LAW ENFORCEMENT RECORDS/INFORMATION SYSTEMS: *"THE ORGANIZATIONAL MIND"*

"What will be the future of records/information management for small to medium law enforcement agencies by the year 2000?"

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ABSTRACT

The study addresses the subject of law enforcement records/information management and the importance of "information" as an invaluable raw resource contributing to an organization's knowledge base. The study is futures based and identifies "regionalization" as an alternative means of ensuring that small to medium agencies will continue to maintain and enhance existing information technology. The study addresses three questions: (1) How will law enforcement identify and address the technologies that have and will influence the future of law enforcement records management system. (2) How will law enforcement continuously acquire and maintain resources to effectively manage the future of records management systems. (3) What kind of personnel resources must be in place to ensure optimal operational productivity for the future of law enforcement records management systems.

LAW ENFORCEMENT RECORDS/INFORMATION SYSTEMS:

"THE ORGANIZATIONAL MIND"

JOURNAL ARTICLE

BY

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This Command College Independent Study Project is a FUTURES study of a particular emerging issue in law enforcement. Its purpose is NOT to predict the future, but rather to project a number of possisble 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 the Command College project are those of the author and are not necessarily those of the Commission on Peace Officer Standards and Training (POST).

INTRODUCTION

In his best-selling book, Megatrends, John Naisbitt, a futurist, describes ten major transformations taking place in the United States society in the 1990's. In characterizing the first of the ten transformations, Naisbitt reports that "none is more subtle, yet more explosive, than the transformation from an industrial to an information society."[1] Clearly, as the law enforcement community moves into the 21st century, it must develop and apply strategies that will enable it to successfully manage its organizations within the framework of this "information society." The purpose of this article is to explore this issue on one major aspect and determine "What is the future of records/information management for small to medium law enforcement agencies by the year 2000?"

DEFINING THE ISSUE:

The forming of this issue and its literal construction came only after recognizing that the terms "records" and "information" were in need of operational definitions, particularly within the law enforcement community. More important, for much of law enforcement, the ambiguity in the terms has possibly gone well beyond the problem of definition and now lies at the root of their ability or inability to manage this issue in the future. Therefore, failure to make a distinction with this term could readily affect the interest and/or understanding of its intended audience.

The term "records" simply refers to data collected by an agency and stored. Records for an agency could be in the form of a police report, field contact report, and /or a details collected by a dispatcher and referencing a police "call-for-service" from a citizen. "Information" is material that can be drawn from "records," frequently via the process of putting various bits of data into an automated system. "Knowledge" is the cognitive activity arising from the mental processing of "information" acquired from

"records." Knowledge can be the product of an officer making an arrest based on a record of a field contact and a person listed on a wanted bulletin.

POLICE RECORDS

The purpose and definition of police "RECORDS" have been well documented over the years by early law enforcement scholars. One such scholar was O.W. Wilson who, in 1951, heralded "a direct relationship between the efficiency of a police department and the quality of its records and records procedures."[2] During the early 1940 and 1950's, the scope of "records" generally included the following: offense reporting, criminal identification, property identification, custody of property, central complaint desk, and communications or "radio." Yes, dispatch operations or "radio" was included as a post function to the overall information gathering processes.

Profoundly, without today's advanced technology, early "RECORDS" management systems incorporated the concepts that police reporting should support decisions in personnel resource management, problem analysis, budget preparation, property accountability and was a vehicle for furthering organizational communications. In short, law enforcement managers recognized the importance of being able to obtain information from records and this being the basis for knowledge. Over the years, the term "records" has had a unique meaning within the law enforcement community and often will apply to an organizational division and/or location within an agency. It is still not uncommon to go into a police or sheriff's department and see a sign over a counter that boldly proclaims "RECORDS."

INFORMATION SYSTEMS

During the 1950 and 1960's, "records" became semi-automated with the broader use of transcription devices, duplication systems, and microfilming.[3] In the 1970's, the

demands on "police records" management increased at a phenomenal rate. Directly attributable to these increases were the spiraling crime rate, state mandated reporting, increased community awareness, mass duplication capabilities and the basic litigious nature of the society. The problem of keeping effective "records" was exacerbated by personnel shortages brought on by the tax revolts of the 1970's.

In the 1980's the information "technologies" quickly continued to reshaped the role and disciplines of traditional "police records" management and apparently with little regard for the basic understanding of its purpose. Unintentionally, agencies throughout the country began viewing their computer technology as being synonymous with their "information systems." The acquiring of these technologies brought with them the acronyms of CAD (computer aided dispatch) and RMS (records management systems) and AFIS (automated fingerprint identifications system). The responsibility for managing these new "information systems," was often outside the purview of "records" and frequently given to the department's data processing or management unit with limited accountability at the organizational level.

In addition, in the late 1980's, law enforcement began embracing the personal computer and with the same expediency began applying specialized application such as NIN (Narcotics Information Network), GREAT (Gang Reporting Evaluation and Tracking), as well as various photo, document, and form based reporting systems. Again, most of these efforts were generated outside the scope of traditional "records" management, and the divisions making use of them brought their own specific agendas for their use. Despite the warnings of early scholars, the "evils" of decentralizing records-keeping was being realized and have contributed to "islands" of information without the proper personnel structure to support them.

Unintentionally, a major contributor to this decentralization, or fracturing, of records operations was the department's designated or self proclaimed "technocrat." In

this context, the responsibility for systems-need analysis, acquisition and use of new technology has been typically delegated to one or more persons in the department. The "technocrat" most likely came from the ranks of the sworn officer with an interest and/or inclination toward the complexities of technology. Also, the technocrat came with little or no formal training in the area of records information systems administration.

Under ideal conditions, the "technocrat" has done an excellent job in managing information technology and has ensured that it has met the challenge of contributing to his/her organization's operational efficiency. Based on earlier discussions, the "technocrat," in this case, would clearly have understood the relationship of "information" systems and the principles of sound "records" management. The less successful "technocrat" would have been oblivious to the relationship of "information" and "records" management and acted more from his/her insatiable appetite for new technology.

INFORMATION MANAGEMENT

The manual processes of obtaining, storing and retrieval of a police report, the data or information contained therein has no knowledge value in itself. It is only after someone reviews the information and makes some observation(s) that knowledge is obtained. Similarly, an organization may have the most advanced "information" gathering technology with extensive data (reports), incredible speed, and massive storage capability but still lack the ability to use those systems for the purposes of obtaining knowledge.

Almost from the start, managers in both the private and public sector have complained that computers have contributed to information overload. Naisbitt, in further discussing the transformation from the industrial to the information society, states:

We are drowning in information but starved for knowledge.

> *This level of information is clearly impossible to handle by present means. Uncontrolled and unorganized information is no longer a resource in an information society. Instead, it becomes the enemy of the information worker. Scientists who are overwhelmed with technical data complain of information pollution and charge that it takes less time to do an experiment than to find out whether or not it has already been done.*[4]

The very nature of law enforcement functions provide for an ideal setting for information collection, processing and analysis functions by both current and future technologies. Unfortunately, the above is not the case; according to the 1982 study conducted by the I.A.C.P. (International Association of Chief's of Police) few agencies that have computers use them for planning, and only 10% use them in innovative ways. In a study, as reported by law enforcement futurist, Dr. William Tafoya, 90% of the computers used by police agencies are used as little more than filing cabinets[5].

THE EMERGING ISSUE:

INFORMATION - ECONOMIC RESOURCE

To accomplish the major feat of "doing more with less", the law enforcement executive must understand the value of "information" as an organizational resource. During the industrial age, which ended in the 1950's, law enforcement was only faced with working with the two basic resources of labor and capital. To accept information as a third and valuable resource is to acknowledge what economists, corporate executives and managers of the private sector are beginning to realize. Successful police managers must use their organization's information resources for problem-solving and decision-making.

Information is at the core of creative thinking, which can lead to new ways of improving programs, processes, and alternative policing strategies. In business, the information resources of the organizations can have dual application - for internal operations and external marketing potential. The parallel for law enforcement would be to use information resources for work load analysis and external marketing geared toward community awareness and involvement.[6]

INFORMATION STRATEGY

In January of 1993, the Governor of California submitted a budget proposing a State-level information technology strategy as a response to helping its agencies meet increased demands for service. The State of California intends to employ information technology as a primary means of responding to the social, political and economic challenges of the 1990's. Central to the state's information strategy is the understanding that information is a "resource" and one that will be needed to effect and implement organizational change.[7] In light of the State's reaction to the prolonged economic recession, it seems only logical that small-to-medium-size law enforcement agencies are at the same crossroads. It appears that the time has come, if indeed overdue, for law enforcement to develop its own "information" strategy that will carry into and beyond the year 2000.

FORECASTING

METHODOLOGY

It is from a "plan", using a proven methodology, that individuals are more likely to shape their desired objective. Futures research is one such methodology that can identify and articulate alternatives through a process that includes forecasting. The forecasting method is an aid to decision-making in the present and, thus, offers a planner

reasonable control of his/her destiny.[8] The developing of this study's long term strategic plan was accomplished with a futures research model that was divided into six parts.

The research components included: identification of the project issue and sub-issues with potential relevant *trends* and *events*, distillation of *trends* and *events* determined to be most relevant to the issue, forecasting of the identified *trends* and *events*, cross impact analysis of the *trends* and *events*, and the creation of scenarios that ultimately contributed to the policies intended to provide direction for a strategic plan.

RESEARCH ANALYSIS

This project purposely avoided the tendency to focus on technology i.e., communications, lap-top computing, voice recognition, etc. and, instead, intentionally chose the more broader issue of:

"What will be the future of records/information management for small to medium law enforcement agencies by the year 2000?"

In order to provide greater clarification and scope to the issue, sub-issues concerning were structured to address the related concerns of *technology, resource maintenance/acquisition,* and *personnel.*

How will law enforcement identify and address the technologies that have and will influence the future of law enforcement records management systems?

How will law enforcement continuously acquire and maintain resources to effectively manage the future of records management systems?

What kind of personnel resources must be in place to ensure optimal operational productivity for the future of law enforcement records management systems?

DETERMINATION OF TRENDS AND EVENTS

The next step in this process was to identify specific *trends* and *events* that would likely shape the future of the primary issue. The issue was viewed from the broadest of considerations with a STEEP model being used to provide social, technological, environmental, economical and political perspectives. Ultimately, a list of *(5) trends* and (5) *events* were identified with care being taken to ensure the trends were non-directional. In other words, with a trend being a representation of several events, it was important that they neither be high nor low, fast nor slow, increasing nor decreasing, but instead, only indicative of change. In terms of events, its was necessary that each item have a likelihood of being affected by sound policy decisions.

TREND SCREENING AND FORECASTING

The selected *trends* and *events* were reduced to a number workable for this study and ranked in terms of their relative importance to the issue and value to producing a good long-range forecast. In many forecasting models, it is recognized that the years for futures trend level projections are normally established at five (5) and ten (10) year ranges. However, with the particular interconnections with technology and rapid advancements in this area, it was felt that this issue was more accurately viewed within the shorter time ranges of three (3) and seven (7) years.

Resulting from the forecasting process, each *trend* was examined from both a *nominal* - "*will be*" and *normative* - "*should be*"perspective. The "*will be*" situation provides an assumption that current forces affecting the trend continue to operate and affect the future consequences. Conversely, the "*should be*" projection provides that there is a reasonable expectation that certain goals for the future will be reached.

TREND 1 - LEVEL OF GOVERNMENT FUNDING

In looking to the amount of new government funding that was available five years ago, it was determined that there was more than compared than today. In most cases it was forecasted that, within the next seven years, "new" government funding would be less than that of today. Indications are that, within this seven year time frame, law enforcement will have to extend the "life" of its existing technology or look to more creative ways to fund their needs. In terms of what should occur, it is felt that new government funding should double over the next three years and five times as much by the year 2000. In general, it is believed that investments in the new information technology could contribute to agencies doing more with less and otherwise optimize their personnel resources.

TREND 2 - LEVEL OF RELIANCE ON NEW TECHNOLOGY

Certainly, by today's standard, the level of reliance on new technology was much less than it is today. Under the nominal forecast, it is estimated that over the next three years, the reliance on new technology would be more than double, and by the year 2000 would be nearly three and one-half times greater than today. The reliance on new technology would come primarily from an increasingly sophisticated worker, demands for reducing personnel operating costs and escalating charges for the support/maintenance of older information technology. The "should be" projection suggested little change with each expected to be relatively high with their estimated impact.

TREND 3 - LEVEL OF REGIONALIZATION

Estimates on the level of regionalization five years ago was significantly less that it is today. The research and forecasting for this trend suggest that under both the "will be" and "should be" estimates there is a good deal of support and belief that there can be significant increase in regionalization and particular as it affects this issue. It is

recognized that the decision or support of regionalization is not a matter of economics or operations but, instead, based on personal or political ambition for a person or organization.

TREND 4 - LEVEL OF COMPUTER LITERACY

This trend recognizes that, to the degree that line personnel and managers are exposed to computer technology, there will be a direct correlation to their use and ability to manage related issues. It is estimated that computer literacy five years ago was less than half of what it is today. However, within three years, it is estimated that the level of computer literacy will increase one and one-half times, and by the year 2000, will double. Even more optimistically, a "should be" estimate suggest that the doubling in this area will actually occur in the shorter term and that over the next seven (7) years the level of computer literacy will actually increase to nearly six (6) time over what it is today.

TREND 5 - LEVEL OF HUMAN FACTORS CONCERN

This trend indicates that there must be a certain level of concern for the human interaction between the worker and his/her environment. Human factors considerations could range from the simplest matter of addressing proper seating position while using a computer to the more esoteric designs of artificial intelligence systems and the impact on the new "knowledge" worker. Estimates for five years ago suggest that the matter of human factors concern was relatively non-existence, but by the year 2000 this overall period would bring about substantial attention. It is projected that the complexities of

EVENT SCREENING AND FORECASTING

Once the (5) events were ranked by order of most importance to central issue, their probability of occurrence was weighted against the same time periods provided for the previously discussed trends. In addition, the event forecasting identified and

analyzed the positive and negative impact on the central issue of this study. In all but one instance, each event was determined to have potentially high impact on the future of this issue.

EVENT 1 - MULTI-MEDIA INFORMATION APPLICATION

It was forecasted that, based on the rapid advancements with multi-media technology, the abilities of this event to first occur could be within the first year. Moreover, the forecast was that there was a 65% probability that it would occur in the next three years. The cumulative forecast of 90% over the next seven years suggests that it is only a matter of time before a major manufacturer targets and successfully develops a fully integrated information system including the technologies of data (text), sound, photo-imaging, video-imaging, and with mass storage capabilities. It is believed that the law enforcement "RMS" (records management systems), as known in 1993, and their associated hardware technology, would be virtually obsolete.

EVENT 2 -BAY VIEW INFORMATION AND COMMUNICATIONS CENTER

This event determined that several or more local city police municipalities could join to form a regional center for the collective handling of dispatch communications and records management. The framework for records management included: data collection, reporting, distribution, retrieval, analysis, storage and other related information processes. In forecasting this event, indications are that given existing economic conditions, there was a 60% probability that this event will occur within the next three years, and by the year 2000 there could be a 95% likelihood of the event occurring. This event is seen as a very positive occurrence and rated highest in projection estimates. The one caveat to this positive event forecast was that the moving force in creating BVIC would be budgetary considerations, and should the economy improve, the creation of this regional effort would not happen. It was felt that decision-makers on this issue

would continue to shape their directions based on political considerations, despite the operational and economic benefits.

EVENT 3 - TECHNOLOGY RELATED INJURIES

The event considered the possibility that work related injuries associated with the use of technology could become classified as the number two (2) occupational injury for clerical and dispatch employees. In forecasting this event, a 65% probability was given for it occurring within the next three years and a 85% probability that it would occur by the year 2000. In forecasting this event, it was agreed that the incidents of technology-related injuries could actually be influenced by the awareness and classification in reporting. One classic example of injuries related to the use of computer technology is the existing high incident rate of employees suffering from carpal tunnel syndrome[9].

EVENT 4 - EXPERT SYSTEMS

This event speculates that the full integration of multi-media systems (reference event 1) could be complimented by the advanced application of expert systems. It is estimated that with the exponential increase of data or information, there will be a demand for better "knowledge" based technology. This event provided an aggressive forecast which suggested an 85% probability that expert systems would be deployed in law enforcement within the next three years. Equally as optimistic was the indication that by the year 2000 there would be a 95% probability that this event would occur. Even with optimism, it was estimated that this event would likely not occur until well into the third year of the period in question. The event surmised that the event would come in the form of a major announcement from a vendor who would distinguish themselves from the traditional RMS (records management system) and CAD (computer aided dispatch) providers.

EVENT 5 - POST INFORMATION MANAGEMENT TRAINING

This event focus around the probability that POST (Commission on Peace Officer Standards and Training) could implement a block of MIS (management of information systems) instruction within its management certification program. In this regard, with a probability rating of 60%, there was little optimism that POST would accomplish this event with the next three years.it was estimated that and, therefore, gave a probability rating of 60%. However, indications were that, by the year 2000, POST would recognize the value of this training and a 95% was projected. It was felt that a primary motivation and shift in attitude from POST would be driven by a "change of the guard" within local law enforcement and the POST administration.

SCENARIOS

Based on the identification and forecasting of the *trends* and *events*, the important, but loosely connected data was synthesized into three scenarios with the express purpose of providing a foundation for future policy consideration. In working through the forecasting phase, subsequent discussion provided excellent background for presenting the alternative futures in the form of *exploratory, normative,* and *hypothetical* modes.

The *exploratory* mode is essentially a "play-out" of forecasted events as having not occurred and is relatively "*surprise free*". This exploratory scenario reflects the impact of current forces, policies, and anticipated trends as the "will be" forecast for the future of records management and information technology. The second scenario, as the *normative mode* is reflective of a "*feared but possible*" interpretation of the trends of events that were forecasted. In this normative, or "worse case", scenario, what can go wrong does go wrong. The final scenario provides a more positive reflection on this issue and is provided in a *hypothetical* mode, or "*What if..,*" format. It describes a future influenced

by good planned intervention and a conscious decision to affect organizational change based on the knowledge gained from its information bases.

STRATEGIC PLAN

Insights from the examination of possible future trends and events provides the basis for developing a strategic management plan and becomes the next step in addressing the question of "what will be the future of information/ records management for small to medium law enforcement agencies by the year 2000." A strategic management plan has been developed for the fictional City of San Cristobal and reflects this agencies good planning, intervention and conscious decision to affect organizational change based on the knowledge gained from its information bases.

The plan is designed to serve as a theoretical model and not necessarily representative of any particular law enforcement agency, personnel or circumstances. In order for a plan to be whole, it must include: (1) establishing and building a level of commitment for the issue, (2) an environmental assessment of the organization from both internal and external perspectives, (3) the development of alternative strategies and, finally, (4) the recommended approach for ensuring organizational efficiency from the effective management of its information/records management systems.

ORGANIZATIONAL MISSION

Like all organizations, whether they be small or large, a mission statement provides San Cristobal with a mechanism for formally communicating its expressed values, guiding behavior, ensuring consistency, and building commitment for its members.

The following micro mission statement carries with it the embodiment San Cristobal's macro mission statement while laying the foundation for carrying out this strategic plan.

Micro Mission Statement

The San Cristobal Police Department and it members value its information systems as a critical resource in achieving optimal use of its human and material assets. Our members are committed to identifying and applying those information technologies that contribute to its organizational knowledge base while serving the greater good of the department. The Department and its members will employ its information systems as a primary means of responding to the social, political and economic challenges of the future.

SITUATIONAL ANALYSIS:

Representative of most cities and counties within the State, the City of San Cristobal and its police department have made rapid advances in acquiring automated information technology since the mid-eighties. Indicative of the Departments technology advances is it use of a sophisticated automated records management system which is heavily utilized by both support and operational personnel. In a similar fashion, the Department has acquired and implemented a new communication center console system, CAD (computer aided dispatch, and, most recently, MDT (mobile data terminals) for its patrol vehicles with direct access to its RMS data. Contiguous with the aforementioned efforts have been the on-going realization of PC's (personal computers - micro-processors) throughout the Department with all secretarial personnel benefitting from the advantages of word processing.

The Department has not been limited to its internal involvement with information technology and, in fact, has played a major roll in promoting regional applications. Most

notably, the Department has had active representation in helping to bring about the Alco/Ygnacio County CAL-ID and the Ygnacio "ACCJIN" (All County Criminal Justice Information Network) projects. The dual county CAL-ID effort has brought about a regional automated fingerprint identification system (AFIS) which provides a latent print data base for image comparison. The regional systems is linked to the State and Western Information Network (WIN) and is connected to the State system. The ACCJIN system provides a sophisticated data network that provides a communications link for all local justice agencies, i.e., city/county law enforcement, district attorney, courts, probation, etc. It is through the ACCJIN data communication "backbone" that agency will participate in county-wide warrant, name indexing, crime analysis, booking, photo image capturing and other, yet unidentified applications.

Surrounding agencies to San Cristobal and within west Ygnacio County include; El Pueblo, Nottingham, El Costa, Herculon and Byron Police Departments. Over the years, and to one degree or another, these agencies of west Ygnacio County have made similar advancements and commitments to information technology. Particularly with El Pueblo and Byron Police Departments, each has implemented automation to include a full records management system and some form of computer aided dispatch. San Cristobal, the larger of the six west county cities, has clearly made the greatest investment into the new technologies and with a larger support staff has been able to establish itself as the strongest user of its systems.

San Cristobal, like its adjacent agencies, continue to benefit and increasingly rely on its information knowledge bases for its short and long term decisions. New information technologies are readily available but a severe state-wide economic crisis offers little hope for most agencies to obtain new funding for enhancements. In fact, it is likely that all Cities will continue to suffer budgetary cutbacks that will negatively

impact personnel and operations of their existing information systems. The smaller agencies have already begun to see the effect of reduced funding and are looking to alternatives to minimize potential elimination of sworn staffing and reducing service levels.

ALTERNATIVE STRATEGIES

In order to generate and analyze alternate strategies capable of achieving San Cristabol's macro and micro mission statements, three alternate strategies were developed. The three strategies considered included:

ALTERNATIVE ONE
Maintain Local Control

This alternate strategy would have the Department continue to support its own "records", "dispatch", and related information technology. To the extent possible, the Department would continue to maintain a budget that would provide for personnel and capital required to maintain operations of its information systems.

ALTERNATIVE TWO
Contract Service to the County Sheriff

This alternate strategy would have the Department contract services to Ygnacio County for support of its "records", "dispatch", and related information technology. The Department would no longer maintain local control of its information systems and, like many agencies through out the county, these services would be a centralized.

ALTERNATIVE THREE
West County Consolidation of Services

This alternate strategy would have the Department join in a consolidated effort to provide information services on a shared cost arrangement. In consideration of San Cristobal's organizational capability and established infra-structure, it would assume the

lead role in managing the consolidated information system that would serve the needs of the West County .

PREFERRED ALTERNATIVE

In carefully considered the three identified strategies the creating of a *West County Consolidation of Services* was targeted as the best strategy to employ for the San Cristabol Police Department. The decision was based on an examination of the three alternatives which weighed the pros and cons with the macro and micro mission statements for San Cristabol. In terms of the first strategy, it was decided that existing budgetary constraints would make it very difficult for San Cristobal to continue to maintain or enhance its information systems. It was also speculated that, absent any other consideration, the surrounding agencies would have little choice but to discontinue their existing operations and contract for services with the County. Eventually, this would leave San Cristobal as the lone agency providing its own services and with limited alternatives for the future.

The second alternative was the least attractive to San Cristobal and clearly lacked promise for its stake holders. The panel felt that, consistent with current County agreements, the San Cristobal Police Department would find it difficult to realize its mission statement and would be detached from accomplishing their goals and objectives. The panel also recognized that a contract agreement would force San Cristobal to more-or-less abandoned its employees to a County structure which would compromise their years of service and entitlement.

The third alternative was seen as one that allowed San Cristobal to maintain control of its destiny and potentially broaden the benefits of its mission/micro statements by including the surrounding agencies. Geographically, operationally and politically (stake holders), the consolidation of the communications and information

systems of the West County could provide a manageable and mutually beneficial alternative for all concerned. Interestingly, it was the consensus of those involved in this effort that, not withstanding the current economic motivation, a consolidation of information resources was an excellent idea whose time was long overdue.

IMPLEMENTATION PLAN

The first effort in implementing this strategic plan would require the San Cristobal Chief of Police to initiate informal dialogue through the West County Chief's organization. During this meeting, the Chief would present the issue with general background and an overview of a strategy that has lead to the considered alternative. It would be important that the Chief be careful not to force his alternative onto the other Chiefs but to suggest that his initial purpose is to solicit whether or not there is an interest in exploring his recommendation further.

The Chief's initial actions would be followed by use of other for implementation technologies and include: (1) feasibility/cost analysis (2) a marketing plan, (3) and the creation of transition team which would be responsible the actual implementation process.

TRANSITION PLAN

CRITICAL MASS

The first step in establishing a sound transition plan is to identify those individuals and/or groups who, by virtue of their roles, could support the change that will be required to make this project successful. The origin of this group stems from the strategic plan which suggest involvement of line personnel, management, other City Departments, existing vendors of automation and business partners who would be

interested in the entrepreneurial spirit of this effort. It was from this group that a "critical mass" was identified with the knowledge that without their commitment the desired transition to the future would not occur.

- ~ Dispatch/Clerical Labor Manager - Local 790
- ~ Chief of Police - San Cristobal Police Department
- ~ City Manager - City of San Cristobal
- ~ Chief Executive Officer - ACME Technologies
- ~ Technical Services Commander - San Cristabol Police Department
- ~ Chief of Police - City of Byron

MANAGEMENT STRUCTURE

Recognizing that the implementation of this project will contribute to substantial organizational change, it is reasonable to anticipate that a transition state will differ from the future state in terms of roles, tasks and resources. The transition state will likely require a separate structure and form of management appropriate to the uniqueness of this consolidation effort.

Initially, there was some consideration to managing the change at the "chief executive" level. However, neither the Chief, nor Bureau Commanders are in a position to personally manage the change, which would require considerable energy and a delegation of day-to-day operations to others on the management staff. In addition, the effort is sufficiently technical in its application to require specific knowledge in this area. Therefore, a "transition manager" method to managing change seems more ideal and expedient.

IMPLEMENTATION TECHNOLOGIES

To accomplish the implementation of this transition plan, several technologies, or "tools" will be employed to create the desired change. The timing of this effort has to be sensitive to this current state of the organization and, ideally, look for this opportunity to demonstrate continued progress in those areas of planning and communications.

The technologies tools used to support the implementation of change will include the following:

PLANNING. In much the same manner that an organization would activate a business plan, the transition plan will correlate its change to its vision and the mission of the organization. The Department will need to include the participating agencies in an affirmation of its micro mission statement.

COMMUNICATIONS. The scope of communications will include: formal written updates, formal presentations/updates, surveys requesting input, rewards/acknowledgement for persons contributing to the effort, regular planning/assessment meetings, and training.

RESPONSIBILITY CHARTING. All to frequently, good projects fail because of a lack of accountability and/or understanding as to who had responsibility for a particular effort. In order to avoid this pitfall, the "responsibility charting" tool will be employed. It is through the use of this tool that role relationships will be clarified as a means of reducing ambiguity, wasted energy and adverse reactions. The will also facilitate the ability of involved persons to work individually and as a team.

MANAGING THE NEUTRAL ZONE. The Neutral Zone is best described as the period of time between the current state and the desired state of a project implementation. Management of the Neutral Zone can and should include: practical

training, temporary redirection of other non-critical duties, shadowing by trainers during live application, phased implementation of project, and being sensitive to the learning curve of the individuals involved.

TRANSITION IMPLEMENTATION

In cooperation with the transition team the project manager will be responsible for identifying relevant issues, developing tactical goals and setting specific time frames for completion. Essentially, the task details can be broken into the three functional areas comprising *personnel, technology* and *operational* concerns. In addressing these particular task areas, the following information begins to identify sub-tasks that will become critical to accomplishing the objective of establishing the Bay View Information and Communications Center into a centralizing operation.

PERSONNEL:

Needs Analysis: The needs assessment will identify other tasks to be outlined, under the general scope of "personnel," and will likely consider the continued management structure under consolidation.

Council/Administrative Action: Dependent upon the agreements that might be reached with the new employees, there will need to be a modification of existing personnel rules with respect to each agency's Charter. Understandably, the bargaining units representing affected employee groups will be involved in the process and contribute to an amiable transition.

Employee Orientation: To minimize the anxieties associated with this transition of staff, an employee orientation will take place early within the established period. The orientation is intended to introduce staff to the various facets of the consolidated operations as they currently exist and are being considered for the future. It is suggested

that the orientation involve line personnel, supervisors and management from each of the participating agencies.

Dispatcher/Clerical Training: The San Cristobal Police Department currently has an established training course which is patterned after the POST - FTO (Field Training Officer) program for sworn personnel. In the interest of being consistent all new transition employees will receive the same training as previously provided for San Cristobal staff. However, it is recognized that it will be necessary for participating agencies to maintain their existing services until such time of a complete switch over to the regional center. Therefore, a modified training plan, which eventually covers the complete training program will have to be developed.

User Training: Beyond the training required of the support staff, there will be those persons who will need to benefit as "users". To this end, it is imperative that all field personnel have an adequate understanding of the entire work flow processes, from dispatch to information processing. The field training will cover dispatch protocol, equipment utilization, records/reporting, information access and adhoc report capabilities.

TECHNICAL:

Needs Analysis: It is likely that modification and enhancement will be required existing technologies to include both software and hardware considerations. This detailed analysis will need to understand changes that will be required for voice/data communications, telephones connections (including E911services), work space modification(s), remote field/site equipment, etc. In terms of establishing an accurate time frame for implementation, the technical considerations will likely impose the most stringent of limitations. Specifically, the technical implementation will most likely involve outside resources, e.g. vendors, and possibly require procurement steps that

some times difficult to determine and accountability is one step removed from the project management effort.

System Tables Development: Elemental to information technology design and structure are its system tables and files. Additional tables and files may be required of the centralized effort and will include: security access, ``user designator, unit response priority, permanent premise history, agency "info" listings, etc. In the developing of system tables and files, it will be important to consider standardized routines and procedures that will contribute to the full utility by all participating agencies.

Hardware Upgrade: Preliminarily, it appears that existing hardware at each participating site will have to be considered. Specifically, additional disk space for expanded information storage, remote terminal and printer capabilities, an increased memory expansion may be required. The remote capability is essential to San Cristobal's ability to handle the consolidated effort with a minimal increase in personnel. In this regard, it is understood that <u>all</u> agency participants will require adopt remote interface capabilities with the regional center.

Software Upgrade: The various information systems will need to be modified to provide them with multi-jurisdiction capabilities. The modifications should provide functionality that treats each jurisdiction separately for purposes of incident response, reporting and retrieval while allowing users to take advantage of established global information data bases.

<u>OPERATIONS</u>:

Needs Analysis: Once the hurdles of meeting the personnel and technical needs of this effort are met, the real issue will focus on the day-to-day operations. To date, participating agencies are dependent upon various policies, procedures and guidelines which ensure effective dispatch and information services. The challenge for securing the

success of this project will be to blend existing operational considerations into one homogeneous system which still manages to respect the needs and identities of each of the participating agencies.

Transition/Evaluation Team: The complexities of managing this project will require the collective understanding, input and talents of persons representing the individual interests of those participating agencies. The accomplishment of the various tasks, within the limited time frame, will also necessitate a balanced distribution of responsibilities. Crucial to the management of this undertaking will be the careful selection of the project manager who will have primary responsibility for confirming, coordinating and securing tasks completion in an systematic fashion. It is recommended that the designated project manager have a strong "working" knowledge of the technical and operational processes associated with San Cristobal's information technology and operational systems.

Protocol Development: It is the intent of this transition plan to closely look at all details associated with the information systems and provide a "joint dispatch operational manual". Prior to the implementation of this project, personnel will be trained from and provided a copy of the protocol manual. Although the issues to be addressed in the manual may seem insignificant by themselves, they become increasingly important when viewed from the perspective of providing consistency and understanding of what is expected from all concerned.

Project Evaluation: In order to attain those goals set forth for this effort, it will be important to develop tool(s) for measuring its accomplishment. Likewise, the continued success of this consolidated information system will require an on-going nurturing of the relationships between the participating agencies. A permanent body/committee will be established with the responsibility for monitoring the personnel, technical and

operational issues that will continue to influence the positive direction of the program. In short, this committee can play a key role in safeguarding against potential problems jeopardizing the on going success of this project.

In developing this transition plan, it should be understood that the early "needs analysis" for the given broad areas of concern will contribute to greater tasks detail, provide more specific time frames, and identify individual assignment/responsibilities. Again, this initial document is offered as a structure and starting point for those who will participate in the implementation of this project.

CONCLUSIONS, RECOMMENDATION FUTURE IMPLICATIONS

"What is the future of records/information management for small to medium law enforcement agencies by the year 2000?" To say the least, the future is quite promising and, unlike many futures, it is one that the law enforcement can readily impact. If the law enforcement community is successful in engineering the future of its information systems, it is perhaps the single most important change that will contribute to its future prosperity. If the later part of the 20th century saw a transformation to an information society, then the 21st century will be a society of "knowledge" with vast potential for addressing the social, economic, environmental concerns of the day.

In this study, the various *trends* suggested forecasts that, under the right circumstances, could prove beneficial to the law enforcement community. Likewise, the *events*, if influenced by good planned intervention and the conscious decision to affect change, could contribute to a promising future for law enforcement information systems. Ironically, it is the *trend* dealing with decreased levels of government

funding that becomes the pivotal element in possibly directing the future of this issue. The irony comes from the observation that, if economic times improve too soon, desired changes may not come about and existing forces will continue to contribute to the mis-management of law enforcement information resources.

However, if conditions remain the same, agencies will begin to benefit from a consolidation of personnel and economic resources that will allow them to make prudent investments in the information technology of the future. Ideally, the by-products of regionalization will allow for the creation of sound personnel infra-structures necessary to support the information systems of tomorrow. The challenge for the future is to seize this opportunity and re-evaluate our previous efforts, or lack thereof, to manage information. The first step in this direction will be to ensure that there is a commitment to the information systems and the discipline to properly manage this valuable resource.

Certainly, at one time or another, it has been heard from the scholars of law enforcement that "patrol" operations is the "back bone"of the organization. Interestingly, that cliche continues to typify the importance of the patrol officer as an invaluable resource. In a similar fashion, and in view of increased understanding of the value of information, a new cliche could be coined that describes "records" or a departments information services entity as the "organizational" mind. It is unlikely that these scholars of the past and hopefully of the future would take exception with this analogy.

~END NOTES~

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LAW ENFORCEMENT RECORDS/INFORMATION SYSTEMS:

"THE ORGANIZATIONAL MIND"

AN INDEPENDENT STUDY

BY

MICHAEL TYE

Commission on Peace Officer Standards and Training

Command College
Class XVI

June 1993

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 possisble 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 the Command College project are those of the author and are not necessarily those of the Commission on Peace Officer Standards and Training (POST).

INFORMATION AS A RESOURCE

We are at the dawn of the era of the smart machine -- an "information" age that will change forever the way an entire nation works, plays, travels and even thinks. Just as the industrial revolution dramatically expanded the strength of man's muscles and the reach of his hand, so the smart-machine revolution will magnify the power of his brain. But unlike the industrial revolution, which depended on finite resources such as iron and oil, the new information age will be fired by a seemingly limitless resource -- the inexhaustible supply of knowledge itself.

- Newsweek, June 30, 1980

SECTION I - INTRODUCTION

A discussion on the focus of this study, through the use of issue and sub-issue development with background information supporting both scope and importance.

SECTION II - FUTURES FORECASTING

A representation of the structured inquiry used to develop trends and events, conduct cross-impact analysis and develop a scenario as an integral basis for this study.

SECTION III - STRATEGIC PLANNING

The presentation of a model used in this study to address "stakeholder" assessment, alternative policy development and the structuring of a strategic plan.

SECTION IV - TRANSITION MANAGEMENT

A discussion on the techniques considered and developed to promote the successful implementation of policies and strategies offered through this study.

SECTION V - CONCLUSIONS, RECOMMENDATIONS, AND FUTURES IMPLICATIONS

A reflection on this substantive content, conclusions and need for further development on related issues, not yet explored, but important to the study as a whole.

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SECTION I: INTRODUCTION

Introduction

In his best-selling book, Megatrends, John Naisbitt, a futurist, describes ten major transformations taking place in our society today. In characterizing the first of the ten transformations, Naisbitt reports that "none is more subtle, yet more explosive, than the transformation from an industrial to an information society."[1] Clearly, as the law enforcement community moves into the 21st century, it must develop and apply strategies that will enable it to successfully manage its organizations within this "information society." In pursuing a quest for understanding, this writer has chosen to explore the issue, "What is the future of records/information management for small to medium law enforcement agencies by the year 2000?"

DEFINING THE ISSUE:

The forming of this issue and its literal construction came only after a good deal of thought and concern that the concept "information" within the context of "law enforcement" was in need of an operational definition. Specifically, at the core of this issue is the concern that the terms *records* and *information* have, unfortunately, begun to take on very different meanings within the law enforcement community. More important, for much of law enforcement, the ambiguity in terms has possibly gone well beyond the definition and now lies at the root of their ability or inability to manage this issue in the future. Therefore, failure to make a distinction with these terms could readily affect the interest and/or understanding of its intended audience.

It is important that the reader, at the onset, make a clear distinction between the terms "records," "information" and "knowledge." The term "records" simply refers to data collected by an agency and stored. Records for an agency could be in the form of a police report, field contact report, and /or entry at the point of dispatch that captures a "call-for-service," response times and clearance, etc. Very frequently this is "dead storage," data that is held because regulations require it, but to which reference is rarely made; this is implicit in the traditional newspaper nickname for the reference library, "the morgue."

"Information" is material that can be drawn from "records," frequently via the process of putting various bits of data into an automated system. "Knowledge" is a cognitive activity arising from the mental processing of "information" acquired from "records." Intelligent police activity can occur at its simplest level with an officer making a mental record of a person and later associating this person with being wanted. Knowledge takes place when an officer makes a connection between his mental record of contact with a person and a wanted bulletin that is a record of this person's outstanding status.

POLICE RECORDS

The purpose and definition of "police records" have been well documented over the years by early law enforcement scholars. One such scholar was O.W. Wilson who, in 1951, heralded "a direct relationship between the efficiency of a police department

and the quality of its records and records procedures."[2] During the early 1940 and 1950's, the scope of "records" generally included the following: offense reporting, criminal identification, property identification, custody of property, central complaint desk, and, of later interest to this issue, communication or "radio."

In looking back over the last half-century, it is the police administrators of that era who had a clear understanding of the importance and value of "information." Although the content gleaned from a report source was frequently called data, the product was still understood to be information. Profoundly, without today's advanced technology, early "records" management systems incorporated the concepts that police reporting should support decisions in personnel resource management, problem analysis, budget preparation, property accountability and was a vehicle for furthering organizational communications. In short, they recognized the importance of being able to obtain information from records and this being the basis for knowledge.

The practitioners of the day warned of the "evils" and of the tendency toward the decentralization of record-keeping and pointed to the potential problems that such decentralization could produce. The caution from the experts was that decentralization contributed to the following: individual and uncoordinated records systems within a unit, fragmented and limited departmental access, and a lack of integrated records providing the department with a global perspective on its strengths and weakness. These scholars saw decentralization as threatening law

enforcement's ability to obtain information from fragmented records' processes. Perhaps of equal importance to the early framers of the "police records" system, was the concern for the integrity in the maintenance of records systems and the ability to provide frank and objective reporting.[3] Conversely, the rationale advanced by various operating divisions, e.g., detectives, traffic, administration, was that to the extent they were the primary users of the information, it was logical that they must control the records that pertained to their divisions.

Unfortunately, despite the specific intentions of its founders, the earlier "records" systems were viewed as a location or an operation in which police reports were collected, processed, and stored. Over the years, the term "records" has had a unique meaning within the law enforcement community and often will apply to an organizational division and/or location within an agency. It is still not uncommon to go into a police or sheriff's department and see a sign over a counter that boldly proclaims "RECORDS." The sign normally refers to a location or service center where police and citizens can obtain a copy of a reported police incident. Relatively speaking, some of these record systems were efficient and some were not. Often, in that simpler age, the memory of an effective records clerk could conceal inefficient records management. Defects in the system might not become obvious until a particular records clerk retired or the data bank grew too large for human memory to process.

During the 1950 and 1960's, "records" became semi-automated with the broader use of transcription devices, duplication systems, and microfilming.[4] The availability of this new automation encouraged greater documentation; this can be readily seen when comparing the paper trail of yesteryear's investigation with today's typical reporting product. Although computer assisted retrieval and record control systems were available during those decades, they were few and predominantly only used by larger metropolitan agencies.

In the 1970's, the demands on "police records" management increased at a phenomenal rate. Directly attributable to these increases, were the spiraling crime rate, state mandated reporting, increased community awareness, mass duplication capabilities and the basic litigious nature of the society. The problem of keeping effective "records" was exacerbated by personnel shortages brought on by the tax revolts of this period. Most notably was California's Proposition 13 of 1978, which placed limits on the amount of property taxes. The taxing limitations forced many agencies to set priorities on maintaining sworn personnel levels and opting to reduce clerical staff and records operations.

Next came the prosperity of the 1980's and the rapid advancements in technology that further reshaped the role and direction of "police records" management, almost without regard for the basic understanding of its purpose. During this period, small to medium size agencies could take advantage of special state or federal grants and/or

asset seizure funding to purchase computers. Frequently, the procurement of these computers was for the express purpose of enhancing the data collection and analysis capability of newly established crime analysis units.[5]

The arrival of the minicomputer also began to play a significant role in helping to mold the future of "police records" management. Largely due to the silicon chip, the computer shrank both in size and cost. Along with this evolution of technology came equally significant changes in the attitudes and expectations that police administrators had of these systems.[6] Frequently, the actual planning, acquisition, and implementation of the new computers were conducted outside "records", most likely as a project directed out of some administrative/planning function.

INFORMATION SYSTEMS

Unintentionally, agencies throughout the country began viewing their computer technology as synonymous with their "information systems." Little regard was paid to the basic principles that should have driven their manual "records systems." Ironically, vendors quickly labeled their "turnkey"[7] applications, with the acronym of RMS that has widely become known as an agency's "records management systems." However, the responsibility for managing these new "information systems," was outside the purview of "records" and frequently given to the department's data processing or management unit.

Until the 1980's, law enforcement had been slow to adopt new technology, but once on this road, there was rapid increase in police applications with these new methods. These applications included: computer aided dispatch (CAD), automated fingerprint identification systems (AFIS), digital photo imaging, and many others at both county and state levels. In addition, in the late 1980's, law enforcement began embracing the personal computer and with the same expediency began applying specialized application such as narcotics, gang, and sexual assault systems.

Again, most of these efforts were generated outside the scope of traditional "records" management, and the divisions making use of them brought their own specific agendas to its use. CAD, for example, was often seen as a separate effort intended to benefit the Department's "radio" dispatch operations. There was no apparent understanding in the importance of interconnecting with the overall organizational work flow or information/records management systems.

Again, unintentionally, a major contributor to this decentralization, or fracturing, of records operations was the Department's designated or self proclaimed "technocrat." The term "technocrat" is most readily identifiable within a small to medium-size agency. In this context, the responsibility for systems-need analysis, acquisition and use of new technology is delegated to one or more persons in the department. Typically, the "technocrat" most likely has sworn officer status and has a major interest in and inclination toward the complexities of technology. Also, the technocrat

comes with little or no formal training in the area of records information systems administration.

Under ideal conditions, the "technocrat" has done an excellent job in managing information technology and has ensured that it has met the challenge of contributing to his/her organization's operational efficiency. Based on earlier discussions, the "technocrat," in this case, would clearly have understood the relationship of "information" systems and the principles of sound "records" management. The less successful "technocrat" would have been oblivious to the relationship of "information" and "records" management and acted more from his/her insatiable appetite for new technology.

INFORMATION MANAGEMENT

The first part of this section is devoted mainly to providing a historical perspective to the terms "records" and "information," specifically as they apply to the law enforcement community. It is very important at this stage that the readers understand that the today's conventional use of the term of "information" has its roots in the basic ideas of effective "records" management. Despite what term is used or how it is defined, the ultimate issue is one of management, particularly as it applies to knowledge.

In defining today's "information technology", there should be no assumption that knowledge is a direct product either of "records" or of "information systems." Similar to the manual processes of obtaining, storing and retrieval of a police report, the data or information contained therein has no knowledge value in itself. It is only after someone reviews the information and makes some observation(s) that knowledge is obtained. Similarly, an organization could have information technology with extensive data (reports), incredible speed, and massive storage capability but still not have the ability to use those systems to obtain knowledge.

Almost from the start, managers in both the private and public sector have complained that computers have contributed to information overload. Naisbitt, in further discussing the transformation from the industrial to the information society, states:

> **We are drowning in information but starved for knowledge.**
>
> ***This level of information is clearly impossible to handle by present means. Uncontrolled and unorganized information is no longer a resource in an information society. Instead, it becomes the enemy of the information worker. Scientists who are overwhelmed with technical data complain of information pollution and charge that it takes less time to do an experiment than to find out whether or not it has already been done.***[8]

One example is that knowledge in its simplest form can involve the officer out on patrol who, by chance, makes an early morning contact with a person acting suspiciously near a commercial retail building. Resulting from this contact and being aware that this person matches the name and description of a burglary suspect from the previous night, the officer can make an arrest. In essence, this officer could tie several pieces of information together and, with the "knowledge" obtained through that process, could contribute to the effectiveness of his/her organization. However, on a practical level, the knowledge base is limited to this single officer unless the information can be shared with the rest of the organization.

In view of a more sophisticated application of available technology, the officer's arrest contact would have stemmed from analysis and predictive modeling of known information, possibly a product of a crime analysis unit. This ideal situation would have made optimal use of existing personnel through work load analysis, contributing to the placing of the officer in the correct area to make the arrest. The officer's advance notice to be in a specific area would have been incident-based analysis of information that suggested that a burglary would most likely occur at a particular time and location. Once in the area, the officer might then witness the subject and establish through visual contact that the clothing and physical description matched that of a burglary subject from the previous night.

In this instance, the officer might not have had independent knowledge but instead received the information through his/her remote mobile data (information) terminal device. The officer, after acting on good probable cause, would have conducted a name inquiry on the person detained which readily revealed that the subject had a history of burglary, a federal parole violation on file, and search conditions specified. The officer now possessing new information would be inclined to further investigate the situation. In keeping with the subject's parole conditions, the officer could receive a DNA sampling and make a comparison/match with biological fluids received from the scene of the previous nights burglary. The eventual arrest, under these circumstances, could demonstrate the efficient use of information as a resource and effective law enforcement at its best.

The best-case example should suggest that the tasks associated with law enforcement are ideal for information collection, processing and analysis functions by both current and future technologies. Unfortunately, the above is not the case; according to the 1982 study conducted by the I.A.C.P. (International Association of Chief's of Police) few agencies that have computers use them for planning, and only 10% use them in innovative ways. In a study, as reported by law enforcement futurist, Dr. William Tafoya, 90% of the computers used by police agencies are used as little more than filing cabinets[9].

Over the last six months prior to this study, numerous interviews with police agencies within the San Francisco, California Bay Area suggest a negative and decreasing trend toward the use of information technology.[10] According to this informal survey, agencies that, during the mid to late 1980's, were pro-actively involved with the California's State CCAP (career criminal apprehension programs), have eliminated or drastically reduced their efforts in this information gathering and analysis effort. Agency representatives indicated that staff positions supporting traditional crime analysis functions have been transferred to other assignments within the organization, reclassified to other duties and all together eliminated. Once again, this area of records-keeping has suffered from the same conditions that existed under the tax revolt at the end of the 1970's.

THE EMERGING ISSUE:

INFORMATION - ECONOMIC RESOURCE

In looking back over the last decade and a half, one could easily become disillusioned with law enforcement's ability to properly manage its information. However, if law enforcement follows the same path as private industry, it will be from these difficult economic times that leaner, smarter and more efficient organizations are created. Law enforcement communities throughout the land will be forced to make the most out of their available and shrinking resources.

To accomplish the major feat of "doing more with less", the law enforcement executive must understand the value of "information" as an organizational resource. During the industrial age, which ended in the 1950's, law enforcement was only faced with working with the two basic resources of labor and capital. Depending on one's perspective, one can regard the new society as one being bombarded with an abundance of information or blessed with vast amounts of knowledge that increase at an exponential rate.[11] Law enforcement is faced with the same alternatives.

To accept information as a third and valuable resource is to acknowledge what economists, corporate executives and managers of the private sector are beginning to realize. Successful police managers must use their organization's information resources for problem-solving and decision-making. Information is at the core of creative thinking, which can lead to new ways of improving programs, processes, and alternative policing strategies. In business, the information resources of the organizations can have dual application - for internal operations and external marketing potential. The parallel for law enforcement would be to use information resources for work load analysis and external marketing geared toward community awareness and involvement.[12]

INFORMATION STRATEGY

In January of 1993, the Governor of California submitted a budget proposing a state-level information technology strategy that was provided as response to helping its

agencies meet increased demands for service. The State of California intends to employ information technology as a primary means of responding to the social, political and economic challenges of the 1990's. Central to the state's information strategy is the understanding that information is a resource and that there will be a need for this resource in implementing organizational change.[13]

In viewing the State of California's reaction to the prolonged economic recession, it seems only logical that the small-to-medium-size law enforcement agencies are at the same crossroads. It appears that the time has come, if, indeed, it is not long overdue, for law enforcement to develop its own "information" strategy that will carry into and beyond the year 2000. To that end, it is the intent of this writer to provide the framework in which new ground can be broken with respect to this issue and begin to examine the concerns that must be addressed if any progress is to be accomplished.

The search for an information strategy has determined that several key questions must be answered. These questions will no doubt focus on an understanding of the systems, technologies, funding resources and, most important, the personnel that will need to be in place to shape the desired future of tomorrow's records information systems. It will only be after law enforcement has re-engineered its records systems that it can achieve the goals of its earliest founders and establish an "organizational mind" that will allow it to be successful in today's information society.

SECTION II: FORECASTING

FORECASTING

METHODOLOGY

Few managers will argue that the success of any program or effort must include a "plan". Depending on its complexity, the plan should necessarily require the use of various tools or methodologies that are results-oriented. It is from this "plan" that individuals are more likely to shape their desired objective. In looking at the component parts of a "plan", the success will frequently be decided by the amount of effort that is given to its research. Simply stated, futures research is a means of identifying and articulating alternatives through a process that includes forecasting. Forecasting is an aid to decision-making in the present and, thus, offers a planner some reasonable control of his/her destiny.[14]

The developing of this study's long term strategic plan was accomplished with a futures research model that was divided into six parts. The research components have included: Phase I - the identification of the project issue and sub-issues with potential relevant trends and events, Phase II - the distillation of five (5) trends and events determined to be most relevant to the issue, Phase III - the forecasting of the identified trends and events, Phase IV - the cross impact analysis of the trends and events, and Phase V - the creation of scenarios that ultimately contribute to the policies that will provide direction for a strategic plan.

PHASE I - SELECTION OF ISSUE QUESTION

In selecting an issue question for this research project, the primary objective was to address a concern that was currently facing law enforcement and an emerging issue that could benefit from a sound strategic plan. This writer's involvement with numerous regional Technical Advisory Committees (TAC) and information technology projects provided an excellent forum and opportunity to identify an issue that might benefit the law enforcement community at large. Interestingly, it was from the interviews and feedback of the various TAC members that this writer was encouraged to examine the broader issue of managing of information.

Therefore, this project has purposely avoided the tendency to focus on any one technology issue, i.e., data communications, lap-top computing, voice recognition, etc. and instead will examine:

> ***"What will be the future of records/information management for small to medium law enforcement agencies by the year 2000?"***

Peer members from the TAC groups were also helpful in further identifying the following sub-issues that they felt would contribute further to clarifying the primary question.

> ***How will law enforcement identify and address the technologies that have and will influence the future of law enforcement records management systems?***

How will law enforcement continuously acquire and maintain resources to effectively manage the future of records management systems?

What kind of personnel resources must be in place to ensure optimal operational productivity for the future of law enforcement records management systems?

DETERMINATION OF TRENDS AND EVENTS

The first step in the forecasting process was to assemble a panel and, with the use of a Nominal Group Technique (NGT), trends and events were identified and ultimately given a probability and forecasted. The members of the panel were selected based on the need to discuss and generate ideas from a wide perspective. The make-up of the panel (appendix A) included; a city council person, a CEO of a small technology firm, a police middle manager, a city MIS (manager of information systems) a civilian (non-sworn) records supervisor and a training consultant.

The group was next shown a chart (Appendix B) illustrative of the how events and trends can shape policy and ultimately help in managing for the future. The panel members were then introduced to the issue and sub-issues as previously discussed and given a brief presentation on how their examination of these topics could lead to the development of a strategic plan. Panel members were also given a brief

understanding of the NGT process and assured that their individual participation was just as important as the group effort. To quote a cliche, "There were no right or wrong answers," to this information gathering process.

To facilitate the gathering of information, a "round-robin" approach was used to collect ideas and develop a number of possible trends and events. The round-robin system is basically an interactive technique with a moderator or leader who collects one idea at a time from the group in an orderly fashion. The round-robin method is a good vehicle for allowing equal participation and increasing group creativity.[15] Prior to beginning the round-robin recording of events and trends, the group members were shown a chart (Appendix C) defining each term and encouraged to refer to it as they began developing their listings. The panel members were also asked to consider their discussion and listing of trends and events in terms of their likely relationship and/or effect on the issue/sub-issues. Finally, before beginning the NGT process, the group members were instructed to view the issue/sub-issues in broad terms through the STEEP (Appendix D) model.

It was with the aid of the STEEP model that the group members could examine the issue and sub-issues from social, technological, environmental, economical and political perspectives. Ultimately, the panel produced twenty (20) candidate trends (Appendix E) and thirty-four (33) candidate events (Appendix F). The panel worked through the list of trends and events until they could produce clear and concise

definitions with particular attention to ensuring that the trends were non-directional. This panel then took a vote using an independent process to rank order the list of trends and list of events according to their anticipated impact on the question issue/sub-issues.

PHASE II - TREND / EVENT SCREENING

The panel was then asked to priority rank the candidate trends and events and reduce them to a number workable for this study. The panel members were requested to consider their rankings in terms of the issue and, for purposes of strategic planning, consider the trends value in producing a good long-range forecast. In terms of desired events, the panel was asked to consider items on their list that could likely be affected by sound policy decisions.

TREND PRIORITY RANKING

TREND 1 - LEVEL OF NEW GOVERNMENT FUNDING (T1)

This trend involves the fact that the funding for records management and information technology has typically been dependent on new government funding sources, and in most recent years, largely with the support from the tax paying communities to address critical community issues, crime analysis, e.g. "war on drugs" and gang identification.

TREND 2 - LEVEL OF RELIANCE ON NEW TECHNOLOGY (T2)

Trend 2 involves the use and level of reliance on new technology in carrying out the day-to-day task of records information management. In more recent

years, agencies throughout the nation have begun to rely on information management systems to aid them in police dispatching activities, records data collection and reporting, statistical reporting, etc.

TREND 3 - LEVEL OF REGIONALIZATION (T3)

This trend involves a level to which City, State, and County governments have looked to regionalization as an alternative means of improving operational efficiency through the use of information management systems, e.g., CAL-ID. More recently, the creating of a California data base for the storage and comparison of latent fingerprint images has been a demonstration of how organizational and political structures through out the State could come together to achieve technological excellence.

TREND 4 - LEVEL OF COMPUTER LITERACY (T4)

Trend 4 addresses the fact that within today's society there is a changing level of understanding specific to the use of computers and dependent upon one's exposure. This trend recognizes that, to the degree line personnel and managers are exposed to computer technology, there will be a direct correlation to their use and ability to manage related issues.

TREND 5 - LEVEL OF HUMAN FACTORS CONCERN (T5)

This trend addresses the fact that there should be a certain level of concern for the human interaction between a worker and his/her working environment. Human factors concerns at its simplest level could be the need to develop suitable work stations for clerical and dispatch personnel whose primary purpose is data entry of information into a computer. The current work station interaction normally incorporates ergonomic designs with specific attention to work surface height, equipment positioning, lighting, and sound.

Future human factors concerns could consider applications design with attention to data element size and layout, appropriate colors for directing or alerting a desired action, key board configurations and design, etc. The more advanced considerations for human factors concerns will look to the ramifications of applying artificial intelligence, or expert systems, in the use "knowledge" systems.

EVENT PRIORITY RANKING

EVENT 1 - MULTI-MEDIA INFORMATION APPLICATION (E1)

The panel determined that a vendor of information systems would eventually release a multi-media application for law enforcement "records management" that would fully integrate the technologies of data, text (word processing), photographs, video and voice imaging. The panel members felt that vendors

were currently on the verge of releasing the different media applications as separate products, i.e., digital photo capturing, lap-top reporting, voice recognition, on-line document storage systems, etc., but to-date, no one vendor has offered the total solution.

EVENT 2 - ESTABLISHMENT OF "BAY VIEW COMMUNICATIONS AND INFORMATION CENTER - BVIC" (E2)

The panel determined that several or more local city police municipalities could join to form a regional center for the collective handling of dispatch communications and records management which would include the tasks of: data collection, reporting, distribution, retrieval, analysis and storage of related information.

EVENT 3 - TECHNOLOGY RELATED INJURIES (E3)

It was determined that work-related injuries associated with the use of technology could become classified as the number two (2) occupational hazard, e.g., carpal tunnel syndrome[16], for clerical employees by the State's Disability Insurer. The panel also considered that similar technologies, e.g., in-vehicle (mobile data terminal/lap-tops) systems, could in-directly contribute to officer injuries through accidents caused by their use while driving.

EVENT 4 - EXPERT SYSTEMS (E4)

The panel believed that the fully integrated multi-media systems identified in Event 1 could be complimented by the advanced application of expert systems. The panel members agreed that with the exponential increase of data or information, will come the demand for better systems for providing "knowledge". In terms of the law enforcement applications, the panel believed that a vendor would incorporate "knowledge" technology that would assist in report review, routing, and real-time analysis of criminal pattern activity tied into an interpretation of work load distribution needs.

Hypothetically, the panel described a system that would review an officer's report to ensure that he/she had correctly established the corpus (elements) of the crime or incident being reported. The "knowledge" system would also, supported by the contents of the report, determine who should receive action or information, and after properly making an electronic routing, would later track its status within the system. Information contained in the report, based on key word indexing, would also be interpreted, assisting in the areas of crime analysis, workload allocation, and training needs identification.

EVENT 5 - POST INFORMATION MANAGEMENT TRAINING (E5)

The panel suggested that POST (Commission on Peace Officer Standards and Training) could adopt a mandatory requirement that a twenty-four (24) hour

block of training, in the managing of information systems and technology, become a requirement for all California police officers receiving a management certification. This training would be similar to the requirement by major universities offering business degrees necessitating course work in information systems management.

PHASE III - TREND/EVENT FORECASTING

TREND FORECASTING

The panel, with their combined expertise, then assisted in examining the selected trends for the purpose of determining their likely futures. In order to facilitate this process, the members used a trend evaluation form that was chartered with the information that was collected from them. The trend evaluation chart establishes "today" (the present) with a numerical value of 100. The ratio of "0" would indicate that the trend did not or no longer exists for the period in question. There are no upper limits to the scale.

The forecast chart reflects past estimates (five years ago) and futures estimates at three (3) and seven (7) year projections. In many forecasting models, it is recognized that the years for futures trend level projections are normally established at five (5) and ten (10) years ranges. However, the panel made the observation that, with the particular interconnection with technology, the rapid advancements in this area were more accurately viewed from within shorter time ranges.

In charting the information, the panel was asked to provide both a nominal and normative forecast of each trend. They were instructed to view the ***nominal*** forecast as the ***"will be"*** estimates based on the assumption that current forces in place will continue to operate and affect the future consequence. Conversely, the panel members were asked to consider the ***normative*** forecast as a ***"should be"*** projection that, within the scope of good judgement could provide a reasonable expectation of reaching specified goals for the future. The individual projections from each panel member were charted into one table (Table 1) and depicted by the median scores for both nominal and normative trend forecasts.

TABLE 1

TREND STATEMENT (Today = 100) (abbreviated)		LEVEL OF THE TREND **			
TREND #		5 Years Ago	Today	3 Years from now	7 Years from now
T1	LEVEL OF NEW GOVERNMENT FUNDING	150	100	90 / /200	95 / / 500
T2	LEVEL OF RELIANCE ON NEW TECHNOLOGY	35	100	200 / / 300	340 / / 450
T3	LEVEL OF REGIONALIZATION	15	100	200 / / 350	300 / / 500
T4	LEVEL OF COMPUTER LITERACY	40	100	150 / / 200	200 / / 530
T5	LEVEL OF HUMAN FACTORS CONCERN	25	100	220/ / 310	275 / / 590

Panel Median N=6

"will be"/
/"should be"

TREND 1 - LEVEL OF GOVERNMENT FUNDING (T1)

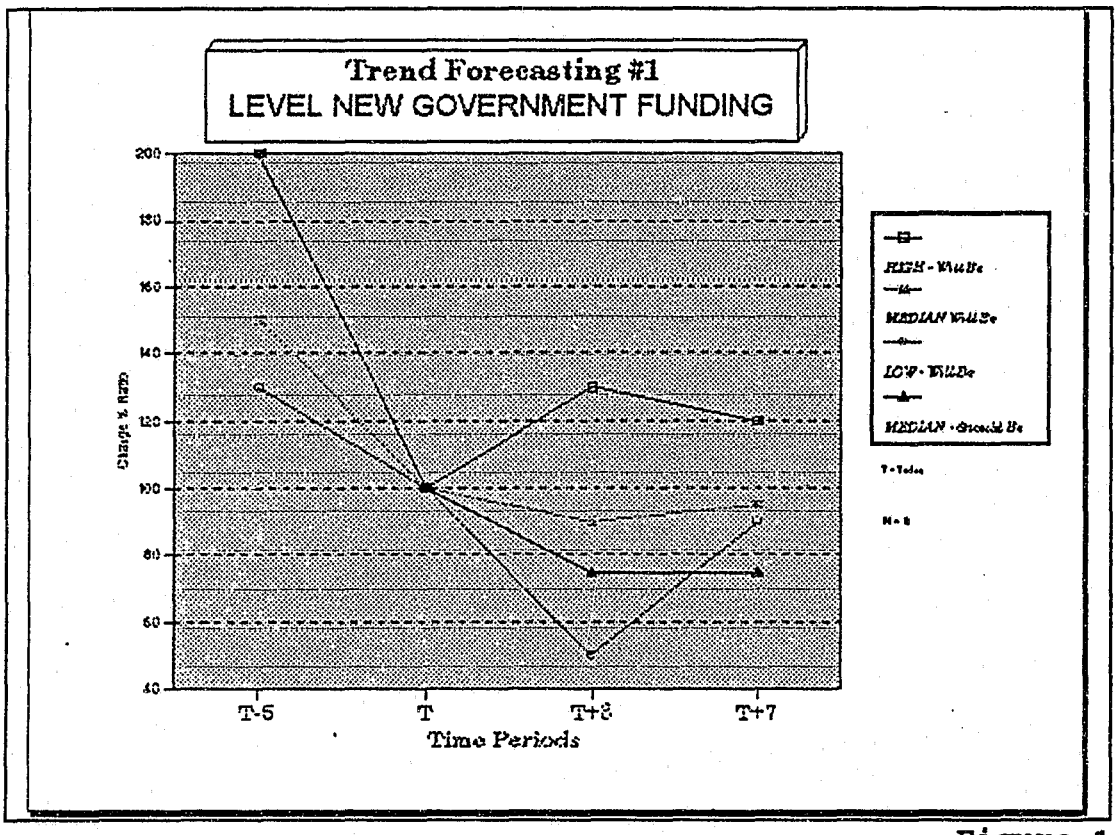

Figure 1

In looking to the amount of new government funding that was available five years ago, the panel members all agreed that there was more than compared to today. In all but one case, the panel members forecast that, within the next seven years, "new" government funding would be les than that of today. The panel indicated that within the next seven years, law enforcement would have to extend the "lief" of its existing technology or look to more creative ways to fund their needs. In terms of what should occur, the panel members indicated that new governement funding should double over the next three years and five times as much by the year 2000. In general, the panel members expressed that investments in the information technology could contribute to agencies doing more-with-less and otherwise optimizing their personnel resources. Figure 1 is a graphical representation of the data and comparisons received from the panel members.

TREND 2 - LEVEL OF RELIANCE ON NEW TECHNOLOGY (T2)

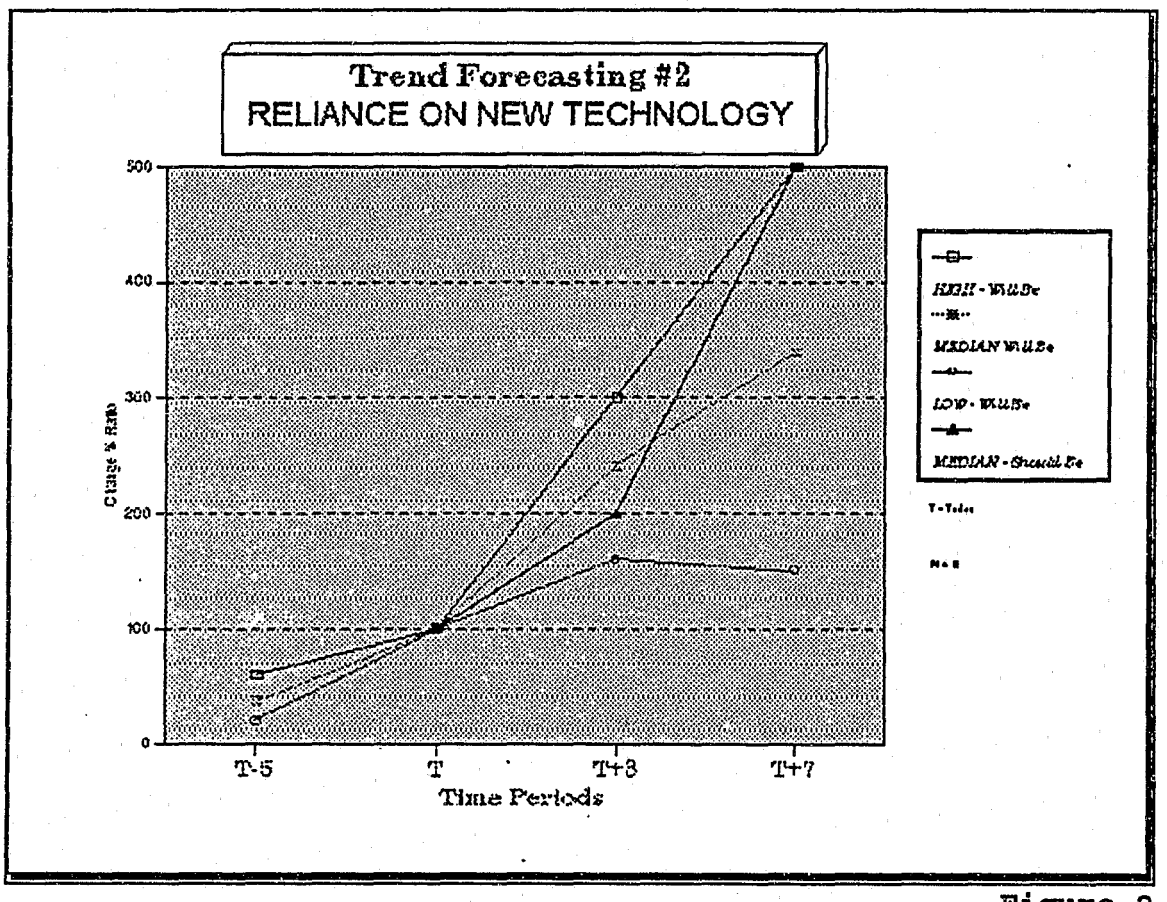

Figure 2

The members forecasted that over the next three years, the reliance on new technology would be more than double, and by the year 2000 would be nearly three and one-half times greater than today. The panel indicated that the reliance on new technology would come primarily from an increasingly sophisticated worker, demands for reducing personnel operating costs and escalating costs for the support/maintenance of older information technology. The panel's forecast was not significantly different from the expected to the normative - "will be" with each being relatively high. Figure 2 is a graphical representation of the data and comparisons received from the panel members.

TREND 3 - LEVEL OF REGIONALIZATION (T3)

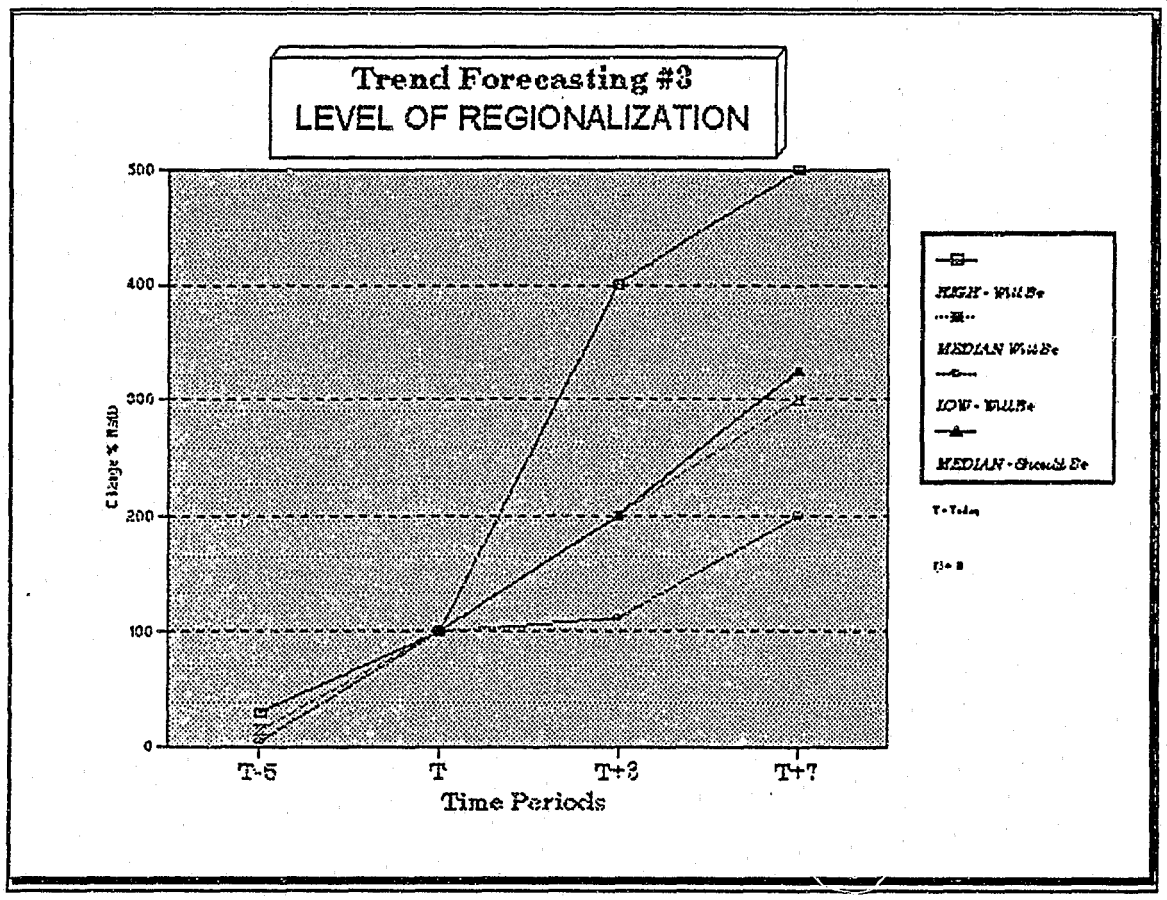

FIGURE 3

The panel members were very close in their estimates which suggested that that the level of regionalization five years ago was significantly less that it is today. The median scores in both the nominal and normative forecast provided a good deal of support for the future of regionalization. Although all panel members indicated that the level of regionalization will and should increase, there was a fairly large range of scores. In analyzing this broad range, the panel members identified that the decision or support of regionalization is often not a matter of economics or operations but instead a personal or political ambition for a person or organization, and they acknowledged that the scores were possibly reflective of this consideration. Figure 3 reflects a graphical representation of the data and comparisons received from the panel members.

TREND 4 - LEVEL OF COMPUTER LITERACY (T4)

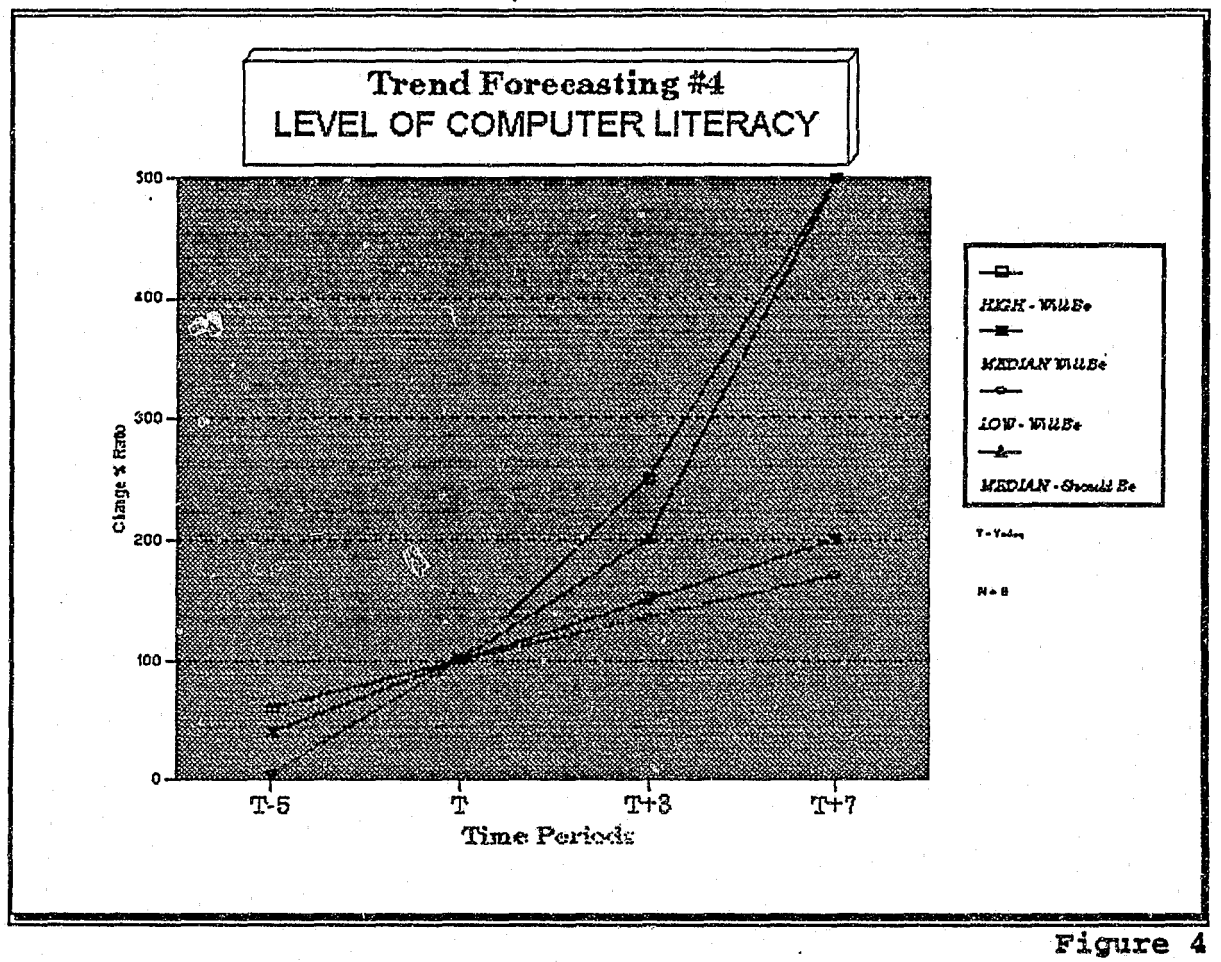

Figure 4

The panel members provided data indicating that the level of computer literacy five years ago was less than half of what it is today. The members forecasted that within three years, the level would increase one and one-half times, and by the year 2000, would double. The panel members were fairly close in their agreement that the level of computer literacy over the next three years should actually be one-half times more than the "will be" estimates. In looking to the year 2000, the panel agreed that the ratio should double its previous level.

In examining the nominal - "will be" ratio in the year 2000, there was a marked difference from the median to high score. The discussion from the panel revealed that at least one member believed that the complexities of technology would continue to escalate. However, the majority of panel members believed that the use and technical understanding would be offset by the design of systems that would truly be "user friendly." Figure 4 is a graphical representation of the data and comparisons received from the panel members.

TREND 5 - LEVEL OF HUMAN FACTORS CONCERN (T5)

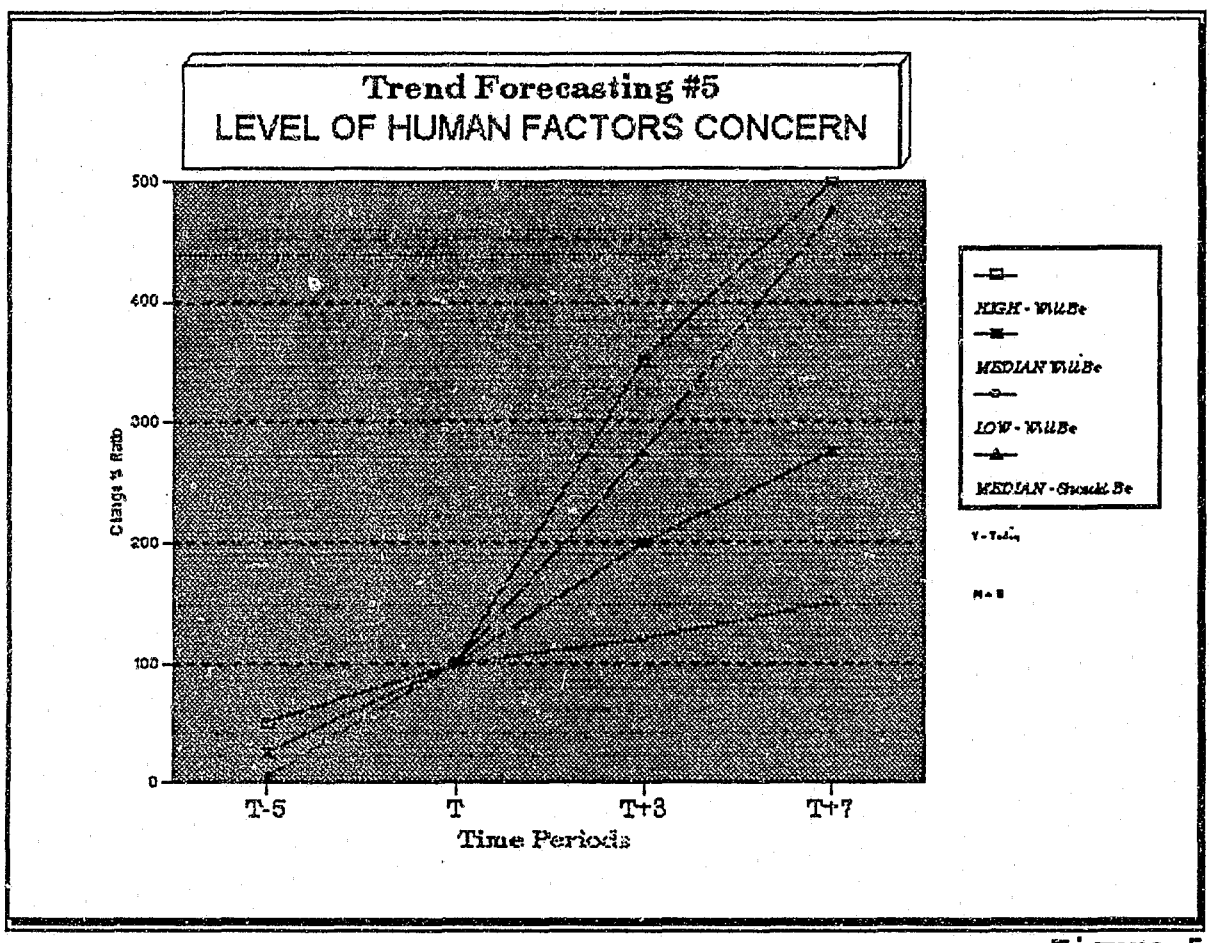

Figure 5

The panel members were generally unanimous in their estimates that which suggested that the level of human factors concern with the use of technology was 25% of what it is today. The panel members were in agreement that law enforcement was becoming more aware of the issues surrounding the use of technology and forecast that, within three years, the level would increase substantially and continue at a slightly higher rate into the year 2000. The panel also indicated that the ratio of increase should actually be much more than is expected and particularly in the year 2000. The panel indicated that within the next three years the human factors concerns would focus on the physical interaction of people and technology. However, the panel believed that the complexities of humans interacting with technology should require greater human factors research which will consider the more cognitive and psychological aspects surrounding the use of technology. Figure 5 is a graphical representation of the data and comparisons received from the panel members

EVENT FORECASTING

The panel also forecast five events, evaluating them relative to their probability of occurrence at three years and at seven years from today. On the probability scale, "0" indicates that the considered event will not happen by the established time limit. On the upper limit of the scale, "100", would indicate that the event will definitely happen by the established time limit. In addition, the event forecasting identifies the analyzed positive and negative impact on the central issue of this study. The individual projections from each panel member were charted into one table (Table 2) and depicted by the median scores.

TABLE 2

EVENT #	EVENT STATEMENT (abbreviated)	YEARS UNTIL ABILITY FIRST EXCEEDS ZERO	IMPACT ON THE ISSUE AREA IF THE EVENT OCCURRED			
			3 Years From Now (0-100)	7 Year From Now (0-100)	Positive (0-10)	Negative (0-10)
E1	MULTI-MEDIA INFORMATION SYSTEMS	1	65	90	9	1
E2	BAY VIEW COMMUNICATIONS & INFORMATION CENTER	2.5	60	95	9.5	.5
E3	TECHNOLOGY RELATED INJURIES	2.75	65	85	1	9
E4	EXPERT SYSTEMS	3.75	85	95	8	2
E5	P.O.S.T. INFORMATION MANAGEMENT TRAINING	3	60	95	9	1

EVENT 1 - MULTI-MEDIA INFORMATION APPLICATION (E1)

The panel forecast that, based on the rapid advancements with multi-media technology, the abilities of this event to first exceed "0" could be within the first year. Moreover, the group forecast that there was a 65% probability that it would occur in the next three years. The cumulative forecast of 90% over the next seven years suggests that it is only a matter of time before a major manufacturer targets and successfully develops a fully integrated information system including the technologies of data (text), sound, photo-imaging, video-imaging, and with mass storage capabilities. The panel agreed that law enforcement "RMS" (records management systems), as we know them today, and their associated hardware technology, would be virtually obsolete.

EVENT 2 - BAY VIEW INFORMATION AND COMMUNICATIONS CENTER - "BVIC". (E2)

In forecasting this event the panel indicated that, given existing economic conditions, there was a 60% probability that this event would occur within the next three years, and by the year 2000 there could be a 95% likelihood of the event occurring. The panel saw this event as a very positive occurrence and, of all the events, rated it the highest. It was interesting to note that the panel members made the observation that the moving force in creating BVIC would be the economic considerations, and should the economy improve, the creation of this regional effort would not happen. The panel members expressed that absent an economic crisis, decision-makers on this issue would continue to

shape their directions on this matter based on political considerations, despite the operational and economic benefits.

EVENT 3 - TECHNOLOGY RELATED INJURIES (E3)

The panel, in forecasting this event, determined that there was a 65% probability that it could occur within the next three years and a 85% probability that would occur by the year 2000. In forecasting this event, the panel agreed that the incidents of technology-related injuries could actually be influenced by the awareness and classification in reporting. A panel member, by way of example, cited that during the 1970's, increased sensitivity training for officers in the area of sexual assaults resulting in increased "reporting", thus, reflecting a substantial statistical increase that was more reflective of the number of actual incidents.

EVENT 4 - EXPERT SYSTEMS (E4)

The panel members provided an aggressive forecast for this event as suggested by their indication that there was a 85% probability that expert systems would be deployed in law enforcement within the next three years. Equally as optimistic was the indication that by the year 2000 there would be a 95% probability that this event would occur. Even though the panel members were optimistic that this event would occur, they estimated that its ability to first occur would not take place until well into the third year of the period in question. The panel described that the event would come in the form of a

major announcement from a vendor who would distinguish themselves from the traditional RMS and CAD providers.

EVENT 5 - POST INFORMATION MANAGEMENT TRAINING (E5)

The panel was not overly optimistic that, over the next three years, POST (Commission on Peace Officer Standards and Training) would implement a block of MIS (management of information systems) instruction within its management certification program and, therefore, gave a probability rating of 60%. However, the panel members indicated that by the year 2000, POST would recognize the value of this training and reflected their confidence with a probability rating of 95%. The panel members discussed that the shift in attitude towards this training would be driven by a "change of the guard" within local law enforcement and POST over the next several years.

PHASE IV - CROSS-IMPACT ANALYSIS

Furthering the forecasting process was the utilization of a cross-impact analysis technique. In brief, the technique involved a selected group of individuals familiar with records management and new technology. This group included; Mr. Chuck Davis - CEO, Applied Media Technologies, Commander Joe Aita - San Pablo, CA Police Department, and Mr. Jeff McCormick - Wang Laboratories. The group was charged with assessing how specific events positively or negatively influenced trends and the probability of other events occurring by the year 2000. A basic Cross-Impact Evaluation chart (Table 3) was utilized to reflect the results of this analysis.

TABLE 3

CROSS-IMPACT ANALYSIS FORM

MATRIX													ACTOR
IMPACTED EVENT	IMPACTED EVENT						IMPACTED TREND						
	E1	E2	E3	E4	E5	E6	T1	T2	T3	T4	T5	T6	
MULTI-MEDIA INFORMATION SYSTEMS	XX	0	0	0	0	0	0	-20	0	0	0	0	1
BAY VIEW COMMUNICATION & INFORMATION CENTER	-55	XX	+20	0	+20	0	-25	-75	+75	-5	+25	0	9
TECHNOLOGY RELATED INJURIES	0	+40	XX	0	0	0	-40	-65	+10	-55	+60	0	6
EXPERT SYSTEMS	-20	0	0	XX	0	0	-40	-30	+10	0	0	0	4
POST INFORMATION MANAGEMENT TRAINING	-20	0	0	0	XX	0	-20	-10	+75	-10	+30	0	6
VOICE RECOGNITION PRODUCT FOR L.E.	-70	0	0	0	0	XX	-75	-85	+55	-40	+30	+70	7
REACTOR	4	1	1	0	1	0	5	6	5	4	4	1	

LEGEND:
Trend 1 = LEVEL OF NEW GOVERNMENT FUNDING
Trend 2 = RELIANCE ON NEW TECHNOLOGY
Trend 3 = LEVEL OF REGIONALIZATION
Trend 4 = LEVEL OF COMPUTER LITERACY
Trend 5 = LEVEL OF HUMAN FACTORS CONCERN

PHASE V - SCENARIOS

Resulting from the Nominal Group Process, the important but loosely connected data was synthesized into three scenarios with the express purpose of providing a foundation for future policy consideration. In working through the forecasting phase with the NGT panel, their discussion provided excellent background for presenting the alternative futures in the form of exploratory, normative, and hypothetical modes.

The first scenario is presented in exploratory mode which is essentially a "play-out" of forecasted events as having not occurred and is relatively "surprise free". This exploratory scenario reflects the impact of current forces, policies, and anticipated trends as the "will be" forecast for the future of records management and information technology. In the second scenario, the normative mode is reflective of a "feared but possible" interpretation of the trends and events forecasted. In this normative, or "worse case", scenario, what can go wrong does go wrong. In the final scenario, a more positive perspective on this issue is provided in a hypothetical mode, or "What if..," format. It describes a future influenced by good planned intervention and a conscious decision to affect organizational change based on the knowledge gained from its information bases.

The setting for the three scenarios occurs just after the turn of the century and involves the San Cristobal City Police Department which is considered a medium-sized local law enforcement agency by California standards. The City of San

Cristobal is located in the metropolitan suburban area of the San Francisco East Bay, within the County of Ygnacio. The city responsibility covers roughly (40) square miles, and is bordered by the bay waters of San Francisco and the jurisdictions of four smaller city agencies that provide their own policing functions.

The City has a widely diverse socio-economic community. This diverstity is represented by the Chevron USA refinery as its largest employer and PIXAR a provider to Lucas Films. In addition, it has the prime waterfront properties in Point San Cristobal, an economically depressed inner City area. Unfortunately, the City is probably more widely known for its violent crime problems that directly affect less than 20% of its community but accounts for the largest drain on its emergency services resources.

San Cristobal has a sound City Manager form of government with a reasonably strong direction from a relatively cohesive City Council. The Council is fairly representative of its communities and plays an active role in County-wide issues, while frequently playing a lead role in protecting the better interest of the west county. The County of Ygnacio, for all practical purposes, is economically, geographically, and politically divided into three areas of influence; west, central and east. In recent times, central county and its contingency have been more influential in matters affecting the county as a whole. The Council, over the years, has been strongly supportive of its Police Department and in spite of continued difficult

economic times, has done its best to provide, the Department with the resources to complete its mission.

EXPLORATORY ("SURPRISE-FREE") MODE

It is Monday morning, on the 3rd of January in the year 2000, about 8:00 a.m., Chief Elbert Daniels is reviewing the newspaper reflecting the weekend's activity. In scanning the newspaper, Chief Daniel's attention is taken by an article announcing that former police Captain A. Johnson has announced that he will not be campaigning for City Mayor as originally planned. In glancing through the article, Chief Daniels has cause to reflect on how much "things" have changed since Johnson left in 1993, but again how much "things" are still the same.

Daniels remembers that about the time that Captain Johnson left, he, himself, was a Captain and very much interested in filling the position of Chief Clemente, who, at the time, was beginning to look toward retirement. Chief Daniels recalls that the last years for Chief Clemente were particularly difficult, and that he was under a great deal of pressure from both internal and external sources. Daniels recalls his own frustration with the former Chief, but now wonders if he was overly critical, particularly since he is now having many of the same experiences.

Although Chief Daniels recalls his involvement in implementing the then popular model of local law enforcement, known as community oriented policing, the fanfare

has long since left and, for the most part, the problems that it attempted to address still exist. The Chief looks over his shoulder at his library and notes the books that were written on Community Oriented Policing. Next, he looks to his desk where one of his Captains has left an article in that month's *Chief of Police*, praising a "new innovative policing model" employing law enforcement to participate with the private sector in resolving socio-economic problems. The Chief grimaces and thinks to himself, "Isn't this another form of community oriented policing and shouldn't we be doing this under our existing program?"

Chief Daniels, at 9:00 a.m., attends his weekly Monday morning staff meeting with his Captains. The Chief thinks to himself that he always meant to change the staff meetings to Friday after Chief Clemente retired but somehow never got around to making the change. The Chief continues with his meeting and notices that his staff appears apathetic as he begins to review pending staff items. Once again, the Chief reflects back on his predecessor, who was often faced with a similar attitude from his staff. Chief Daniels rationalizes that the difference is that he has inherited a staff who, but with one exception, will be retiring in the next couple of years.

The items of the week include complaints from the contract Cities regarding dispatch services now contracted with San Cristobal and indications that they may be going to the County for this service. The Chief questions Captain Patton, who quickly reminds him that it was always his recommendation that they not consolidate

dispatching in 1993; that the department would create a "no win" situation by doing so. Captain Patton continues, "The problem is simple; we're short of dispatchers with another one out on disability, supposedly because of ear damage caused by prolonged use of outdated headset equipment." Captain Patton recalls to himself that, initially, dispatch was to be the catalyst for other regional efforts that never came to fruition. Patton also recalls that dispatching was once a strong information source for the Department but for one reason or another, fell short and has been relegated to no more than a officer/unit status system.

Captain Patton also reports to Chief Daniels that the 15 year-old computer-aided dispatch system is long overdue for replacement and is constantly out-of-service and lacking the disk storage space to maintain the on-line and historical data that is desired. Captain Patton explains to the Chief that he understands there is a lot of new technology available to improve dispatching, but if he can't replace what they have with current funds, he is reluctant to request new funding.

Patton also remarks, "...and besides, even if we had the money, who would we have to do the projects? Seven years ago, we had Lieutenant Fry, who was interested, and largely responsible, for bringing us to the twenty-first century with our information systems, but I don't think he'd be interested now. Fry is disappointed, if not openly critical with what he perceives to be a mis-management of information systems. Frankly, his criticism may be right, but the fact remains that we just don't have the

personnel with the background, expertise, interest or motivation to handle any new projects."

Chief Daniels, who was distracted for a short moment by thoughts of his own retirement, asked Captain Patton to prepare a memorandum for him that outlines basically what the problems are and make any recommendations for improving the situation. Captain Patton agrees to Chief Daniels' request but not before commenting that he's not optimistic that the letter will change anything, and that the Chief should have listened to him when he first warned against consolidation.

NORMATIVE (FEARED & POSSIBLE) MODE

In this second scenario, the setting and interaction with Chief Daniels are essentially the same but the problems are even more acute. Instead of the regularly scheduled Monday morning meeting, the Chief has called a special gathering to discuss several matters that he believes are placing his position in jeopardy. The Chief feels that he has tried to work with his staff over the years but now believes that there is a conspiracy to have him fail so that he will be replaced.

The Chief begins his meeting by reporting that State OSHA (Occupational Safety & Health Administration) will be conducting a site visit of the Police Department to investigate the working conditions of its clerical and dispatch workers. The Chief seems perplexed that there is a problem that needs investigating and asks for an

explanation from Captain Patton, who is the Commander of the Special Services Bureau. This particular Bureau has responsibility for records and communications with its civilian supervisors reporting directly to the Captain. There was a time when these two sections and crime analysis reported to a division that was referred to as Technical Services. The Technical Services Division was created under the former Chief, following the concept that all records operations (including dispatch) and information technology programs would be best served by a single point of accountability and supervision.

Patton reports, "Well Chief, I've been saying for some time that we need to update our equipment. Only a few days ago, I told you about the head sets that dispatchers are complaining about." The Chief becomes even more agitated with having little warning on the problems that OSHA would be investigating and questions Patton as whether he's aware of any other potential issues. Captain Patton replies "Yes, I understand that dispatchers and clerical personnel are both concerned that the old monitors they are using are releasing some type of radiation. Also, the old style of work stations have inadequate lighting and key boards which, according to them, are contributing to further injuries. Oh! I think OSHA may also be looking into complaints from officers about the placement and design of the older MDT's which they believe contributed to the recent fatal vehicle accident of Officers Taylor and Winston?"

Captain Patton goes on to say, "Chief, I know you're upset, but remember these are not new issues, and as far back as when you were commander of Special Services, the issues were there and their potential impact was already facing us. In fact, you'll recall how pervasive a problem we had and still have with report transcribers being out due to that carpal tunnel syndrome injury problem. The problem back then was that we didn't have the technology to deal with the problem, and now that is exists, we just don't have the money. I hate to make bad news worse, but maybe we ought to be as concerned about the civil ramifications?"

The Chief retorts by asking Patton to expedite his previous report on the problem with dispatchers on the headset issue and include any other potential issues. The Chief then informs staff that the rumors that contract cities will be dropping agreements for dispatching the next year has been confirmed and the City Manager wants an immediate explanation. The Chief also advises that the fire agencies, including the City's, are campaigning to have County Consolidated Fire take over their dispatching and no longer want to contract with police for this service. The City Manager has indicated that if this occurs, he will have to cut back at least 40% of our resources towards this effort. The Chief warns that if this happens, he will have no choice but to go to the County and ask that they take over his own operations. Captain Patton remarks that to have the County take over dispatching will be a mistake, but acknowledges that without proper funding, equipment or sufficient

people there may not be much choice. Patton expresses, "You just can't make a silk purse out of a sow's ear".

Then Chief continues with the next item and begins by declaring, "Well, let's move onto a different matter". The Chief explains that at a meeting he attended with the District Attorney he was approached informally and basically told that the quality of investigations from San Cristobal was not up to its long standing reputation. Captain Chuck Larimer becomes mildly defensive and reports that according to his detectives, the quality of preliminary investigation from patrol operations are compromising the timeliness of follow-up investigations. Captain Larimer also advises that in some cases his detectives don't even learn of an event until days after the actual incident often too late to do any good in following up with leads. Additionally, detectives no longer have the luxury of spending needed time on investigations because there busy with documentation.

The Chief remarks swiftly, "O.K., but what's the problem?" In a sheepish manner, Captain Larimer looks to Captain Patton and reluctantly says, "Well, for whatever reason, there seems to be a bottle neck within Special Services and its records operation." To this statement, Captain Patton proclaims, "Sorry Chief, I guess it's back to me but the problem is, once again, not enough people, outdated equipment, and a lack of funding to do what we need. It's been nearly two years since we all but had to shut down the "call-in" and transcribing of police reports from the field and,

for the most part, on all but homicides cases from detectives. The good news is that we're only a month behind on our BCS/UCR (State & Federal Statistical) reports and only a week behind on moving vehicle citation entry.

Finally, having rarely commented on this issue, Captain Romo offers, "Chief, with all due respect, this situation isn't really any one person's fault and probably didn't happen over night. You'll recall that it wasn't too many years ago that we were a model agency for good police work at every level and no less a part of our success was the information that we had available to us. During those days we had one of the most expansive records systems. It was reflective of the people and technology that supported it. Since then, little of the report information gets entered into our main system and crime analysis and its MORO (Major Offenders Resource Officer) became virtually non-existent after the reorganization in 1993.

Captain Art Romo continues, "There used to be a time that an officer on the street could readily access an a.k.a. for any known offender and all parolees, sex registrants, drug registrants and felony violent probationers were on-line to an officer from his mobile data terminal. The ability for an officer to conduct a vehicle search on a partial license plate or limited descriptive information is no longer possible because the information is either not entered or our information systems are too slow and cluttered with an over-abundance of non-essential data. Now, those data bases don't exist centrally, instead they are held separately by officers who maintain information

on their individual hand-held computers. It's not the most ideal situation, but when records personnel were no longer available to handle complete data entry, they basically took on the task themselves."

Romo states, "In all fairness, we're not unique in this regard, and we only need to look to our neighboring agencies who have long ago experienced the same problems we're facing only now. Elkington never did install their CAD system, and under a manual operation, frequently staffs their dispatch operations with sworn personnel. Also, given their limited records information operations, they don't contribute to the ACCJIN (All County Criminal Justice Information Network) and, like most of the Cities agencies, are rumored to be dropping out of the CAL-ID program which will shift their shared costs to agencies of our size.

Likewise, El Pueblo and Nottingham P.D.'s have finally shut down their automated information system and are constantly on the phone with our people to obtain their investigative leads. It's hard to say no to them, but that's exactly what we may have to do. In terms of the goals to establish county-wide booking, warrants, alpha and access to the courts system under ACCJIN (All County Criminal Justice & Information Network), they never happened and basically we have a high speed communications highway that is grossly under used. The State's narcotics information and regional gangs systems are also useless because no one has the data entry personnel to support the needed contribution of information. In hindsight, that

was probably predictable at its inception but everyone seemed to be doing their own thing. Also, do you remember Central County LINK's project? Well, it's my understanding that it never really did get the use that was expected and eventually that tri-city information network was abandoned."

Captain Romo concludes, "Somewhere and somehow, we lost our ability to properly manage our records systems and our information technology. In fact, I'm not sure that we really ever understood what we were doing and I question whether we had a good information strategy from the beginning. Over the years, I'm afraid that we have taken for granted what we had, and the impact has been to seriously compromise our ability to effectively and efficiently conduct our preliminary and follow-up investigations. Until now, I hadn't given it any thought, but, like the private sector, we're a business that is incredibly dependent upon information. In this respect, we have apparently neglected this valued resource that was once the basis for our organizational knowledge."

After a long pause, the Chief says, "Art, I'm afraid you're right. I do remember the days when we prided ourselves with having state-of-the-art technology, but more importantly, what we really had was good information systems that were enhanced by the operations, technology and people that made it work." The Chief then turns his attention to Captain Patton and advises him, "Bob, I don't think we need that report on the issue with dispatcher and their head sets. Instead, you and I will be

working on developing a strategic plan which will look to our future in managing our records and information systems. Our objective will be to renew and enhance our abilities to collect data. It will be from the data that information will be provided. The information that we'll obtain will, once again, contribute to our organizational knowledge base and ultimately correct some of the problems were experiencing. We were on the right track before and hopefully we can restore our direction before I leave."

HYPOTHETICAL (WHAT IF...) MODE

It's Monday morning, on the 3rd of January in the year 2000 at 9:30 a.m., and Chief Elbert Daniels is about an hour into his flight to POST Executive Development Course in San Diego, California. Chief Daniels is scheduled to make a presentation to the latest training class on the importance of information systems to the effectiveness of an organization. Chief Daniels has entitled his presentation, Law Enforcement Records/Information Systems: "The Organizational Mind."

In going over his presentation outline, Chief Daniels reflects on the thought that seven years doesn't seem all that long ago, but the fact that he is literally at the dawn of a new century is still hard to grasp. The Chief realizes that, for most part, his management career he has been driven by trying to anticipate and shape the future in a positive sense and, in some respects, the future is now. " Now," in the

context that the year 2000 was often the focus of many futurists who were projecting the outcome of various trends and events.

During his presentation, the Chief hopes to make the point that good records systems lead to good information which ultimately provides the basis for the knowledge required to make good decisions. The Chief will apply this concept to the officer out in the field and to the manager developing organizational policy. The key point to this audience will be that good information systems are often confused with good technology. Instead, the driving force should be a good organizational philosophy that ensures that records and information are managed as a resource. The Chief intends to use his Department as an example of how it was able to develop a strategic plan that ultimately shaped the future success of his organization in the year 2000.

Later that morning, Chief Daniels arrives at his destination and, having been introduced by his host, he begins his presentation by providing a setting for his organization in 1993. The Chief describes that, like many agencies, his Department had been aggressively bringing about new information technology since the mid 1980's. The Chief identifies that monies during those times were readily available through various state and federal grants and through an existing law that ensured that asset seizure revenues were to be specifically targeted for law enforcement purposes and could not be used by the City to "supplant" existing resources. In making this point, the audience bemoaned and commented that "those must have

been the days" and that it was hard to imagine that those economic conditions ever existing.

The Chief continued that from the period between 1985 and the early 1990's, his Department had successfully implemented the automation of its RMS (records management system), the replacement of its communications dispatch console, automation of computer aided dispatch, installation of in-vehicle digital computers and was breaking ground on the networking of personal computers for the purposes of bringing about electronic reporting and retrieval. The Chief informed his captive audience that many other information technologies were flourishing at the county, state and federal level.

The Chief also described the beginnings of the regional AFIS (automated fingerprint identifications system) that began with California as "CAL-ID" and was rapidly expanded to become a Western Identification Network (WIN) and houses the latent prints of well over thirty million known offenders. The Chief commented that the good news was that law enforcement had been slow to embrace technology, but once started, was rapidly developing applications to meet every operational need. The Chief described a proliferation of specialized applications that, in themselves, seemed to be invaluable, but on a broader base, were headed on a collision course, going went against the grain of sound information management.

The Chief described that narcotics, gang, crime analysis, domestic violence, property units, and various other entities created specialized and non-integrated application to satisfy their specific requirement. Vendors who were responding to the request acknowledged in private that they were aware that the direction was flawed, but frankly the funding was politically driven, e.g., "war on drugs", and who were they to tell the agency how to manage their information. The trend towards the creation of islands of information was a fiasco on the verge of happening, being compounded further by the fact that Cities, Counties, State and Federal governments were further contributing to the problem by taking similar approaches.

The Chief recalled to his audience that his agency had been careful to ensure the coordination of information into one central depository, specifically recalling that a database compromised of major offenders was established to track persons and categorized them into parole, sex offender, drug offender, gang and probationers with violent crime offenses. The database at the time was selective and contained in excess of 4,000 targeted offenders who, at any time, were monitored for their contacts with moving violations, victim/suspect in a crime, field interviewed by an officer and/or arrested. It was this contact that triggered a special information unit known as M.O.R.O. (major offender resource officer) to notify the appropriate persons to act on a possible propensity for becoming involved with new criminal behavior.

The Chief cited many instances wherein this database resulted in providing immediate leads that contributed to arrest from various crimes to include homicide to the largest drug seizure ever experienced by his agency. The system served the entire organization and not one specific person or unit. The Chief referenced the concepts of good "records" management that were championed by the early law enforcement scholars O.W. Wilson and August Vollmer. In this context, the Chief commented that these framers of the concepts to records management would no doubt "role over in their graves" at law enforcement not heeding their warnings to avoid decentralization of records.

The Chief informed the group that not only were these "islands of information" impractical but extremely redundant in terms of costs required for procurement, implementation and the work effort necessary for their maintenance. The Chief remarked that with the decentralization of various information data bases, or "records" depositories, there seemed to be a flawed assumption that a person with criminal intent is readily categorized into one specific area, i.e., narcotics, gang, sexual assault. To illustrate his point, the Chief wondered out loud to his audience whether a "crook" would wake up in the morning and make a conscious decision to be a drug offender for the morning, a gang member in the afternoon, and ultimately finish off his day by committing a sex act at night.

The Chief continued that the progress of the 1980's was short lived and by 1990, the recessionary times were beginning to take its toll on both private and government agencies with local law enforcement no longer being exempt. The Chief recalled that in a trickle down effect, the State reduced its funding to Counties and Cities while attempting to balance its multi-billion dollar deficit. The reduction in revenues began pitting cities against counties and even cities against cities in an attempt to maintain resources. Ultimately, no one was spared, even those Cities who had been fiscally sound in the past were forced to do more with less.

The Chief reported that at the peak of the economic recession, he was a Captain and had just been assigned to the Department's Special Services Bureau. The Chief stated that although he had once been assigned as an acting Captain to this bureau, much of the new information technology had been implemented after his first assignment. The Chief remembered vividly that when he arrived, he had inherited excellent information systems that basically supported records operations, dispatch and crime analysis. Unfortunately, upon his arrival, the systems that were in place were just beginning to be adversely affected by the budget cut backs and had grown to the point of lacking an adequate management structure..

The Chief described that as the new Captain of the bureau he was faced with the ramifications of a prior decision that had caused the elimination of the division commander's position that would have normally reported to him. Chief Daniels

acknowledged that initially he didn't realize the significance of the previous re-organizational decision and had even contributed to its recommendation. However, as the Chief indicated, he was soon to learn how valuable this person had been, not only in bringing about of the new technology, but also in directing and otherwise ensuring the coordinated management of systems into the organizational operations.

In the months after his assignment, the Chief recalled that more and more of his time was given to addressing issues concerning the information technology that supported his Bureau. Almost on a daily basis there seemed to be some miner crisis or another. Computer aided dispatch had become unstable and was frequently "down" because of power failures; complaints were being received throughout the organization regarding the accurateness of data entry into the records management systems: overtime was being requested for micro-filming; crime analysis lacked sufficient staffing to keep up with its data entry and output of its State mandated uniform crime reporting; and with increased frequency, clerical personnel were off on industrial injury due to "carpal tunnel syndrome."

The Chief reported that in addition to the day-to-day problems, he had also inherited the responsibility of a project directed at the consolidation of all police support services and the possibly the creation of a regional communication and information system. The consideration to consolidate part or all of police support services for four of the West County Police Agencies was prompted by the budget crisis that had

now reached an acute state. Upon the recommendation of a management consultant report, it was decided that full consolidation of police support services was both economically and operationally beneficial to all cities concerned. However, in order to "test the water", it was agreed that the logical order would be to begin with the consolidation of police dispatch.

Again, when he was Captain of the Bureau, Daniels explained that he supported the consolidation recommendation, but his biggest concern was whether or not he had the proper personnel and equipment infrastructure to support the effort. Daniels was intensely aware that he lacked the technical and support personnel to extend his operations and was faced with information technology that was quickly reaching its capacity and functional life-cycle. Daniels had still one more dilemma - the prior Chief had given him the arduous task of securing the success of a new policing program. The policing model was one that was or had been adopted by many agencies of the era and was commonly referred to as "Community Oriented Policing."

Daniels informed his audience that it was at this point that he and the past Chief were able to identify and act on the need to re-instate, at least temporarily, the Technical Services Division Commander. The primary purpose of the TSD commander was to act as the project manager for the consolidation project. Through his efforts a strategic plan would be developed and implemented. The Chief advised

his audience that, in retrospect, it was this principal move that set up the foundation for the successful consolidation efforts that were eventually to follow.

The Chief remembers that over the next two or three years, he was able to see the agencies collectively doing more with less. During the first phase, the joint dispatch operations allowed the Cities to save in excess of a half a million dollars while contributing to an expansion of personnel, upgrade of CAD (computer aided dispatch) and amortization of the central site equipment, which was housed at his agency. Virtually, every first responder police and fire unit was equipped with mobile data communications which permitted the dispatch operations to be staffed with fewer numbers. In addition, the smaller agencies now had data communications capability which provided them direct access to the expansive San Cristobal information system.

Operationally the Cities benefited with a centralization of its E911 response for both Police and Fire. No longer were agencies faced with delayed emergency response due to calls being to be unnecessarily transferred from one PSAP (public safety answering point) to another. In effect, the centralization of dispatch operations provided an organizational mind that supported the respective agencies at an individual level but also afforded the continuity of information to support emergency operations that overlapped boarders. Again, individual and comparative analysis of CAD information provided agencies with the ability to establish knowledge in the area of work load and beat structuring.

During the next phase, there were even greater economic and operational benefits with the consolidation of the records information systems. Daniels recalled that with the centralization of the information systems came the elimination of redundant costs that were associated with the supervision & management of operations, hardware & software maintenance, communications line charges, County-wide applications development, and general personnel support to include data entry and analysis operations.

The Chief described that with the expanded capabilities that came with both dispatch and records & information consolidation, his efforts with community oriented policing also reaped the benefits. The Chief recalled that one of his challenges was to find the personnel and related time for his officers to spend time in problem solving with their communities. Fortunately, through improved work load and beat analysis, Daniels was able to more efficiently schedule his limited resources. The analysis of the various dispatch management reports also provided Daniels with the knowledge to make informed decisions on alternate means of handling various types of "call-for-services".

Also contributing to the amount of time officers had for community interaction was the advent of the "call-in-reporting" system. It was this system that saved the officers as much as 25% of their consumed time in reporting while eliminating the negative consequences of "mail-in" reporting. The system was found to encourage

and enhance reporting from officer, (e.g., domestic violence), increased information, quality of reporting, otherwise leaving the officer out in the field where their value was gained. The Chief advised the gathering that his department has seriously considered lap-top computers. However, after a thorough systems analysis of his existing work flow, with a focus on human factors issues, it was determined that this solution was fairly one dimensional and unnecessarily costly. In essence, the use of a "call-in reporting" system confirmed the old adage of letting "secretaries be secretaries and cops be cops."

Similar to the benefits of consolidating dispatch, the Cities also improved their individual and combined operations by streamlining the collective processes. Benefiting from the aggregate collection of RMS (records management systems) information, the agencies effectively established a regional crime analysis data base that was able to project and target criminal activity regardless of geographical boundaries. The establishment of this system was particularly significant in that, prior to this time, the Crime Analysis efforts that had been created during the early and mid-1980's had all but been eliminated during the economic struggles of the 1990's.

The combined savings of nearly 1 million dollars allowed the four participating agencies to staff a full-time division commander (manager) and technical support person to manage and operate the consolidated dispatch and records/information

systems. The net savings also enabled the agencies to pursue new technology which further improved their total dispatch and communications operations. These new technologies included enabling the City of San Cristobal to complete and expand their on-line reporting system which eventually incorporated the multi-media technologies of document, photo, sound and full motion video imaging. The Bay View Information & Communications Center - "BVIC" and its success also provided and excellent setting for both private foundations and government grantors to contribute to an effort that furthered and encouraged other agencies to pursue regionalization.

The Chief recalled one particular and interesting partnership with BVIC and the Army / NASA-Ames Research Center that had given his agency national recognition and, most likely, prompted his appearance before other law enforcement groups, e.g., FBI National Academy and the IACP. It was the joint project of BVIC and NASA-Ames that permitted them to use their research methodologies and personnel in addressing the human factors concerns with the design, implementation and end-user interaction with dispatch consoles and in-vehicle systems. Ultimately, in conjunction with BCIA's expert domain and NASA-Ames research design, collective grant funding was provided by the DOT (Department of Transportation) Communications Research Corporation (private vendor) and the FAA (Federal Aeronautics and Aviation) for the installation of a state-of-the-art communications center and in-vehicle systems with digital mapping, voice activation and photo imaging.

The Chief, after demonstrating the latest in technology and the strengths of BCIA's information technology, concluded his presentation by reminding his audience of his principle concerns. First, good information systems or technology do not occur by accident or overnight and require good planning and implementation. More importantly, the Chief made the point that with good information systems an organization creates an "organizational mind" that, if not applied correctly, like the human being, will be of little value and ultimately provide little knowledge. In this sense the slogan "a mind is a terrible thing to waste" seems just as appropriate when applied to the law enforcement community and its needs.

SECTION III: STRATEGIC PLANNING

STRATEGIC PLANNING

Insights or scenarios developed from the examination of possible future trends and events provide the basis for developing a strategic management plan and become the next step in addressing the question of, "What will be the future of information/records management for small to medium law enforcement agencies by the year 2000?" This strategic management plan has been developed for the fictional City of San Cristobal. The plan plays out the hypothetical mode or "what if..." scenario that reflects this agencies good planning, intervention and conscious decision to affect organizational change through the "knowledge" gained from its information systems.

The setting for this strategic plan occurs in 1993 and involves the San Cristobal Police Department which is considered a medium-sized local law enforcement agency by California standards. The City of San Cristobal is located in the metropolitan suburban area of the San Francisco East Bay, within the County of Ygnacio. The City of San Cristobal has a population of approximately 92,000 and covers roughly forty (40) square miles, is bordered by the bay water of San Francisco and the jurisdictions of four (4) smaller city agencies that provide their own policing services.

The plan is intended to serve as a theoretical model and should not be construed as being representative of any particular law enforcement agency, personnel or

circumstances. It is intended that this portion of the study involves (1) establishing and building a level of commitment for the issue (2) an environmental assessment of the organization from both internal and external perspectives, (3) the development of alternative strategies and, finally, (4) the recommended approach for ensuring organizational efficiency from the effective management of its information/records management systems.

ORGANIZATIONAL MISSION

Like all organizations, whether they be small or large, a mission statement provides San Cristobal with a mechanism for formally communicating its expressed values, guiding behavior, ensuring consistency, and building commitment for its members. In addition, the foundation for San Cristobal's strategies and decision-making is found within its organizational mission statement.

Macro Mission Statement

The San Cristobal Police Department's mission is to represent the City by providing the highest quality of police services. Together, the Department and its members will develop a partnership with the people it serves. To promote understanding and cooperation, the Department is committed to ongoing communications between its employees and the community. The Department and its members recognize that their mission is accomplished after all employees are assisted in attaining their maximum potential.

Micro Mission Statement

The San Cristobal Police Department and it members value its information systems as a critical resource in achieving optimal use of its human and material assets. The Department is committed to identifying and applying those information technologies that contribute to its organizational knowledge base while serving the greater good of the City. The Department and its members will employ its information systems as a primary means of responding to the social, political and economic challenges of the future.

SITUATIONAL ANALYSIS

Representative of most Cities and Counties within the State, the City of San Cristobal and its police department have made rapid advances in acquiring automated information technology since the mid-1980's. Again, like many cities in the state, the acquiring of its new technology was made possible through the State's OCJP (Office of Criminal Justice Planning),C-CAP (Career Criminal Apprehension Program) grants, asset seizure monies and matching funds from the City. Prior to 1986, the San Cristobal Police Department had virtually no experience with computer technology and was entirely manual in its records operations as characterized by its filing/retrieval with index card systems.

Indicative of the Department's technology advances is its use of a sophisticated automated records management system which is heavily utilized by both support and

operational personnel. Prior to the implementation of the RMS (records management system), the Department's records operations had not added additional personnel since 1976 and was faced with a backlog of records task and the need to hire additional staff. However, with a successful implementation of the new RMS technology, records staffing has not increased and the twenty-four hour, day-to-day operations, are comfortably handled within existing staff and overtime requirements having been cut back by nearly 95%.

In a similar fashion, the Department has acquired and implemented a new communication center console system, CAD (computer aided dispatch) and, most recently, MDT (mobile data terminals) for its patrol vehicles with direct access to its RMS data. Contiguous with the aforementioned efforts have been the on-going realization of PC's (personal computers - micro-processors) throughout the Department with all secretarial personnel benefiting from the advantages of word processing.

Although the acquiring and incorporation of personal computers has been a City-wide effort, the Police Department played a major role in spearheading this technology and adopting standards. Consistent with their use of the RMS and CAD systems, departmental personnel have become substantially computer literate and have advanced their knowledge in the use of the PC to include the use of data bases, spreadsheets, and desk top publishing. Understandably, it is difficult to provide any

measure of increased productivity attributed to the use of personal computers, but suffice it to say that increased numbers of staff have become dependant upon this technology and to the extent that many have purchased their own systems for use on the job.

Finally, the Department has not been limited to its internal involvement with information technology and, in fact, has played a major roll in promoting regional applications. Most notably, the Department has had active representation in helping to bring about the Alco/Ygnacio County CAL-ID and the Ygnacio "ACCJIN" (All County Criminal Justice Information Network) projects. The dual county CAL-ID effort has brought about a regional automated fingerprint identification system (AFIS) which provides a latent print data base for image comparison. The regional system is linked to the State and Western Information Network (WIN) and is connected to the State system. The ACCJIN system provides a sophisticated data network that provides a communications link for all local justice agencies, i.e., city/county law enforcement, district attorney, courts, probation, etc. It is through the ACCJIN data communication "backbone" that agencies will participate in county-wide warrant, name indexing, crime analysis, booking, photo image capturing and other, yet unidentified applications.

Surrounding agencies to San Cristobal and within west Ygnacio County include: El Pueblo, Nottingham, El Costa, Herculon and Byron Police Departments. Over the

years, and to one degree or another, these agencies of west Ygnacio County have made similar advancements and commitments to information technology. Particularly with El Pueblo and Byron Police Departments, each has implemented automation to include a full records management system and some form of computer aided dispatch. San Cristobal, the larger of the six west county cities, has clearly made the greatest investment into the new technologies and with a larger support staff has been able to establish itself as the strongest user of its systems.

ENVIRONMENTAL ASSESSMENT

Information and the knowledge it provides, continues to be a critical consideration in both the private and public sector. During the economic crisis of the 1990's, major business organizations and governments are pursuing "down-sizing" as a means of maintaining competitiveness or continuing to provide desired levels of services. The future of organizational survival echoes the theme of doing more with less.

San Cristobal, like its adjacent agencies, continue to benefit and increasingly rely on its information knowledge bases for its short and long term decisions. New information technologies are readily available but a severe state-wide economic crisis offers little hope for most agencies to obtain new funding for enhancements. In fact, it is likely that all Cities will continue to suffer budgetary cutbacks that will negatively impact personnel and operations of their existing information systems. The smaller agencies have already begun to see the effect of reduced funding and are

looking to alternatives to minimize potential elimination of sworn staffing and reducing service levels.

Opportunities:

A. The continuing and severe economic crisis of the State is having its trickle down effect on local governments and compelling its managers, community leaders to look to alternatives for providing desired levels of service. In lieu of loosing basic emergency services, local control of support functions are possible concession for administrators and politicians. The long speculated belief that regionalization of various support services, including certain line functions, is most certain to become a reality. Special interest of groups and/or individuals will find it difficult to maintain their self serving agendas in light of practical solutions to their economic situations.

B. The decreased availability of new funding may be viewed as a blessing in disguise by those professional practitioners of information management. The current economic situation and the development of regional efforts will provide an excellent opportunity for participating agencies to step back an re-examine their information processes. A proper restructuring of existing and future information technology will allow agencies to more efficiently collect and distribute information while becoming more adept as knowledge workers. Privately and, now more openly, involved and informed operational staff

acknowledge that existing information systems are redundant, inefficient and do little good to serve the regional crimes problems of their combined cities.

C. The regionalization of existing CAD (computer aided dispatch) and RMS (records management systems) operations should provide the basis for improved systems. Individually, agencies are faced with deteriorating information technologies with insufficient staffing to support their desired purpose. However, collectively, agencies have the potential to upgrade to a centralized system with increased performance and applications capability. The newer systems will still afford agencies with their individual autonomy for local decision-making but also offer a regional perspective at looking at crime problems and social concerns.

A well-managed system will allow the combined agencies to reap the operational benefits of new multimedia technologies (document, photo, video, and sound imaging) with improved information work flow. Once again, under existing economic restraints, the acquiring of the new information technology would not be within the reach of most agencies as an individual effort.

D. Years of experience and awareness have provided for increased interest in human factor issues and how they relate to the "work place". Successful organizations are acutely aware that their employees are their most valuable

resource and warrant the attention that manufacturing equipment was given during our industrial period. The information society has provided the worker with new tools which must be responsibly adapted to his/her working environment. Government agencies, such as the NASA/Ames, have dedicated substantial resources to the area of human factors research. NASA/Ames and similar organizations will use their scientific research and design methodology to develop technology that compliments the skills of the worker while minimizing the impact of a inadequate, if not, dangerous working environment.

E. The end of the "cold war" has provided for an atmosphere of decreased military spending and a mandate to shift these resources to address real and perceived local economic concerns. Law enforcement is in an excellent position to benefit from the restructuring of spending and, specifically, from the transfer of advanced technology that has previously been targeted at meeting our military needs. Large military providers will have to become more competitive in looking to its new market and develop better "wigets" that are solution driven and allow law enforcement to do more with less.

Threats: The following factors are seen as potential barriers to San Cristobal achieving its organizational efficiency through the implementation of effective information/records systems and technology:

1. Regardless of the viability of regionalizing various information systems and technology, there will continue to be those detractors who will want to maintain autonomy, and otherwise controlling their own destiny. These detractors will be quick to point to any and every previous joint effort that has failed. Smaller agencies and their special interest groups will warn that their participation into a regional system will be dominated and dictated by the larger agencies. Conversely, the larger agencies will be concerned that their ability to manage their own systems will be degraded by a compromised use of combined agencies.

2. The degree of interest behind most consolidation efforts are directly proportional to its economic driving forces. Chiefs, managers, politicians, and other special interest groups/persons are less inclined or motivated to pursue effective regional solutions during prosperous times. However, in light of severe budgetary cuts, concessions are more readily obtained and consolidations or regionalization of support services become more palatable for all concerned. Ironically, the danger to establishing effectual regional information systems with state-of-the-art technology may be, with economic times, improving and/or agencies obtaining alternate means of maintaining funding, i.e., local sales taxing, special assessments, utility taxing, etc.

3. The future of records/information systems will require a complex integration of existing and future technologies. Historically, the primary providers of law enforcement information technology have categorized applications into two, clearly separate, basic processes of CAD (computer aided dispatch) and RMS (records management systems) services. Interestingly, the distinction between CAD and RMS can be scene within an organizational structure through a division in responsibility and fragmentation of might be considered proper information management.

The recent advances of multimedia and sophisticated work flow are new arenas of technology that current vendors of CAD and RMS have little experience. In fact, this particularly information technology has typically been the offering of outside vendors with primary interest in mass document storage through imaging technology. To complicate matters further, lap top and pen based computing has captured the attention of law enforcement and has been largely driven by the hardware manufacturing and communication companies.

Although the advances in these information systems have the potential to offer great benefit, there is a strong likelihood that the organizational "technocrat" will become enamored with the technology and fail to

carefully consider the overall operational considerations of the organization. Agencies, without a clear understanding of their existing and future information processes will be unsuccessful in implementing the new technologies as a comprehensive solution to his/her organizational needs. Vendors, who are also experiencing difficult economic times, may have a limited resources to assume a role as an integrator of technology and will only contribute to ill-conceived solutions that are frequently overstated.

ORGANIZATIONAL CAPABILITY ANALYSIS

A capability profile is presented as a means of assessing the San Cristobal Police Department's ***strengths*** and ***weaknesses*** in dealing with the opportunities and threats in their environment.

Strengths: The following factors are seen as variables which presently exist for San Cristabol and may be used to enhance its ability to maintain and further benefit from its records/information systems and technology.

1. The Department's successful approach to records/information systems and implementing new technology has a proven track record with the City Manager and City Council. This factor gives the Department a distinct advantage and credibility in pursuing new projects that promise

to increase organizational productivity through short term capital investments.

2. The Chief of Police continues to have the support of the City Council and Community at-large and particularly in his efforts to combat its drug/crime problem through a Community Oriented Policing program. To this extent, key political figures are likely to support the Chief's need to increase field police resource availability through the implementation of new technology.

3. The Department as a whole has adapted well to the use of their computerized information technology. In this regard, personnel will encourage the Chief to provide additional technology which might increase their productivity and otherwise aid them in the performance of their respective jobs.

4. The San Cristabol Police Department enjoys a strong reputation for its development and use of its information systems and has frequently received local and state wide recognition for its programs. In this regard, the Department has served as a model for its vendors and their products while presenting an excellent environment for demonstrating new technology and its effective use. Therefore, the Department has a

potential strength for establishing a partnership with its vendors to bring about new applications and systems which are of mutual benefit.

5. Considering the potential re-direction of military spending to the socio-economic needs of the nations, the City of San Cristobal is an excellent candidate for such funding. The Department's previous experience and success with grant funding may once again be renewed.

6. The Department has the present capability to assume a leadership role in expanding its information systems capability to include surrounding agencies as a part of a regional effort. Individually, all concerned agencies have little chance of maintaining current levels of services and for the smaller agencies consolidation or contracting for services is no longer an option but instead a reality. However, collectively the combined agencies can merge their resources and create a information system that will serve as model for the law enforcement community as a whole.

Weaknesses: The following factors are believed to be potentially detrimental to the development of efforts that would improve overall organizational effectiveness through the effectiveness of its records/information systems and technology.

1. Although, the agency has been extremely successful in implementing new technology to compliment its records/information systems, it has done so in a manner which has relied on existing personnel and the talents and energy of a single person. To this extent, the Department has not had to realize or appreciate the complexity of managing its information systems and may lack the foresight to develop the needed personnel infra-structure required to support one of its most valuable resources.

   Absent the availability of this key person or adequate support structure, the Department will need to rely on consulting services which they may find unacceptable. The Department's continued efforts to use existing supervisors as managers of their respective information systems, e.g., CAD & RMS will adversely affect their ability to properly manage the personnel resources associated with these systems.

2. In view of the Cities epidemic drug/violent crime problem and commitment to Community Oriented Policing it may difficult to gain the attention of key staff members who have typically supported information technology efforts. Likewise, due to budget limitations, there will be a strong completion for monetary and personnel resources

necessary to advance the needs of the Department's records/information systems.

3. Despite the potential benefits of a regional information system, there will continue to be strong resistance and/or undermining on any such effort by agencies concerned with maintaining local control or autonomy. Additionally, the concept of consolidating dispatch and records as a single information system will be foreign to those agencies who perceive these services and two distinct operations.

4. Regardless of past benefits gained from the use new information technology and the resulting increased productivity of personnel, it is likely that the City Finance Director will still affect cost cutting measures that will impact existing systems, i.e., staffing support, maintenance, enhancements and upgrades.

5. It has only been a couple of years since the Department's management and first line supervisory staff participated in a rather painful team building exercise. During this process, it was determined that there existed two critical organizational disfunction that could prove detrimental to the Department. The disfunction focused on the Department's planning and communications capabilities. Although the

Department has made significant strides in these areas of weakness, it remains a vulnerable area.

STAKEHOLDER ANALYSIS

The developing of a strategic plan for San Cristobal Police Department includes a stakeholder analysis which is intended to identify persons or organizations who may play a role in impacting the future of its records/information management systems. Included in this analysis is the identification of a "snail darter" who is best described as that unanticipated stakeholder who can radically impact an agencies strategy. The following is a listing and description of those stake holders who were deemed significant to this particular strategy.

CITY COUNCIL -

A. In recent years, the City Council has been a strong supporter of the Chief and through the beginning of these recessionary times has continued to fund his programs.

B. However, the Council, with continued revenue deficits and decaying infrastructures will be less likely to fund or expand any programs.

CLERICAL & DISPATCH LABOR GROUPS -

A. The Police clerical staff and dispatchers will closely monitor any interest or attempts to create regional systems or introduce new information technology.

B. In the past, this group of employees have done a commendable job of adapting to change and are open to supporting new information systems.

C. The primary issue for both clerical and dispatch personnel from all sources will be the issue of seniority and job security.

POLICE ASSOCIATION -

A. This organization is comprised of sworn officers and first line supervisor who continue to benefit and support its acquired information technology.

B. It is expected that, as an organization, they will have a passive role as stakeholder until their access to systems are affected.

PRIVATE ENTERPRIZE -

A. The future of the Department's information systems and related technology will depend, in part, on attracting the interest of private vendors.

B. The ability of the Department to develop a successful information strategy or business case will be key to involving select vendors.

C. The incentive for private business will be access to the Department's domain expertise that will shorten the development of applications that will be geared towards providing total reporting, information and knowledge based solutions.

CITY MANAGER / "SNAIL DARTER" -

A. In the past, the Chief of Police has an excellent relationship with the City Manager while demonstrating maximum loyalty. However, the City Manager recently resigned his position for new challenges and moved onto a neighboring agency within a nearby county.

B. Currently, the City Manager's position is being filled as an interim position by the Finance Director who over the years has occasion to be at odds with the Chief.

C. The City Manager, in his previous position as Finance Director, expressed interest in bringing the MIS Department under his direction. Considering his current capacity, past position, previous conflict with the Chief and uncertain interest with MIS, the City Manager presents could be considered a "snail darter" who could radically impact the Department's strategic plan.

CHIEF OF POLICE -

A. In general, the Chief has supported efforts to bring about information technology at both the departmental and regional levels. The Chief has served an active role in spearheading the counties efforts to bring about CAL-ID and encouraged his staff to pursue grants that would assist in funding the systems that have served him well.

B. However, the Chief has chosen to distance himself from any intimate understanding of his information systems and is inclined to underestimate the complexities of implementing new technology and support required to maintain them.

C. The Chief, over the last 10 years, has done well to manage a complex organization attempting to perform a job under incredible conditions. In the early eighties, the Chief is to be given credit for making difficult decision that prevent the Department's take over by external interest. Unfortunately, the years have taken its toll and as he nears retirement, he has become vulnerable to an onslaught of detractors which may impact his role as a stakeholder.

POLICE MANAGERS -

A. In general, key managers of the Department are primarily concerned with competing for resources and primarily personnel.

B. It can be expected that these managers will take a superficial view on any recommendation to advance technology and will take a passive position on this issue until it infringes on their respective "territories".

C. Indicative, of the weaknesses identified in the Department's team building process, the police managers may still lack the strong organizational skills necessary to carry out any long term and complex change.

CITY MIS DEPARTMENT -

A. The MIS Department, has primarily responsibility for overseeing overall computer needs for the City and is mostly occupied with the Finance Department's mini-computer and city-wide personal computer systems.

B. The MIS Department has generally worked well with the Police Department and under normal condition would not be expected to detract from their efforts.

C. The MIS Director works closely with the Finance Director and is directly responsible for the information system that supports that Department. The Director can be expected to meet any agenda set forth by the City Manager.

SURROUNDING CITY MANAGERS & POLICE CHIEFS

A. Severe economic times will force City Managers and Police Chief's to look to alternative means for reducing deficit expenditures.

B. Regional approaches to providing support services, such as dispatch and records management, will be given serious consideration as an alternative to minimizing reduced services to its communities.

C. Once the reality of consolidation is met, the need to act will be almost immediate and the potential to compromise needed planning will be great.

ALTERNATIVE STRATEGIES

In order to generate and analyze alternate strategies capable of achieving San Cristabol's macro and micro mission statements, a group of three police managers were employed for this purpose. This group consisted of a police Captain from a small to medium size agency, a Lieutenant from a medium to large agency and a Commander from a smaller agency. The members assisted this effort by utilizing a Modified Delphi Process that provided a framework for the gathering of information that eventually focused on three selected alternatives.

ALTERNATIVE ONE
Maintain Local Control

This alternate strategy would have the Department continue to support its own "records", "dispatch", and related information technology. To the extent possible, the

Department would continue to maintain a budget that would provide for personnel and capital required to maintain operations of its information systems.

PROS:

1. Limits organizational conflict to the Department's own internal environment and eliminate any inference of "Big Brother" from smaller agencies who might participate in a regional or contract agreement.
2. Allow the Department to maintain and pursue information systems and technology based on its own requirements and without need for compromise from outside agencies.
3. Maintain a status quo and eliminate the need for staff to become involved with resource intensive efforts that would be required to research, consider and implement any other alternative(s).
4. Provide for a certainty in understanding systems costs and having absolute control with regard to establishing budgetary priorities.

CONS:

1. Limits the Department to its own economic resources and during difficult times may result in decreased service levels from its respective information systems.
2. Limits the Departments perspective on the efficient means of managing its information systems and technology.
3. Limits the Department to its own information resources that are restricted by local boundaries and considerations.

Stakeholder Perception:

The internal stake holders within the Department will be inclined to ignore or not appreciate the economic realities of maintaining their own information systems. Additionally, these same stake holders may want to avoid the extra effort required to develop other alternatives due to other organizational demands or simple apathy towards their information systems. Absent severe economic conditions, the City Council, City Manager or Chief of Police may not have cause to look to alternatives to existing processes and the status quo may prevail.

ALTERNATIVE TWO

Contract Service to the County Sheriff

This alternate strategy would have the Department contract services to the County for support of its "records", "dispatch", and related information technology. The Department would no longer maintain local control of its information systems and, like many agencies through out the county, these services would be a centralized.

PROS:

1. The City and its police Department should benefit from reduced costs necessary to support its information systems through a contract agreement with the County Sheriff.
2. Personnel resources required to properly manage its information services will become the responsibility of the County Sheriff.

3. Instead of being directly accountable for managing its information systems, the Department can readily point to the County Sheriff for this responsibility.

CONS:

1. The Department will be subject to real or perceived loss of control of its information management systems.
2. The Department will have little, if any, control or flexibility in managing its budgetary needs as they pertain to its information systems.
3. The Department will be limited to the technical and operational direction that is established by the County.
4. Existing information services personnel may be reduced or loose their coveted seniority rights through a merging of staff.

Stakeholder Perception:

The internal stake holders within the Department, and particularly the police officers associations and clerical/dispatch groups will resist any efforts to contract services to the County Sheriff. Politically and from management perspectives, agreements to provide contract services at the County level will be viewed with a dubious eye. The West County agencies, as potential stake holders to San Cristabols direction, will look on with great interest.

ALTERNATIVE THREE

West County Consolidation of Services

This alternate strategy would have the Department join in a consolidated effort to provide information services on a shared cost arrangement. In consideration of San Cristobal's organizational capability and established infra-structure, it would assume the lead role in managing the consolidated information system that would serve the needs of the West County .

PROS:

1. The Department and its West County agencies are in better position to establish combined information systems that better meet the geographical, political and operational needs of the area.
2. A combining of resources from a West County effort will provide sufficient opportunity to establish a system that will enhance overall capabilities and still return economic benefit to all concerned.
3. The consolidation of services, to include dispatch and records / information systems will be a unique approach to regionalization and has the potential to attract external funding or aumentation.
4. The combination and joint sharing of resources has the potential to improve organizational operations for all participating agencies.
5. The Chief's of Police for the west county have a formal organization which meets monthly and have had previous experience in joining together to develop protocols, policys and other agreements which

represent their unique interest. One such effort has been their long standing cooperative effort in establishing and providing for West-Net, a regional drug task force operation.

CONS:

1. Difficulties in managing operations associated with existing information systems will become even more grave as responsibility expands under consolidation.
2. The Department's identified weaknesses in planning and communications will threaten the success of this project.
3. The Department's lack of understanding and appreciation for the complexity of its information system may affect its ability to estimate the required effort necessary for implementation and ongoing support.
4. The Department has been successful with its information technology but the useful life of its systems will soon reach its limitation and participating agencies may not have the foresight to amortize its investments.
5. The merging of personnel resources may have an impact on staff who will be forced to sacrifice seniority. Likewise, long time employees may face uncertainty with having to transition to a new organization.

Stakeholder Perception:

The internal stake holders of the organization will take pride in accepting the lead role in consolidation and particularly in lieu of loosing local control to the

County Sheriff's Department. Stake holders outside the organization, will also be concerned with local will be concerned with having to loose their local control but less so with an understanding that they will benefit from increased capabilities while realizing the economic benefits.

PREFERRED ALTERNATIVE

In continuing to work through the Modified Delphi Process, the panel determined that the third alternative of creating a *West County Consolidation of Services* was the best strategy to employ for the San Cristabol Police Department. The decision was based on an examination of the three alternatives which weighed the pros and cons with the macro and micro mission statements for San Cristabol.

The panel observed that, with the first alternative, existing budgetary constraints would make it very difficult for San Cristobal to continue to maintain or enhance its information systems. It was also speculated that, absent any other consideration, the surrounding agencies would have little choice but to discontinue their existing operations and contract for services with the County. Eventually, this would leave San Cristobal as the lone agency providing its own services and with limited alternatives for the future.

The second alternative was the least attractive to San Cristobal and clearly lacked promise for its stake holders. The panel felt that, consistent with current County

agreements, the San Cristobal Police Department would find it difficult to realize its mission statement and would be detached from accomplishing their goals and objectives. The panel also recognized that a contract agreement would force San Cristobal to more-or- less abandoned its employees to a County structure which would compromise their years of service and entitlement.

The third alternative was seen as one that allowed San Cristobal to maintain control of its destiny and potentially broaden the benefits of its mission/micro statements by including the surrounding agencies. Geographically, operationally and politically (stake holders), the consolidation of the communications and information systems of the West County could provide a manageable and mutually beneficial alternative for all concerned. Interestingly, it was the consensus of the panel that, not withstanding the current economic motivation, a consolidation of information resources was an excellent idea whose time was long overdue.

IMPLEMENTATION PLAN

The first effort in implementing this strategic plan would require the San Cristobal Chief of Police to initiate informal dialogue through the West County Chief's organization. During this meeting, the Chief would present his issue with general background and an overview of a strategy that has lead to his considered alternative. It would be important that the Chief be careful not to force his alternative onto the

other Chiefs but to suggest that his initial purpose is to solicit whether or not there is an interest in exploring his recommendation further.

STUDY. Upon agreement to consider the possibility of creating a West County information system, the Chiefs could commission a feasibility report to examine its potential. The report would include:

- A brief introduction/overview of each agency and a comment on their perceived organizational well being.
- An assessment of existing information services for each of the participating agencies that would reflect an objective analysis of their individual strengths and weaknesses.
- An assessment of ongoing and future information systems needs.
- A cost benefit analysis for each agency which would reflect personnel, capital and operational expenditures.
- A general benefit analysis from a technical, operational and management perspective which would include future considerations that would need to be examined.
- A recommendation on the feasibility of consolidating all, or part, of those information services currently maintained by each agency, i.e., dispatch, reporting systems, records/information systems and analysis operations.

- Alternatives and recommendation for implementing a management structure to support any proposal for consolidation. This section of the report would outline possible cost sharing formulas, contract structures, responsibility, and agreement options.
- A preliminary transition plan structure to accomplish the consolidation of information services with estimated time lines and general tasks required to complete the effort.

MARKETING. Having benefit of the analysis obtained from the feasibility study, the Chiefs would then accept primary responsibility of gaining support and, otherwise, marketing the concept to their respective internal organizational structures, City Managers, and Communities. The Chiefs would educate all concerned interest on the economic reality and operational benefits of moving forward on a regional information systems that would include the consolidation of dispatch and records/information operation.

In presenting their recommendation for consolidation, the Chiefs would need to be united in their position and, to the extent possible, represent the effort in a consistent manner. It might do well for the Chiefs to develop an informational brochure that would outline the key points of the proposed consolidation and advance those questions and answers that might be anticipated. In presenting their

information, the Chiefs should not be disinclined to acknowledge the negative points with consolidation and express their commitment to mitigate those factors.

POLITICAL COMMITMENT. Upon completion of the "marketing" endeavor, the next step would be to receive a commitment from the political bodies of the participating agencies. The commitment could be structured in the form of resolution(s) and/or letter of intent(s) that would outline the goals and objectives while expressing commitment for the creation of the West County Consolidated Information System.

IMPLEMENTATION PROCESS .

Once approval has been given to move on the consolidation project, the Chiefs will need to identify personnel who could best support the effort and select one key person to act as the project manager. The strategic plan recognizes that the transition team would need to be representative of persons having an interest in the projects objectives, while being comfortable with operational needs and technologies associated with information processes. The project manager would need to be detached from his primary responsibilities during the transition period. Agencies representatives on the transition team would need to be given sufficient time to play an active role in supporting the work effort required.

The Chiefs should also identify other persons that might act in a advisory capacity to the transition team and include; other City MIS, information managers and supervisors, community.business leaders with specific interest and expertise, etc. One of the first task to be accomplished by the transition team would be to address any unresolved issues or concerns distinguish in the feasibility report. The team would then review and determine specific areas of the report that might need additional work up, research and consideration, e.g., further cost analysis, and tasks detailing.

Almost immediately into the project, the team should build upon the preliminary transition plan developed through the feasibility study. It should be understood that the team's modified transition plan cannot possible include every potential task or consideration and that their product will continue to evolve with increasing detail and restructuring of time frames. During this initial phase, the principal objective is to develop a momentum for the project that will carry it through it completion.

SECTION IV: TRANSITION MANAGEMENT

TRANSITION MANAGEMENT

The design of the successful transition management plan must begin with an understanding of the problem and desired change. In posing the question, "What will be the future of records/information management for small to medium law enforcement agencies by the year 2000", a group of professionals gathered to focus on this issue. The panel began by exploring specific trends and events that they felt would shape the future of this issue. Early on in this planning process, the panel adopted the philosophy and teachings of early scholars that communications, more commonly referred to as dispatch, was an integral part of the information management processes. Based on their interpretation of information gathered, the group was able to provide insight on alternative futures and contribute to policy statements drawn to purposely impact the direction of the issue at hand.

The material and knowledge gained from the panel became the basis for developing a strategic plan aimed at creating the desired change for the future. The strategic plan identified that the Department's ability to maintain and enhance its existing records/information system was in jeopardy unless it could consolidate its resources with other agencies. The implementation plan for the City of Cristabol's Police Department called for a feasibility study that would develop and support an alternative strategy that validated the establishing of a West County consolidation of information services.

The strategic plan also addressed the importance of "selling" consolidation to the various "stake holders". In rallying support for an alternate strategy, the Chiefs' of Police identified information systems and related technologies as invaluable resources essential to their organizational well being and future. In order to ensure the successful implementation of their plan the Chiefs of Police established a transition team compromised of representatives from each agency. The transition team was given responsibility for detailing and carrying out those tasks necessary to complete the project. The transition team, upon completion of implementation, would transfer their role to an advisory group who would be entrusted with the duty of safeguarding against potential problems that might detract from the success of this consolidated effort.

CRITICAL MASS

The first step in establishing a sound transition plan is to identify those individuals and/or groups who, by virtue of their roles, could support the change that will be required to make this project successful. The origin of this group stems from the strategic plan which suggested involvement of line personnel, management, other City Departments, existing vendors of automation and business partners who would be interested in the entrepreneurial spirit of this effort. It was from this group that a "critical mass" was identified with the knowledge that without their commitment the desired transition to the future would not occur.

The "critical mass" is as listed below and, via chart, is defined in terms of required commitment level in Appendix G of this report.

- Dispatch/Clerical Labor Manager - Local 790
- Chief of Police - San Cristobal Police Department
- City Manager - City of San Cristobal
- Chief Executive Officer - ACME Technologies
- Technical Services Commander - San Cristabol Police Department
- Chief of Police - City of Byron

LEVELS OF COMMITMENT

The following is a discussion of each member of the "critical mass", their current level of commitment to the plan, the minimum level of commitment required of them and the approach to be used to gain the desired level of commitment.

1. <u>Clerical/Dispatch Labor Representative</u> - San Cristobal Police Department currently has the same number of records clerical staff and dispatchers that were allocated in 1976. In January 1986, the first use of computers was introduced through the implementation of a records management system and in 1988 for use by dispatch personnel. In the beginning and, only for a short period, there was a great deal of resistance from both groups and largely due to their anxiety surrounding the use of

computers. Additional concern came from the belief that the new systems would result in greater work load and mandatory over time.

Fortunately, through a phased transition, that began with the automation of RMS (records management system), staff was able to realize the benefits of more efficient information management systems that enhanced their capabilities. During this same period, clerical personnel, who were most concerned with the overtime issue, all but eliminated its usage while reducing backlogs in major proportions. Hence forth, clerical and dispatch will be supportive of the Department's continued efforts to support and enhance its information systems.

The key issues for clerical and dispatch staff will be the impact of consolidating personnel staff and the potential impact on their positions and seniority rights. Clerical and dispatch, through their labor representative could "block", or delay consolidation out of concern that staff positions would be reduced or current seniority rights compromised. Since 1986, the records clerical staff have unionized and have become actively involved in Departmental matters.

Initial considerations suggest that a successful consolidation could occur if there was minimal participation from clerical staff and if there posture was

to "let" the process take place. However, after careful consideration, the success of this effort must incorporate their intimate understanding of the operational processes that must be identified and addressed.

The path to reaching the commitment level necessary by this group is to first recognize them as the true experts that they are and actively involve them in the day-to-day considerations of implementing this effort. In the past, clerical and dispatch staff have been instrumental in advancing the use of both RMS and CAD and can be expected to readily participate in the planning and transition process. The key to gaining their "help change happen" perspective is requesting and dealing honestly with their concerns while keeping them informed on potential issues that might affect them.

2. Chief of Police - The San Cristobal Police Department has an organizational hierarchy which includes a Chief, and four Bureau Captains. Under the Department's executive structure, the Chief of Police plays an active role in directing change for the organization. Fortunately, the Chief of Police has played an active role in various County wide regional efforts to include, CAL-ID (dual county operation), ACCJIN (All County Criminal Justice Information Network) and WEST-NET (West County narcotics task force) and could be expected to continue to support the consolidation with a "let" change occur.

However, unlike previous regional projects , the Chief will become the central provider of services and directly accountable to an even broader stakeholder base. In this respect, it will be incumbent on the Chief to play a more active role and "help change happen". It will be incumbent that the Chief continually communicate with the various stake holders on the direction, needs and status of the project. In addition, the Chief will have to exercise his strongest mediation skills on issues that might develop unexpectant and potentially jeopardize the project.

3. <u>City Manager</u> - The City Manager, in his interim position and as the former Finance director, is the most difficult person to classify but certainly is an important stakeholder within the critical mass. In the past, the City Manager, as the Finance director, was not openly supportive of the Department's large investments in its information technology and, most likely, conceded to the interest of the, then, City Manager and City Council. Considering this history, the current City Manager could take a "block" change position.

To ensure the attainment of this consolidation effort it will be important to move the City Manager from a potential "block" change condition to a "let" change status. To accomplish this change, it will be important to appeal to the

City Manager's fiscal responsibility and provide him with the data that supports the economic benefits of this program. In addition, it will be important to appeal to the City Manager's interest in attaining a permanent position and allow him to profit from any positive attention given to this effort.

3. <u>CEO / ACME Technologies</u> - Nearly two years ago, the San Cristobal Police Department was able to establish a favorable relationship with the CEO of ACME Technologies. It was at that time that the CEO was beginning to form a new business approach for his company which had interest in further developing his state-of-the-art multimedia technologies. Based on the Department's demonstrated and often advanced use of RMS, the CEO asked to partner his technology with future plans of the organization.

Clearly, the CEO of ACME Technologies has expressed and demonstrated interest to "make change happen". Unfortunately, the CEO and his company are often over zealous, if not, over stated in their considerations and application of technology. The CEO's approach to introducing new technology would more than likely be poorly focused and not consider the issues surrounding change implementation.

In obtaining the desired commitment from the CEO, it will be necessary to share with him and reach an understanding as to the vision, mission and objectives of this effort. In will be important to ensure the CEO of ACME Technologies of his absolute importance to this project and clarify his role as a partner with his "help change happen" capacity.

4. **Technical Services Division Commander** - In the last seven years, the Technical Services Division Commander has been largely responsible for computerizing the Police Department. His involvement has included, planning, funding acquisition, project management and implementation. His experience has included fulfillment of the Department's Records Management System - RMS, upgrade/remodel of radio communication console, Computer Aided Dispatch - CAD, Mobile Data Terminal - MDT, and integration of personal computers. In addition he has played a significant role in representing the Chief on Technical Advisory Committees that were responsible for implementing the various regional automated projects.

The Commander shares in the belief that this consolidation of information systems is both economically and operational beneficial to the participating agency. The Commander, as a contributor to the Departments macro mission statement and primary author of its micro mission statement for its information systems, realizes the future benefits of this project. The

Commander, as in previous efforts, is committed to "make change happen" and should maintain this position as the project manager.

5. **Byron Police Chief** - Over the years, the Chief of Byron and his City Manager have not always had the best of relationship with its neighboring Cities and particularly the City of San Cristobal. The Chief of Police currently provides contract dispatch services for its neighboring City of Herculon and at one time was also the provider of their records management needs. The basis for the tense relationship between the two Cities is not clear but the fact remains that this condition could threaten a complete consolidation of a West County information system and effectively "block" change.

To effect a complete consolidation of information services for the full west county it will be important to shift the Byron Police Chief from a "block" change position to at least a "let" change posture. The first step in reaching this point will be to present the Chief with an objective analysis on the soundness of the regional plan and to make a conscious effort to separate any past difficulties from accomplishing the goals of this project. Additionally, it will be important to recognize the City of Byron's previous experience and successes in managing contract dispatching and provide sincere interest in requesting his "help" change participation. The Byron Chief's critical analysis

of the consolidation effort could prove invaluable in ensuring its overall success.

MANAGEMENT STRUCTURE

Recognizing that the implementation of this project will contribute to substantial organizational change, it is reasonable to anticipate that a transition state will differ from the future state in terms of roles, tasks and resources. The transition state will likely require a separate structure and form of management appropriate to the uniqueness of this consolidation effort.

Initially, there was some consideration to managing the change at the "chief executive" level. However, neither the Chief, nor Bureau Commanders are in a position to personally manage the change, which would require considerable energy and a delegation of day-to-day operations to others on the management staff. In addition, the effort is sufficiently technical in its application to require specific knowledge in this area. Therefore, a "transition manager" method to managing change seems more ideal and expedient.

In utilizing this approach, the Chief, with responsibility to the other agency participants, could temporarily assign the Technical Services Division Commander as the "transition manager" . Under these circumstances, the TSD Commander functions from the executive manager's office and has the authority of the executive

office to manage the change. This alternative is consistent with approaches used by technical organizations outside of law enforcement. Like the product manager in private industry, the TSD Commander is a program integrator charged with the responsibility of getting the job done but having to do so with resources available to the combined agencies.

In choosing the "project management" approach as the management structure for creating change, it will send a clear message to the organization as to the importance of this project. Likewise, the TSD Commander, who is frequently called upon and volunteers for other major efforts, will also be sufficiently motivated to complete the project in a timely fashion through the use of strong management skills and a coordinated effort with his transition team.

Fortunately, the TSD Commander's most valuable asset is his commitment to the project and his continual ability to act as a "change agent" for the organization. In project after project, regardless of assignment, the TSD Commander has demonstrated his vision and, in recent years, has been able to blend new technologies with several successful enforcement programs. Also, the TSD Commander has standing working relationship with the other agencies through his involvement with other Technical Advisory Committees. Perhaps, not coincidental, the TSD Commander, in 1990, chaired a committee representing the West County agencies and with the specific purpose of examining the merits of establishing a regional

information communication link. The eventual recommendation was not to establish a West County information link patterned after a Central County effort but instead participate in a County wide effort that later came to fruition as ACCJIN (All County Criminal Justice Information Network).

The TSD commander, as the "transition manager" will have the primary role of facilitating the effective achievement of the desire future state of this regional project. The commander will need to support the top executives (City Managers and Chiefs) in leading the organization during this transition. He will develop and oversee a "master transition plan" while mapping out the strategies and actions necessary to carry our the consolidation effort. He will be responsible for the identification and use of organizations resources; coordination of concurrent activities; and monitoring of progress with feedback.

The "transition manager" will have additional responsibilities for setting up and managing the transition team and ensuring that each major task is achieved. His ultimate success with the project will be determined by his ability to stay in control through active involvement with planning, sensing the status of the organization and focusing attention on any obstacles in the transition process. It will be critical that he position himself as the center of information as the organization undergoes the change from the current state to the desired objective.

IMPLEMENTATION TECHNOLOGIES

To accomplish the implementation of this transition plan, several technologies, or "tools" will be employed to create the desired change. One key factor will be to focus on the Department's two acute organizational disfunction that were identified in the San Cristobal Police Department's prior team building workshop in 1991. The timing of this effort has to be sensitive to this current state of the organization and, ideally, look for this opportunity to demonstrate continued progress in those areas of planning and communications.

The technologies tools used to support the implementation of change will include the following:

PLANNING. In much the same manner that an organization would activate a business plan, the transition plan will correlate its change to its vision and the mission of the organization. The Department will need to include the participating agencies in an affirmation of its micro mission statement that pledges to "identify and apply those information technologies that contribute to (an) organizational knowledge base while serving the greater good of the department(s)." Additionally, "the Department(s) and its members will employ its information systems as a primary means of responding to the social, political and economic challenges of the future."

The transition plan will recognize the present situation, project objectives, management/implementation team and expectations, impact analysis and establish task functions with specific time frames for completion of assigned responsibilities.

COMMUNICATIONS. The combined agencies will be prioritized on maintaining an ongoing dialogue with its primary stake holders but also ensure that all Departmental personnel are kept abreast of project developments on a regular basis. The scope of communications will include: formal written updates, formal presentations/updates, surveys requesting input, rewards/acknowledgement for persons contributing to the effort, regular planning/assessment meetings, and training. MBWA (management by walking around) will be encouraged as a method of being accessible to the information communications that will play an important role in anticipating issues that might impede the attainment of this project.

The TSD Commander, as project manager, will work with the transition team to communication transition Department's Technical Advisory Committee and involve them as one medium to the coordinating of needs and concerns from the respective Bureaus, Division, Sections and Units within the Department.

Working closely with the Chief, the transition manager will provide him with written on-going status reports which will outline progress of the effort and identify any programmatic issues that have or need to be resolved. It is with this status reporting that the combined Chiefs and their interest will stay abreast of the project and, thus, minimize unwarranted concern and share in its cooperative implementation.

RESPONSIBILITY CHARTING. All to frequently, good projects fail because of a lack of accountability and/or understanding as to who had responsibility for a particular effort. In order to avoid this pitfall, the "responsibility charting" tool will be employed. It is through the use of this tool that role relationships will be clarified as a means of reducing ambiguity, wasted energy and adverse reactions. The will also facilitate the ability of involved persons to work individually and as a team.

MANAGING THE NEUTRAL ZONE. The Neutral Zone is best described as the period of time between the current state and the desired state of a project implementation. During this period, persons involved in the transition will understandably have a sense of lost direction. It is during this time that the employee is working with an overlap of the new and the old. This is an especially critical time of project implementation and often requires little more than "hand holding".

This period of transition can be handled simply enough by identifying the phenomenon and encouraging affected staff not to be discouraged by its impact. In conjunction with several major automated implementations, staff can already relate to successes in surviving the ordeal and realizing the benefits of constructive change and the "end state".

Management of the Neutral Zone can and should include: practical training, temporary redirection of other non-critical duties, shadowing by trainers during live application, phased implementation of project, and being sensitive to the learning curve of the individuals involved.

SECTION V: CONCLUSION/SUMMARY

CONCLUSIONS/SUMMARY

"What will be the future of records/information management for small to medium law enforcement agencies by the year 2000?" To say the least, the future can be entirely promising and, unlike many futures, it is one that the law enforcement community can readily influence. If law enforcement can re-engineer its information systems, it will be the single most important challenge that it can overcome for the future. If the later part of the 20th century saw a transformation to an information society, then the 21st century will be a society of "knowledge" derived from the strength of information systems. It is from this "knowledge" that law enforcement will be better equipped to address the social, economic, and environmental concerns that ultimately impact its ability to be effective as a provider of community services.

SUMMARY

In introducing this paper and its primary issue, a good deal of effort was given to setting the foundation and otherwise providing an operational definition for the terms "records" and "information." In general, this study expresses the opinion that law enforcement's initial attempts at managing information have, all too often, focused on solving singular organizational problems while relying on technology driven solutions, i.e., dispatching, indexing of report information, crime analysis, narcotics information systems, etc. Simply stated, future practitioners of information

management will do well to appreciate and understand the fundamental components of "records" management as defined by early law enforcement scholars.

Although past automated efforts have contributed widely to improved efficiency in dispatch and clerical operations, the value to "information" as an organizational resource is questionable. Indicative of this observation is the fact that most first generation, and many existing "CAD" (computer aided dispatch) systems provide little capability for information reporting and/or analysis. Critically speaking, it could be asserted that law enforcement's managing of information through technology has contributed to de-emphasizing the important role of "records" as an organizational entity responsible for managing information.

To stay in step with the times, "records" as an organizational structure could be more accurately referred to as "information systems" but maintain, or better yet, retain the overall responsibility of coordinating the entire work flow effort. The work flow of information would and should include; dispatch operations (communications), officer field reporting, data collection/entry, statistical/crime analysis, report distribution, report query/analysis, document storage/archival, etc. These respective components of police organizational work flow must follow a seamless path of processes which compliment Technologies designed to minimize, if not eliminate, redundant effort and related costs.

In this study, the various *trends* suggested forecasts that, under the right circumstances, could prove beneficial to the law enforcement information systems. Likewise, the *events*, if influenced by good planned intervention and the conscious decision to affect change, could contribute to a promising future. Ironically, it is the *trend* dealing with decreased levels of government funding that becomes the pivotal element in possibly directing the future of this issue. The irony comes from the observation that, if economic times improve too soon, desired changes may not come about and existing forces will continue to contribute to the mismanagement of law enforcement information resources.

These difficult economic times have both spawned and renewed serious attention to the notion of "regionalizaton / consolidation" as an alternative means of continuing to provide basic police support services. The impetus for small to medium agencies moving toward regional efforts is clearly one of economic survival and the ability to accomplish more with less. It is through these consolidated efforts that participating agencies will advance their existing information systems and ensure a future for incorporating the rapidly advancing new technologies.

In addition, regionalization can allow for the creation of sound personnel infrastructures necessary to support the various consolidated efforts and their related information technologies. First and foremost, the regional efforts will need to create a management structure that is sensitive to the individual participants while valuing

the greater good of the cooperative. The type of management structure, whether it be a JPA (joint powers agreement) or some form of agency(s) contractual arrangement, is not nearly so important as the people that are selected for design, transition and ongoing management of the project.

Accordingly, the CEO of the respective agencies must make and maintain a commitment to support the staff given the responsibility of carrying out this effort. It is important to understand that regionalization is not a new concept and there have been many endeavors that have fallen short of expectation and primarily because of a failure in administration.

Beyond the management structure, adequate personnel to support the operational and technical needs of any consolidated effort must be provided. The new "systems" personnel must possess the skills and experience necessary to evaluate, acquire, and manage the technologies selected to meet to operational needs of the organizations. The "technologist" of the future will need to be less enamored with the technologies and more focused on the human-factors considerations of successfully integrating equipment and end user operability.

The new "technologist" will be required to take greater responsibility in meeting the ergonomic considerations associated with the implementation of the new information technologies. Certainly, the main crux of this study has focused on information as a critical organizational resource but, in the final analysis, "people"

are the most valued of resources. The litmus test for determining whether new technologies have been integrated well, will come from measuring against clear and quantifyable objectives. These objectives will be directed toward improved organizational efficiency and productivity for all agencies participating in the consolidation of information services.

Conceivably, agencies who have learned to live with less than adequate staffing at a local level might be tempted to continue with this direction and reap deeper economic gains. However, the short term dollar savings can eventually compromise the effectiveness and success of any consolidated project. Careful analysis, planning and selection of management, technical and operational staffing will go a long way toward benefiting the consolidation of information services and, possibly, act as a model for local agency programs.

RECOMMENDATIONS

Paramount to understanding the "future of records/information management for law enforcement" is the ability to recognize that "information" is an invaluable resource that is only second to the personnel that it is intended to support. During the industrial revolution, natural resources dictated the future of an organization. However, today and in the future, the knowledge gained from information systems will continue to distinguish people, units and organizations as leaders in their fields.

Consistently, throughout this report, it has been suggested that poor economic conditions will drive the consolidation of information services for small to medium agencies. However, as agencies move in this direction and successfully accomplish this effort, it will become apparent that the motivation for this approach should have always been greater operational efficiency. Instead of the islands of information that were created during the 1980's, the new focus will be on regional approaches to information gathering, retrieval and analysis.

If a survey was conducted today, there would be utter amazement at the amount of valuable raw information that exist within the law enforcement communities across the land. Unfortunately and almost irresponsibly, this information, in its current form, rest on separate and disparate systems that offer comparative little value to the greater good of those communities served. The immediate challenge for the future is to seize this opportunity and to carefully reevaluate our previous efforts, or lack thereof, and to begin to develop an information strategy that will harvest this plethora of information into a valued commodity defined as knowledge.

Whereas, this study has focused on regionalization at a local level and with a select number of small to medium agencies, the net affect and benefit could be exponential if the State, Federal, and International systems were included. The long term economic benefits for all concerned would be in the hundreds of millions of dollars and the operational benefits for all concerned would be immeasurable. In terms of

realizing this vision of creating a super information system, the limitations lye with those persons who can only look to their personal and political agendas. Perhaps a logical outgrowth of this report would be a comprehensive study examining the future of information systems at the national level.

Certainly, at one time or another, we have all heard or read that "patrol" (field) operations are the "back bone"of any law enforcement organization. Interestingly, that cliche continues to typify the importance of the patrol officer as an invaluable resource. In a similar fashion, and in view of our increased understanding on the value of information, a new cliche could be coined that describes "records" or a department's information services as the "organizational" mind. It is unlikely that scholars who studied and taught early law enforcement practices would take exception with this analogy.

~END NOTES~

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4. Waegemann, Peter C. "Redefining Records Management". The Records & Retrieval Report. Vol. 2/No.4 (April 1986).

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6. Adams, Russell B. Jr., Donald D. Canlay, ed. Understanding Computers: Computer Basics. Time-Life Books. Alexandria, Virginia. 1991.

7. In responding to the bid process offered by Cities purchasing RMS systems, vendors frequently touted their systems as being "turnkey". The term was to suggest that an agency in purchasing their system required little, if any knowledge, in operation of their system and that after installation the product was ready to use.

8. Naisbitt, John. Megatrends. Warner Books, Inc., New York. 1984. page 17.

9. Tafoya, William L. The Futurist. Law Enforcement Beyond The Year 2000. September-October 1986.

10. In conjunction with routine contacts with local agencies, personnel familiar with their information systems were polled on this issue and, specifically, as to the status of their CCAP projects.

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12. Meltzer, Morton F. Information: The Ultimate Management Resource. AMACOM. New York. 1981. page 59-74.

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14. Gordon, Theodore J. "The Current Methods of Futures Research". The Futurist, edited by Alvin Toffler. Random House, New York. 1972. page 164-189.

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16. Symptom resulting from compression of a large nerve (the median nerve) as is passes through the tendinous "tunnel" of the wrist. Jones, Stephen, mgr. ed. Family Health & Medical Guide. Published by Hearst. USA. 1979. page 260.

APPENDIX A

NOMINAL GROUP TECHNIQUE EXERCISE

PANEL

City Council Member - *Local Government*

Chief Executive Officer (CEO) - *Imaging Technology Business*

Police Lieutenant / Records Systems Manager - *Small Agency*

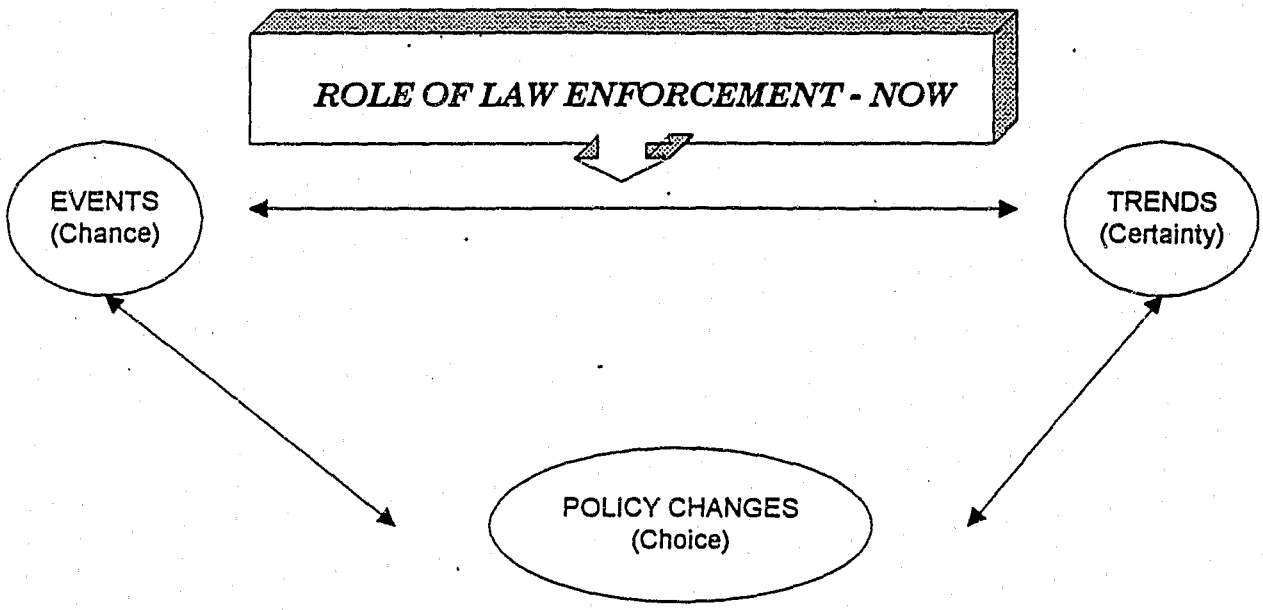
City MIS (Manager of Information Systems) - *Medium Agency*

Records Supervisor / civilian - *Medium Agency*

Senior Training Consultant - *Private Training Resource Company*

APPENDIX B

DETERMINANTS OF THE FUTURE: EVENTS TRENDS AND CHOICES



ROLE OF LAW ENFORCEMENT - FUTURE

EVENTS
(Chance)

- Technical Developments
- Resource Discoveries
- Natural Disasters
- Political Upheavals

POLICY CHANGES
(Choice)

- Legislation
- Political Intervention
- Resource Allocations
- Criminal Justice Discretion

TRENDS
(Certainty)

- Crime Trends
- Economic Trends
- Demographic Trends
- Political Relationships
- Social Trends

A Modeling Structure For Studying The Future
by Alter, Drobnick, and Enzer

TREND:

CONSIST OF SEVERAL SIMILAR "EVENTS" OF THE SAM NATURE WHICH TAKE PLACE OVER A PERIOD OF TIME AND ARE INDICATORS OF POSSIBLE CHANGE.

"Level of Information Technology"

EVENTS:

ARE SINGLE OCCURRENCES, SEVERAL WHICH MAY CREATE A "TREND".

"Chevron eliminates 2000 jobs at its Richmond refinery."

APPENDIX D

S.T.E.E.P. ISSUES PERSPECTIVES

S-OCIAL

T-ECHNOLOGICAL

E-NVIRONMENTAL

E-CONOMICAL

P-OLITICAL

APPENDIX E

TRENDS - NOMINAL GROUP PANEL PRODUCT

Automated Information Systems Management

Level of Computer Literacy

Networking Of Remote Informational Data Bases

Level of Regionalization

Multi-Media Informational Systems

Level of New Government Funding for Information Technology

Fees For Police Service

Technological Curve

Sciences Applications

Use of Technology & Level of Human Factors Concern

Satellite Communications

Decentralization Of Automated Systems Management

Field Resouce Priority

Informational Systems Integrity Concerns

Criminal Element Sophisticated Usage

Level of Reliance on New Technology

"Paper less" Informational Systems

Criminal Justice System Capacity

"User Friendly" Systems

Voice Recognition Technology

APPENDIX F

EVENTS - NOMINAL GROUP PANEL PRODUCT

Federal Reserve Bank Declares Economic Recession

Expert "knowledge" System Designed for Information Management

586 Technology Announcement

L.A.P.D. Implements Tele-commuting Program

State Pension Fund Theft By "Hacker"

Laptop Computer System Installed - Fremont P.D.

Wireless Transmission Of Documents - Fremont P.D.

New Stringent Legislation - Information Privacy

Automated Field Identification Technology Available

P.O.S.T. Information Management Training Establised

Legislation Mandates Inquiry Audit Tracking

Digital Camera Technology Adopted As Photographic Medium

State Proposition Adopted Further Tax Funding

Voice Recognition System for Law Enforcement Announced

Mandated Training Guidelines For Informational Systems Managers

Multi-media Application System Developed by L.E. Vendor Term

DOJ Informational Files Corruption Linked to Juvenile "Hacker"

Richmond Unified School Files Bankruptcy

False I.D. Attributed To New Paper Less Warrant System

Richmond Chevron Refinery Closes

APPENDIX F
(CONTINUED)

CAL-PHOTO Program Implemented

Fremont P.D. Withdraws From County Police Information Network

BAY VIEW Communications and Information Center Established

Contra Costa County "ACCJIN" Network Implemented

Death Connected To CRT Radiation Exposure

Retina Scan Technology Developed For I.D. Purpose

Vehicle Locator Systems Integrated to Computer Aided Dispatch

Expert Systems Computer Aided Dispatch Systems Developed

Law Enforcement Satellite System Established

Remote Activated Computer Systems Developed

Non-Lethal Laser Gun Technology Developed

Destructive Earth Quake Strikes Bay Area

DNA Identification Coding Adopted For State Prison System

APPENDIX G

City of San Cristobal
POLICE DEPARTMENT

MISSION STATEMENT

Our mission, as members of the Intelesis Police Department, is to represent the City by providing the highest quality of police services.

Together, the Department, will develop a partnership with the People we serve. To Promote understanding and cooperation, we are committed to on-going communications among our members and the community.

We adhere to our identified values, provide comprehensive development and require individual accountability. We are determined to acknowledge excellence in both individual and team performance.

We will continue with the development and application of innovative technology, thereby, achieving optimal use of human and material resources.

We support and provide our members with continual opportunities for personal and professional growth. Our ultimate goal is to assist all employees in attaining their maximum potential.