change which impacts many aspects of the criminal justice system and ultimately relies on legislative support for full implementation, a management structure must be considered which would be representative of the constituencies needed to achieve the future state. A need for input and collaboration in this process is critical. Within the DOJ Division of Law Enforcement, a "diagonal slice" of experts both in analytical systems and technology will be required to participate in the project team. A need will exist for three major roles to be filled: (1) the analytical perspective; (2) the peace officer or law enforcement investigative perspective; and (3) the technological perspective involving highly qualified personnel from within the Law Enforcement Data Center and potentially, consultant staff regarding technological needs for implementation.

The Director of the Division of Law Enforcement, acting on behalf of the Attorney General, is the most natural individual to assume a leadership role in the implementation of change. His responsibility, through the use of program managers within the Division of Law Enforcement, would be to educate the law enforcement and legal community about the benefits of an integrated and centralized relational data base for the analysis of serial crimes. A multidisciplinary team of representatives of each of the critical mass individuals and groups identified must play a part in the planning process and ultimately must reach agreement as to the viability of mandating legislation. In any program such as this which has the potential to place additional reporting and financial responsibilities on local agencies, resistance is a natural expectation. The Director and division managers bear the responsibility in educating potential user groups as to the

viability of such a system and the overall impact it can have on crime reduction within the State of California. The forum for this education and training could be the regular meetings of the many professional organizations, such as California Peace Officers Association, California Sheriffs, and California Chiefs of Police.

Management Responsibilities

The most likely management structure to be used would be the "Project Manager". The most likely person to fulfill this responsibility would be a program manager with knowledge of the current VCIS and other automated criminal information systems within the Division of Law Enforcement. This person would be directly responsible for setting up regional meetings with constituent representatives in order to market the program benefits and air opposition arguments. These meetings would be extremely critical during the transition period in terms of representatives from the Division of Law Enforcement to facilitate effective transition management. Responsibility for major decisions of the transitional plan need to be communicated and understood. Through the use of the responsibility chart which follows, each critical actor would have a clear understanding of his/her responsibility, resource level, authority level, and need to know. The responsibility chart is an effective tool in assuring that each member of the transition team understands the responsibility of others on the team and that there are no misunderstandings or lack of communication on major decision issues. The following responsibility chart lists the critical mass actors and the major decisions in which each will have a role.

Responsibility Chart

ACTORS

		Atty Gen	DLE Dir	Local Juris	DLE Prog Mgrs	Sheriffs Police Chiefs	Legis-lature
D	Expand VCIS to Sexual Assaults and Arson	I	R	-	S	S	-
E	Increase Voluntary Input of Information	-	I	-	R	S	-
C	Set Semi-Annual Mtgs.	-	R	S	S	S	-
I	Regionalization of Criminal Data Bases	I	I	R	I	S	-
S							
I	Propose Legislation to Mandate Reporting	R	S	I	S	A	A
O	Seek State Funding	R	S	I	I	I	A
N	Integrate DOJ Data Bases	I	A	-	R	I	-
S	Establish Technology Advisory Group	-	R	-	S	I	-

Key:

R = Responsibility (not necessarily authority)
A = Approval (Right to veto)
S = Support (put resources toward)
I = Inform (to be consulted)
- = Irrelevant

Transition Strategy Summary

The goal of a transition plan and strategy is to assist with effective implementation of the policies previously developed in the strategic management plan. The overall strategy in implementing a state-wide relational data base is based on incremental improvement of the current VCIS. The policies developed and the management structure which has been proposed will strive to gain commitment and consensus within law enforcement in California that such a system would have positive impacts in reducing

violent serial crimes. The policies are progressive in nature as the
approach initially would be to sell the ideas of regionalized relational
data bases, coordination of information, and sharing of specific MO and
victimology and crime scene information on homicides, sexual assaults, and
arsons. Education and training would be a large component of the transition
plan as local law enforcement would have to be sold on the benefits of such
a system both in making their investigative process more efficient and in
crime solving. The Division of Law Enforcement management team would have a
major responsibility in this process through the utilization of law
enforcement information bulletins, educational videos, and personal
contacts. VCIC program managers should meet with law enforcement
representatives using conferences such as California Peace Officers
Association, California Chiefs Association, California Sheriffs Association
and others as forums. As the transition progresses, measurement of results
would be achieved through analysis of the increase or decrease in voluntary
input of information into the system and support for standardization of
input and regionalization of networks.

The ultimate target of the transition plan is to achieve a future state
where all MO, victimology, and crime scene information is standardized for
electronic input into regionalized relational data bases with electronic
linkages to a central data base within DOJ. The reality of achieving
support for a legislative mandate to support this system rests in the
success in obtaining the support of the critical mass and the effective
management of the transition strategy.

CONCLUSION, RECOMMENDATION, AND FUTURE IMPLICATIONS

Potential benefits in crime solving in the next ten
years and beyond.

Summation

This study was primarily developed to explore the feasibility of criminal information sharing and using the power of this information sharing to solve serial crimes. This narrow focus provides further thought to the broader issue of criminal information management currently facing California law enforcement.

The success of coordinated criminal information analysis in solving serial crimes is not bound by technology. The critical element in the success of a relational data base system, or any other analytical information system which relies heavily on input, rests with the law enforcement community and in breaking down past provincial attitudes with regard to the sharing of information.

Many of the trends and events developed are relevant to other analytical automated systems which require detailed input in order to achieve results. The full potential of serial crime analysis as it exists today in the FBI's VICAP program and the DOJ VCIC has not been given the opportunity to prove its success. Only when these data bases contain sufficient information on unsolved crimes of homicide, sexual assault, and arson can the value of such

a system be tested. This cannot take place without the full cooperation and support of law enforcement both on a regional and on a state-wide basis.

Specific trends and events were identified which would impact the implementation of any regional or state-wide program to centralize criminal information for analysis purposes. On a local or regional basis, adequate input possibly could be generated through the force of a policy decision or powers of agreement arrangements between local agencies. Although this is feasible, the most compelling event identified which would provide for sufficient detail information to be input into a state-wide system was the legislation of mandated uniform reporting. It is not believed that policy implementation alone could create a sufficient level of reporting to make the system effective. This is supported through research which revealed that those states currently operating automated MO systems dependent upon voluntary reporting by local agencies have experienced a minimal level of success.

The California Department of Justice, Division of Law Enforcement has taken a leadership role in the nation in developing and providing effective crime fighting tools to local law enforcement. CAL-ID, the state-wide automated fingerprint system, is but one example of technology and people coming together to agree upon one standard, one system, and one process to be utilized state-wide to help in the fight against crime. As a result of this success, a criminal leaving one latent print at the scene of a crime anywhere in California can now be identified through a centralized data base.

The input required for an automated MO system for serial crimes is much more complex. Very detailed information is needed about each crime scene, victim, and MO in order to make viable automated comparisons.

As technology advances, the possibilities both for input and for analysis become unlimited. On the forefront would be artificial intelligence, or AI. A computer is said to have artificial intelligence because it can make a decision it is not programmed to make. These advanced breakthroughs in technology will ultimately solve the technical problems of information input and the linking of informational data bases, and greatly enhance the ability for automated analyses.

The ultimate solution rests with people, and particularly those people in the law enforcement community. As we move into the next decade and become inundated with more information than the human mind can possibly deal with, how we manage and use information will become increasingly important. The future effectiveness of the law enforcement effort in California will hinge upon our ability to apply technology to criminal information management and analysis and use it as an effective weapon against the criminal element.

The results of this study indicate that law enforcement is moving in a direction where a greater sharing of information will take place. Additionally, the public will demand more efficient and effective crime solving. The public has a low tolerance for living in fear when a serial murderer, sex offender, or arsonist is terrorizing their community. The future potential for solving serial crimes is only limited by the willingness of law enforcement to share detailed information about the crimes they investigate.

Any state department of justice in the United States which maintains the criminal records for that state is obligated to assure that criminal information is utilized effectively to fight crime. With the full cooperation of law enforcement and the consideration of legislation to ensure standardization of criminal information reporting into automated systems, networking and effective regional and state-wide crime solving becomes a reality. California could once again lead the way in applying technology to effectively battle crime.

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APPENDIX A
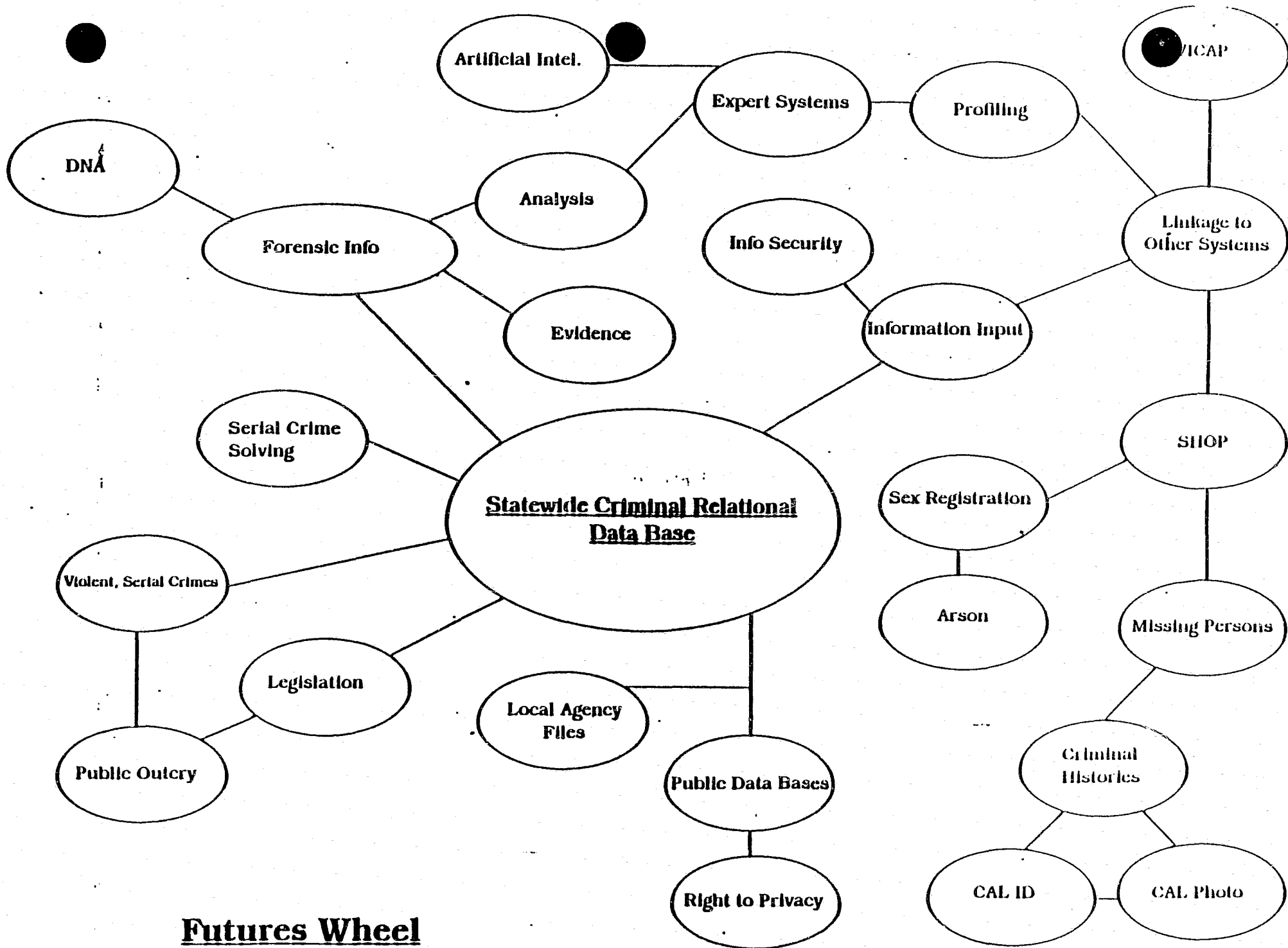
Futures Wheel

List of Trends

List of Events

Trend Evaluation Table

Trend Levels High/Median/Low Forecasts

Event Evaluation Table

Probability of Event Forecasts

Cross Impact Matrix

Futures Wheel

Statewide Criminal Relational Data Base

- Artificial Intel.
- Expert Systems
- Profiling
- VICAP
- DNA
- Analysis
- Info Security
- Linkage to Other Systems
- Forensic Info
- Evidence
- Information Input
- Serial Crime Solving
- SHOP
- Sex Registration
- Violent, Serial Crimes
- Arson
- Missing Persons
- Legislation
- Local Agency Files
- Public Data Bases
- Criminal Histories
- Public Outcry
- Right to Privacy
- CAL ID
- CAL Photo

LIST OF EVENTS

1. New legislation expands VCIC/mandates data collection sharing.

2. Serial criminal terrorizes the state.

3. IACP, CPOA or other professional group gives support statement for state-wide system.

4. Merger of major police jurisdictions (city/county).

5. New technology for system security.

6. System is developed that allows one "in-field" data entry to multiple systems.

7. Funding by public lottery.

8. Private industry/police partnerships for funding.

9. A "champion" is identified. i.e., leader/legislator.

10. Major success in another state.

11. Prominent person victimized by serial criminal.

12. Grass roots committee raises public awareness/concern.

13. Dramatic decrease in cost of hardware.

14. Media special interest story. Hit peace/series.

15. Critic says "not cost effective".

16. DNA testing at arrest or release or birth.

17. Serial killer executed, (gives credence and credibility to system).

18. State economy has surplus funds.

19. Discovery of the "cause" of violent behavior/serial crimes.

20. User market expands to include:

    Education
    Prevention
    Crime prediction

21. Major media attention to serial crimes.

22. Technology allows linkage of existing systems.

LIST OF TRENDS

1. Homicides/sexual assaults increasing.

2. New applications for relational data base technology.

3. Regionalization of criminal information data bases,

4. Availability of start-up funds for pilot projects.

5. More mobility of criminal population.

6. Inter-jurisdictional crimes increase (serial/violent)

7. Recognition of need for criminal information management.

8. Crime analysis less popular.

9. No, or little, improvement in data collection methods.

10. Little improvement in input standards for data collection.

11. Provincialism of local agencies in sharing information.

12. Too much bureaucracy/layers between data base and investigator.

13. Heavy workloads decrease system input time.

14. Distrust of data base security measure by case officer.

15. Increased industry emphasis on integration of information systems.

16. Posture of society away from relational data bases, in favor of direct police protection, i.e., patrol.

17. High expectation of immediate product without more money or workload. (Meet immediate need.)

18. Distrust in expertise of identification methods.

19. Questionable public support/confusion over:

    A. What is a serial crime?

    B. Who cares?

20. Concern about who controls the information.

21. Lack of trust in centralized data bases.

With all trend levels assigned a present day value of 100, each NGT member was asked to provide his/her estimate of where the level of the trend was five years ago, where it "will be" in ten years (nominal forecast) if the trend keeps going without intervening events, and where it "should be" in ten years (normative forecast) if there were desirable intervening events and policy. Based upon the probability forecasts of the NGT group, high, median, and low estimates were charted in order to demonstrate the range of the panel in assigning probabilities to levels of the trend five years ago, today, five years from now, and ten years from now. The panel was also asked to provide their estimates of the level of the trend five years from now and ten years from now as to what they believe the trend should be during those timeframes.

Trend Evaluation Table

#	Trend Statement	5 Yrs Ago	Today	*5 Yrs From Now		*10 Yrs From Now	
1	Standards for Data Input	50	100	75	100	100	100
2	Regionalization of Data Bases	20	100	200	400	500	500
3	Law Enforcement Recognizes Need for Criminal Info Mgmt	50	100	200	500	300	500
4	Level of Trust for Centralized Data Bases	100	100	50	25	60	70
5	Demand of Public for Basic Police Services	75	100	100	25	100	275
6	Private Industry Emphasis on System Integration	50	100	300	500	500	1000
7	Layers of Personnel and Systems Between Data Base and End User	100	100	100	50	75	75

(Table header: Level of Trend**, Today = 100)

**Panel Medians

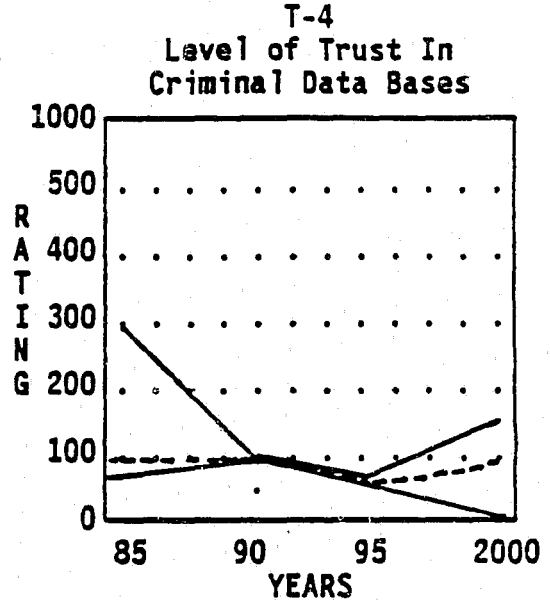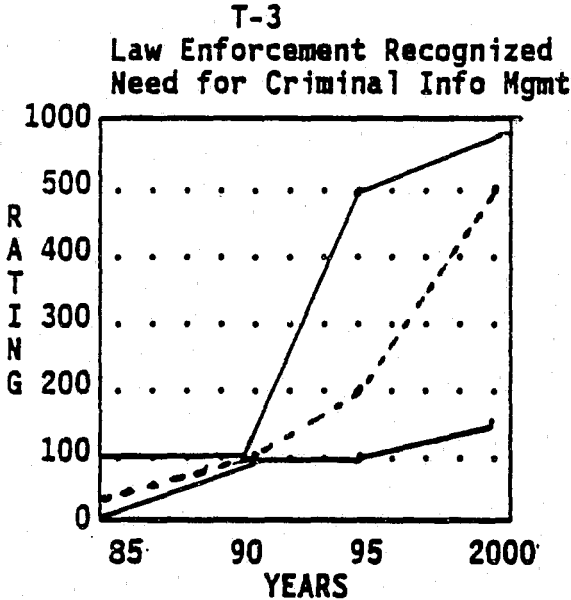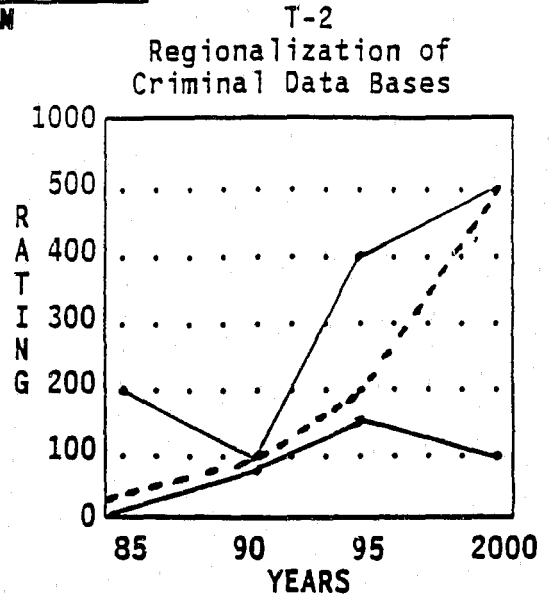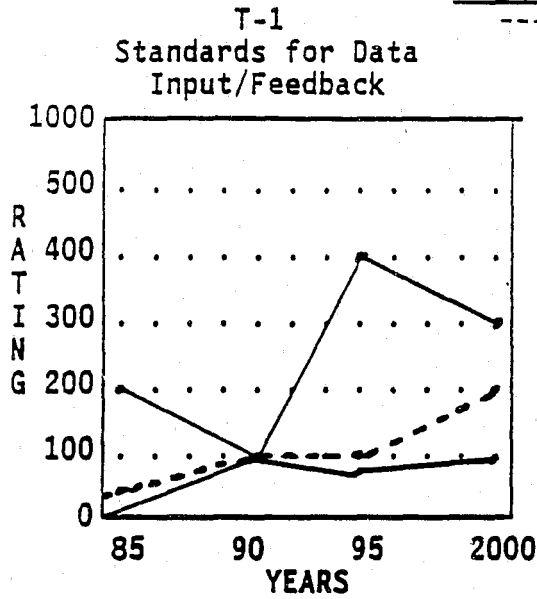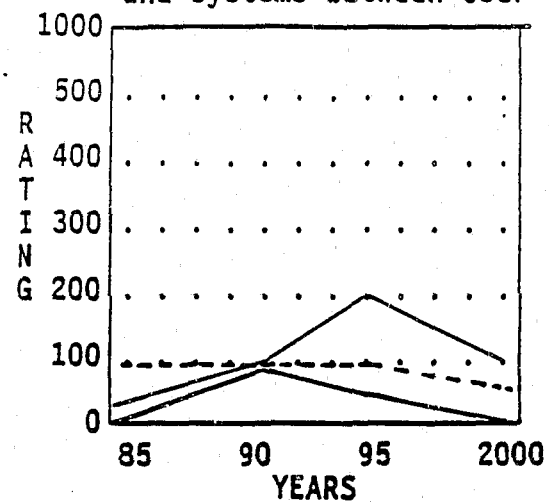* Five years from now "will be"   * Ten years from now "will be"

"should be"   "should be"

Trend Levels
High/Median/Low Forecasts
------ = MEDIAN

T-1
Standards for Data
Input/Feedback

T-2
Regionalization of
Criminal Data Bases

T-3
Law Enforcement Recognized
Need for Criminal Info Mgmt

T-4
Level of Trust In
Criminal Data Bases

T-5
Demand For
Basic Police Service

T-6
Emphasis on System
Integration
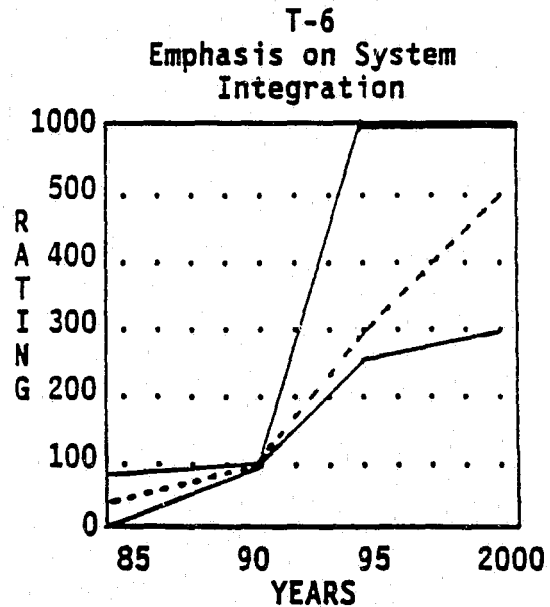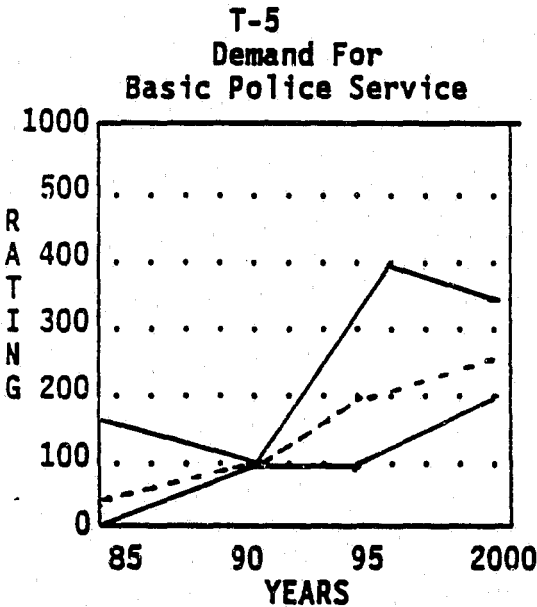
T-7
Excess Layers of Personnel
and Systems Between User

Event Evaluation Table

| Event No.	Event Statement	Years Until Probability Exceeds 0	Probability		Impact on the Issue if the event Occurred	
			5 Yrs From Now (0-100)	10 Yrs From Now (0-100)	Positive (0-10)	Negative (0-10)
1	New Legislation Mandates Uniform Data entry and Sharing of Information	5	50%	75%	8	1
2	Surplus Discretionary State Funds Become Available	4	10%	20%	8	0
3	Merger of Major Police Jurisdictions	8	50%	75%	5	3
4	Serial Criminal Vicitmizes Prominent Person	3	50%	75%	6	1
5	State/National Media Attention Supported by Civil Groups/Organizations	5	75%	90%	8	0
6	Technological Breakthrough Allows Affordable Linkage of Existing Data Bases	3	60%	90%	8	0
7	Data Base Analysis Achieves Major Success on Serial Crime	5	25%	50%	5	3

Panel participants were instructed to complete the event evaluation form. The panel was asked to project the years until the probability of the event occurring exceeds zero and the probability of the event occurring five years from now and ten years from now. Additionally, the panel was asked to estimate the impact on the issue if the event occurred. This was done by rating between zero and ten the positive and negative effect if the event were to take place. Additionally, the positive and negative impacts of the events were obtained to determine the impact on the issue if in fact the event occurred.
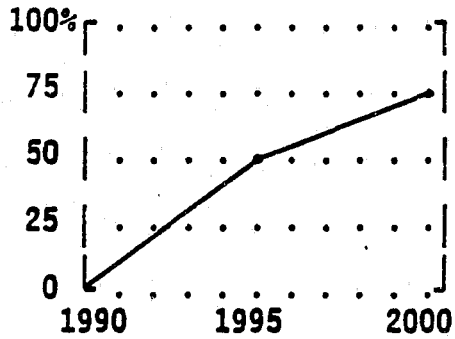
Probability of Event Forecasts

E-1
Legislation
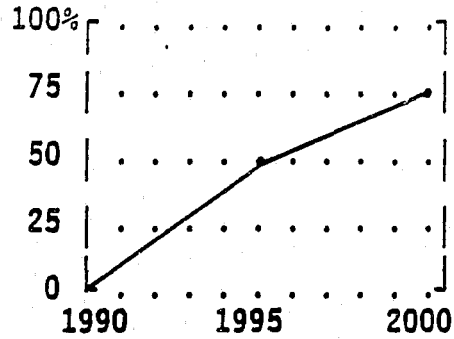
E-2
Surplus Funds
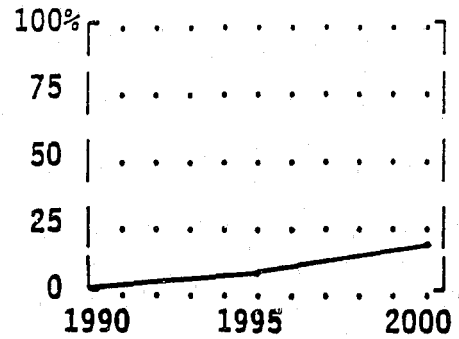
E-3
Merger of Police
Jurisdictions

E-4
Serial Criminal Victimizes
Prominent Person
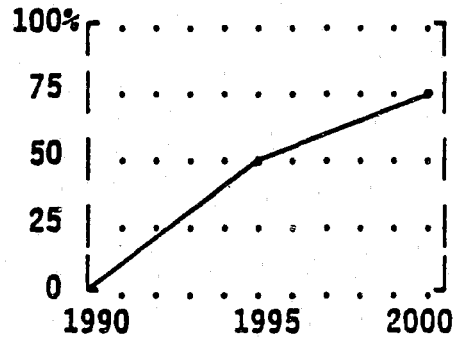
E-5
State & National Media Attention
Civil Group Action
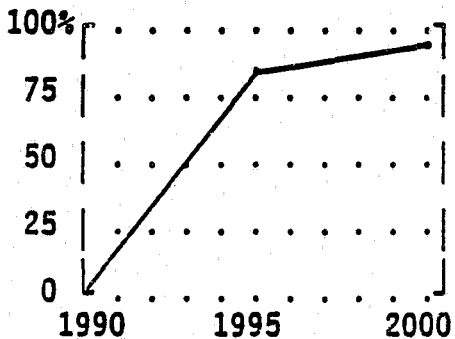
E-6
Technology Links
Existing Data Bases
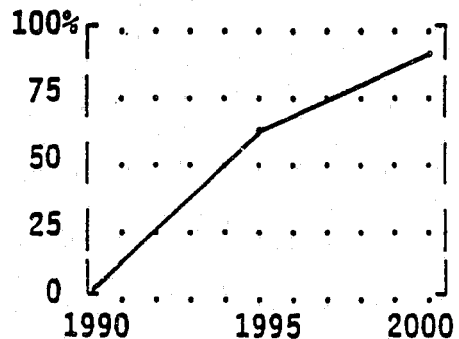
E-7
Major Success of Criminal Data Base is
Viewed as Justification for Prevention

```
100% ┌ . . . . . . . . . ┐
 75  | . . . . . . . . . |
 50  | . . . . . . . . ●|
 25  | . . . ● . . . . . |
  0  └●. . . . . . . . ┘
    1990      1995      2000
```

CROSS IMPACT MATRIX
(Panel Medians)

Maximum Impact (% change -)
Years to Maximum

**	E1	E2	E3	E4	E5	E6	E7	T1	T2	T3	T4	T5	T6	T7	"IMPACT TOTALS"
E1	X	0	10% 8	0	0	0	10% 2	90% 2	75% 2	40% 4	0	0	20% 2	-30% 4	E1 7
E2	0	X	0	0	0	10% 2	0	0	60% 3	0	0	0	20% 2	-30% 2	E2 4
E3	10% 2	0	X	0	0	30% 3	0	0	80% 3	40% 4	0	0	0	-20% 3	E3 5
E4	40% 1	0	0	X	20% 1	0	60% 2	20% 3	20% 3	40% 4	0	20% 1	0	0	E4 7
E5	50% 2	0	0	0	X	0	0	10% 3	0	10% 3	0	0	0	-10%	E5 3
E6	0	0	0	0	10% 3	X	20% 3	50% 2	80% 2	0	0	0	30% 4	-20% 3	E6 6
E7	25% 3	0	0	0	10% 3	0	X	10% 3	0	20% 3	25% 4	0	0	0	E7 5

"IMPACTED" TOTALS

E1	E2	E3	E4	E5	E6	E7	T1	T2	T3	T4	T5	T6	T7
4	0	1	0	3	2	3	5	5	5	1	1	3	5

Legend

Events
E-1, New Legislation Enacted
E-2, Surplus Discretionary Funds
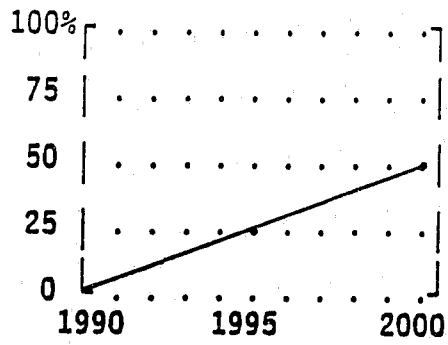E-3, Merger of Major Police Jurisdiction
E-4, Serial Criminal Victimizes Prominent Person
E-5, State and National Media Attention to Serial Crimes
E-6, Technology Breakthrough Links Existing Data Bases
E-7, Major Success in Criminal Data Base Analysis Viewed as Justification

Trends

T-1, Standards for Data Collection
T-2, Regionalization of Criminal Data Bases
T-3, Law Enforcement Recognizes Need for Information Management
T-4, Level of Trust of Centralized Data Bases
T-5, Demand of Public for Basic Police Service
T-6, Private Industry Emphasis on System Integration
T-7, Layers of Personnel and Systems Between State-wide Data Base End Users

APPENDIX B

Organizational Capability for Change Chart

Modified Policy Delphi Results

ORGANIZATIONAL CAPABILITY FOR CHANGE

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  I  Custodial  -  Rejects Change
 II  Production -  Adapts to Minor Change
III  Marketing  -  Seeks Familiar Change
 IV  Strategic  -  Seeks Related Change
  V  Flexible   -  Seeks Normal Change
```

CATEGORY

Top Managers	I	II	III	IV	V
Mentality/Personality				X	
Skills/Talents			X		
Knowledge/Education				X	

Organization Climate	I	II	III	IV	V
Culture/Norms		X			
Rewards/Incentives			X		
Power Structure			X		

Organization Competence	I	II	III	IV	V
Structure				X	
Resources			X		
Middle Management				X	
Line Personnel			X		

MODIFIED POLICY DELPHI RESULTS

Evaluation Criterion

Feasibility	Points	Desirability	Points
Definitely Feasible	3	Very Desirable	3
Possibly Feasible	2	Desirable	2
Possibly Unfeasible	1	Undesirable	1
Definitely Unfeasible	0	Very Undesirable	0

Nine group members were polled with a possible point total of 54 for each policy alternative. The rank, individual and combined scores for each policy option are as follows:

Policy Alternative	Rank	Feasible	Desirable	Total
(1) Establish state-wide advisory committees to develop a regionalized plan and proposed legislation.	4	20	25	45
(2) Develop law enforcement support for legislation to mandate uniform reporting of MO information on unsolved homicides, sexual assaults, and arsons.	6	18	23	41
(3) Automate all DOJ criminal information data bases to allow electronic access by local law enforcement.	8	16	20	36
(4) Establish technology review and clearing house at DOJ for relational data bases.	3	25	21	46
(5) Expand current VCIC to include sexual assaults and arsons.	2	21	26	49
(6) Semi-annual meetings to discuss technological applications of automated MO systems and to provide updates and personal contact to foster sharing of information regionally and state-wide	7	19	20	39
(7) Initiate and participate in legislative hearings on the issue of serial crimes.	1	26	24	50
(8) Formation of a technology applications advisory committee at DOJ to work with the private sector in linking dissimilar criminal information systems together.	5	20	23	43