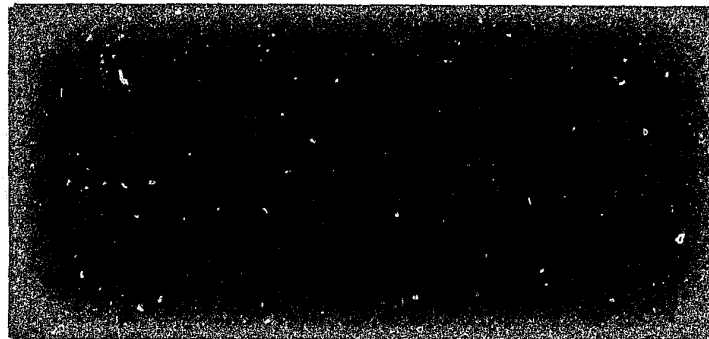


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CRIMINAL COURTS TECHNICAL ASSISTANCE PROJECT

Institute for Advanced Studies in Justice

The American University Law School

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MASTER PLAN FOR THE DEVELOPMENT OF
A CRIMINAL JUSTICE INFORMATION
SYSTEM: VENTURA COUNTY, CALIFORNIA

April 1977

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FOREWORD

As part of the overall design of a computerized criminal justice information system for Ventura County, California, Mal King, Executive Director of the Ventura Region Criminal Board, requested LEAA's Criminal Courts Technical Assistance Project at The American University to assist the Region in developing a master system plan which would provide a comprehensive framework for establishing subsequent funding priorities and which could be implemented by in-house staff. The consultant requested by Mr. King and assigned to this effort was Joseph Jordan who had worked previously with Ventura County officials in exploring information system needs. Mr. Jordan had provided prior technical assistance to Ventura County in late 1974 to assist local officials in determining the scope and direction the development of a criminal justice information system might take.

Between December 1976 and February 1977, Mr. Jordan worked with members of the Criminal Justice Executive Committee of the Ventura County Board of Supervisors, which is composed of representatives from the courts, corrections and police, to identify system requirements and assure that the development of the various system elements would be coordinated and would incorporate current developments in information system planning. The report which follows presents the master plan developed by Mr. Jordan, together with his analysis of the information needs of the criminal justice system components in Ventura County and overall design considerations which bear upon subsequent planning and implementation.

I. DESIGN CONSIDERATIONS AND REQUIREMENTS FOR THE VENTURA COUNTY CRIMINAL
JUSTICE INFORMATION SYSTEM (VCJIS)

A. Overview

The basic premise upon which a criminal justice information system is designed must be that it will provide management information to key administrators and other users in a timely fashion. Most criminal justice information systems deal with the status of defendants, counts, appeals and motions. Some go a step further and provide a capability for posting to a record significant events in the history of the case (CCH). Very few systems if any have gone into the decision making process that relates to the management of a criminal justice information system. Much of the information that is gathered as a result of collecting information on status and events is useful. However, there is much more information that should be at hand when the administrator is called upon to make an important decision affecting justice or the efficient operation of the various agencies involved. When the analysis of information requirements is conducted by the systems analyst, very often the administrator is totally unprepared to provide information on what data he needs. As a result, the information which is easiest to identify and collect is considered to be the information data base for a criminal justice information system.

Another aspect of criminal justice information system design which is traditionally neglected is that of identifying

all of the decision makers in the system. Very often key decisions are made by lower level employees in the structure. These individuals can significantly affect the operations of the individual agencies. It is extremely important to make certain that assumptions relating to the destination of the information are valid. By properly recognizing the true points of decision making throughout the system, the structuring of the information requirements and the report distribution can be more effectively accomplished.

Also, very often the information requirements definition task is considered to be a task which is accomplished early on in the system design and not considered to be a continuing process. In reality, a good information system should also be a learning system. As the system is used in the decision making environment, there should be an ongoing realization that additional information is required or information currently being collected is not necessary. In other words, the system should naturally evolve. Also, a hierarchy of importance of information is established. Other considerations such as the frequency with which the reporting system should react and the format for best conveying the information in a decision making situation is realized. In other words, the system should provide a mechanism for insuring an increase in the quality of decision making by providing a basis for evaluating the effectiveness of decisions. A criminal justice information

system should provide them a medium by which the administrators become more skillful, the efficiencies and economies are increasingly realized and the information system itself becomes more useful and vital.

The criminal justice information system project plan should include three basic management development areas. Each of these efforts would span the entire time frame under which the project development and implementation takes place. Some of the activities would go beyond the implementation of the system in that they would be an ongoing training program for new employees or employees who are promoted within the system. (See education MASTERPLAN).

The first area for developing a management program is that of the policymakers, planning specialists, and administrators. The first components in this area would relate to orientation of the various individuals as to the scope of the project and their particular responsibilities as part of the project team. Because of the impact of automated systems upon organizations, it is very essential that organizational development be included as part of the formal management program. Next a series of workshops dealing with the management decision making process would take place. These would provide the insights into decision making that are relevant in terms of definition of information requirements. The key concept here is to develop a frame of mind in which decision making is

viewed as a living process and one which can be improved by proper selection of goals and measurements. Another area of management includes the concepts and principles of project design and control. This prepares the individuals for their roles as managers of the VCJIS project and provides the insight necessary to make certain that the project is constructed and executed in a reasonable manner. The last component of the management program is one in which a realization of the organizations operations is reviewed with the intention of providing them the organizational knowledge that would be necessary to implement an automated system. The key objective here is to clearly identify the reality of the operations as they are presently conducted and provide direction in developing a revised system.

The next area of management relates to the development of the capabilities of project personnel in the area of techniques. Because of the complexity of a criminal justice information system and the terminology and nomenclature unique to it, it is essential to ground those technicians who will be providing the programming and systems design with the knowledge necessary for them to do their job. This training would essentially be on two levels. The first level would be general introductory type of workshops in which the overview of the system is described and its individual components are identified. Interfaces and points where information exchange is accomplished

would be pointed out. The next level of training would be in-depth training as it relates to the decision making processes and the unique configuration of operations within each of the associated criminal justice agencies. This would be the point at which convergence would be checked between the needs of the operation and the computer logic necessary to provide the desired results.

The third area of the management of the project is that of the training of the operators of the system. This effort would commence early on in the system's design, so that the employees in the system would have the maximum amount of input to the system's design effort. This activity would relate to general workflow diagramming, forms review, and general orientation to their role in relationship to other roles within the agency and with other agencies. The next area of training at this level would be directed towards the actual training to operate the system. This would include terminal operator's training for entry and retrieval of information, data collection and auditing, and interfacing the automated system with other manual systems.

B. Orientation and Education Masterplan

One of the important factors for success in installing automated systems is the proper conditioning of the users to accept and participate in the project through a sound orientation and education process. The users or participants in the information systems vary depending on levels of responsibility and particular skills. This section of the masterplan sets out to identify the target areas for the orientation and education effort so that the specific educational objectives can be described and properly addressed.

The key to the process is that of selecting the best method for communicating with the intended audience. Basically, two vehicles will be used for delivering the orientation/education training program. The first will be the use of workshops in which instructional material will be presented and a follow-up case problem will be worked on to reinforce the intended learning objectives. The participants will be organized in teams so that the exposure of skills which they already possess can be transferred to others in the group. This also develops a basic conceptual approach to project work. The second method of presenting the material will be in terms of a learning packet. These will be highly modularized units of instruction which will have specific objectives to be accomplished. The packets will be put together with a combination

of materials such as texts, audiotapes, videotapes, and diagrams. They will be constructed with the user in mind. Materials that will be relating to the operations of the terminals themselves will be written so that the communication of the ideas is maximized. On the other hand, the units that would deal with systems design considerations or management concepts would be developed so as to portray more theoretical type concepts in a working environment. The intent of these learning packets is to provide the capability of delivering the orientation and education material at the pace which best suits the user. Briefly, the learning packets will do several things for the VCJIS system:

- (1) Provide trainers a medium through which they themselves can acquire the knowledge necessary to function as trainers on an unfamiliar, automotive system.

- (2) permit each person's training folder to be tailored to their individual needs.

- (3) Allow easy modification of training material.

- (4) Reduce the demand on each trainer's time to a bare minimum, since the learning packets are virtually self-teaching devices.

- (5) Establish uniformity of training while making it possible for training to be conducted independently in each office, without requiring the coordinating of the schedules

of instructors and students, or concern over availability of training rooms and other facilities.

(6) Modularize the overall training into "bite size" packages easily assimilated by the trainees.

(7) Provide a basic structuring on which additional and broader training programs can be built.

With reference to item (7), it is suggested that once the packets have been developed for the VCJIS system, each agency could then begin developing additional packets for unique needs that they have in their office environment. By utilizing the format that has proceeded with the development of the learning packets, a high degree of transfer from one agency to another would be effectively done.

The central material in the learning packets will be the texts. For example, in a learning packet dealing with entering data by way of the CRT terminal, that section of the operator's manual which deals with that particular function will be included in the learning materials. This relates the learning experience to the operating manual which will be the guide by which the system will be operated. The cumulative effect of step-by-step review of the manual by way of these learning packets will then insure solid and progressive comprehension of the essential steps necessary for the users to understand their job.

The first step in our plan to implement the orientation and education program involves (1) clear identification of the users of the information and (2) the specific learning objectives that need to be met to successfully implement the VCJIS.

The user identification is key in the development of this program because each has a particular need and a particular level of responsibility in the organization. The range of activities go from the judiciary which has the overall policy development responsibilities through the management levels having the operational responsibilities to the data entry clerks who are essential in maintaining a quality and control over the input data. Each has a separate progression or building block to meet their needs. Also, each has a different perception of their role in the successful implementation of the VCJIS and have a need to participate in their own professional growth. The format for conducting the orientation/education program will range from predominantly workshop-type presentations to the higher management levels and detailed learning packets for the individuals responsible for the entry of the data. Another key aspect to the successful implementation of the VCJIS is the ability to definitively identify ongoing needs in the system as they become apparent through installation phase of system. The systematic gathering and transmitting of this information is important to provide to

the systems design team input to their planning for systems enhancements. The feedback from the various agencies together with general orientation-type training experiences will be provided for the program development staff. In close association with this, project directors and other project staff will have a segment of the training program for strengthening the management control over the project.

The first set of activities in the Orientation/Education MASTERPLAN will involve the definitive description of the learning needs in the Ventura County criminal justice agencies. Initial effort will involve the development of learning packets for the terminal operators and the management level. The secondary objective will be to develop a format for the initial workshop in which the pilot agencies will review the progress and the installation requirements of the criminal justice system.

The next task will be to structure the orientation/education program to meet the needs of developing the civil systems. This effort will "start from scratch" by developing a step-by-step training program to meet the needs of all levels of participants, the progression of instruction to coincide with the system's development cycle.

The key objectives of the development of this Orientation/Education MASTERPLAN are to (1) insure a successful implementation of the VCJIS system and (2) provide an ongoing method by which the managerial and operational skills can grow as the system continues to evolve.

II. INFORMATION SYSTEM NEEDS IN VENTURA COUNTY

A. Existing Problems

This section examines the information requirements from a systems analysis perspective that portrays how the commonality of information needs cuts across justice system organizations, agencies and jurisdictional boundaries. From this systems viewpoint are developed requirements to improve each agency's operations by sharing an information base and developing common subsystems to serve as many agencies throughout Ventura County as possible.

The most pressing problem present in most justice agencies in Ventura County is information storage and retrieval. Information required by elements of the criminal justice system is being collected and manually stored in files, but the storage systems do not facilitate rapid retrieval. Such manual files result in the following information retrieval situations, all of which occur throughout Ventura County.

- . A requestor may not make a request for information he requires thereby reducing his job efficiency. Even worse, he may go to the time and expense of regenerating the data.
- . A requestor may submit his request and wait until the manual file system can retrieve the pertinent data, which may take minutes to weeks, depending on the type of request and the urgency. Meanwhile, the task that required the information goes undone or is only partially done, until it is no longer pertinent or its urgency increases.

- . A requestor may, if the file is located within a reasonable distance, go find the information himself, thereby contributing to loss of file integrity because of out-of-file information and possible misfiling of information, as well as increasing the requestor man-hours spent.
- . If information is of vital importance to his functional performance, the requestor may start a duplicate version of the file. Satellite files engender problems of additional cost and of file inaccuracy because of additional transcription errors and lack of uniform retention policy.

A basic cause of the slow and costly retrieval of information is lack of access flexibility to manual files. The descriptor used to order documents (such as defendant's name or a case number) precludes access by other descriptors, unless special measures are taken to cross-reference the data. To answer the many questions requiring criminal justice information, multiple cross indexes would have to be initiated and updated manually. Cross indexes are time-consuming to keep current and offer opportunity for many errors of omission and transcription as data are transferred from the original sources. In some applications, however, the benefits justify the cross indexes--indeed the justice system agency functioning requires them. The alpha card file of a police department is a typical example--cross index of name to event or crime.

Cross indexing is needed, but not used, for the documents of such law enforcement applications as citations, crime reports, and field interrogations. Cross indexes, such as by address, serial number, or vehicle make/model, would provide

valuable lead-producing data for investigators. With such information capability it would be possible, for example, to find out whether any blue 1976 AMC Pacers had been in contact with the police, which officers from a police department were due in court tomorrow, or to furnish to the Probation Department and the ROR Program lists of the associates of a client.

In summary, the following statements describe criminal justice information systems within Ventura County:

- . Information is manually gathered and stored. Retrieval, except by specific keys, is time-consuming. The current retrieval keys are designed for storage. Useful information retrieval requires multiple files or cross indexes, which are costly to maintain.
- . Sharing of information among jurisdictions and agencies within Ventura County is performed informally, partly because of the retrieval problems and lack of awareness as to what information is available.
- . Multiple copies of information exist at all organizational and functional levels because of the retrieval problem. The information base is, therefore, especially subject to errors of omission and commission. Because of the cost of these multiple files, they are not always adequately maintained, further reducing their credibility and hence their utility.
- . The Ventura County criminal justice system is fragmented. Although it deals with identifiable individuals, no agency coordinates the information available to the system components. Instead, information is passed from agency to agency, with little thought being given to information requirements beyond parochial organization boundaries. Hence, the system can only react to a need for newer or better information by adding a department here or a new file there.

The above problems are inherent in the way the individual criminal justice agencies in the County currently approach their information storage.

B. Relationships Between Agencies Based on Information Requirements

The Ventura County criminal justice system has two distinct subsystems: Law enforcement predicts and prevents crimes and links events (crimes) to people; the courts process a specific event-individual relationship through an adjudication process. These two subsystems share a mutual need for information on people and events. Each subsystem uses information generated by the other and in turn generates new information. The police provide the courts with input data on person-event relationships, and the courts add further information to person files, which helps police investigation. Thus, the system is highly inter-dependent.

The functions of the various criminal justice agencies can be grouped into elements by their common information needs. This approach provides a County-wide overview of the criminal justice system. Analysis has identified the elements shown in Table 1.

Table 1

ELEMENTS OF THE VENTURA COUNTY
CRIMINAL JUSTICE SYSTEM

Field Operations	Custody
Criminal Investigation	Prosecution/Defense
Booking	Adjudication
Data Management	Management
Personal Investigation	

C. Information System Requirements for Specific System Functions

The mutual information system requirements for each of the nine elements are described in the sections following; the agency functions that have generated these requirements are indicated.

1. Field Operations

The field operations element comprises the patrol operations of the city police departments, the Sheriff's office, and the California Highway Patrol. The primary mission of these operations is crime prevention, criminal apprehension, public security (through visibility), and traffic services.

The specific information system requirements for the field operations element are:

- . Rapidly available, specific information on the criminal justice status (e.g., probation, parole) and characteristics of persons, vehicles, places and events.
- . Rapid communication to and from the field.
- . Detailed backup information or pointers to where such information is available.
- . Automatic routing of information requests to data bases at all levels--local to national--of the criminal justice system.
- . Resource allocation and scheduling to promote efficient use of a field officer's time.
- . Involvement of field officers in outcomes of the criminal justice process they are active within.

2. Criminal Investigation

The criminal investigation element consists of the investigative operations of the local police departments, the Sheriff's office and the District Attorney's office. These operations associate people with criminal events by using existing person and event information or by developing such information.

The information system requirements for the criminal investigation element are:

- . A data base designed for flexible retrieval.
- . A data base structure and source data that permit crime pattern analysis by time, location (e.g., decoding of events), crime type and other commonly used descriptors.
- . A query language permitting easy retrieval, correlation, linking, and display of specific information from different data bases. This language should require a minimum of training to use and should have extensive coaching capabilities for each interaction.
- . High quality, timely data input from law enforcement field sources.
- . Access to information in data bases in other counties and at the State and National levels.
- . A large data base of County-wide data on persons, events, places, property, and so forth.
- . Notification to another agency of common interest in a subject (see Section D-6).

3. Booking

Booking--chiefly performed by the Sheriff's office--is the first point of contact with the adjudication process for the defendant. The booking officers should positively identify suspects brought before them and must accurately record data on the circumstances of the arrest.

The information system requirements for the booking element are:

- . Capability to identify positively an arrested suspect.
- . Rapid determination of whether the suspect is already included in local, regional, or State data bases.
- . Minimum entry of data for the booking officer. Only new or changed data should be entered, but all data should be reviewed for accuracy.
- . Automatic production of hard-copy booking documents as the legal records.
- . Automatic notification to the pertinent criminal justice functions of the requirements that the new case will impose on them (e.g., the Sheriff's custody operation, the District Attorney, the Public Defender program, the courts, the ROR Project, and the Probation Department).

4. Data Management

This broad element supports the entire criminal justice operation by management of the data bases of the local police departments, the Sheriff's office, the courts, and other criminal justice agencies. Currently, the data management

functions are separated geographically and organizationally. Although the basic information recorded is different, the record keeping operations of all the criminal justice agencies have much in common (i.e., all agencies are responsible for the accuracy and integrity of the information bases that make the criminal justice system operate, and all use information supplied by the others).

Criminal justice data bases are maintained by adding, deleting, and updating various records. Data from stored records are provided to criminal justice users (detectives, police officers, the District Attorney, judges, attorneys, etc.) and to outside agencies having an interest in criminal justice proceedings (public record data) such as insurance companies, credit companies, and employers. Criminal justice data must be protected from unauthorized or otherwise improper use.

The information system requirements of the data management element are:

- . Automatic editing, organization, filing, and cross-indexing of data as they are input.
- . Storage of large amounts of data in a structure that permits flexible use.
- . Access to the stored data by using a variety of data elements as keys.
- . Analysis of transactions to determine usage patterns for systems design and security (i.e., provision of statistical summaries of data inputs, file users, data elements requested, and so on, as well as audits to identify the users of specific information).

- . Strict security procedures and audit trails to protect the confidentiality of the data.
- . Automatic transfer of data to archival files or purging of data, depending on the type of data and the retention time requirements.

5. Personal Investigation

Another broad element, personal investigation, develops background information on individuals subject to criminal justice proceedings, including such data as employment history, family, associates, places frequented, and cars driven. Such information is used to assess the probability of specific crimes, or modifying their behavior patterns as a function of correctional activities. Personal investigation is used by Probation, ROR, and other criminal justice investigators. Each user has access only to specific information within legally granted information access rights.

The information system requirements for the personal investigation element are:

- . Capability to link an individual to individuals, events, vehicles, and places within the purview of the criminal justice system.
- . Access to the pertinent criminal history of an individual and his associates from local, regional and State sources.
- . Pointers to manual files or other sources of information.

- . Automatic notification to a pertinent criminal justice official regarding a client's contact with the criminal justice system (e.g., ROR clients, Probation clients, and individuals under special investigation).
- . Security procedures to prevent all but those specifically authorized from having access to data elements.

6. Custody

The County Jail personnel must account for all prisoners at all times. This inventory of persons is not static, because prisoners must conform to different programs and schedules. The Sheriff and the CYA are responsible for receiving, assigning, and releasing prisoners. A prisoner's movement to and from court, hospital, trustee job, or rehabilitation program must be controlled. The Sheriff must maintain a local set of records of such activities as inventory, finances, and food service.

The information system requirements for the custody element are:

- . Real-time inventory of prisoners by facility-- work furlough, honor camp, main jail, and so on.
- . Provision of schedules and notifications for each prisoner regarding court appearance, release date, and eligibility dates (e.g., for honor camp or work furlough).
- . Notification of prisoner special requirements (e.g., medical, dietary, and behavior problems).
- . Provision of statistical reports for planning food, space, manning, and so on.

7. Prosecution/Defense

This element is concerned with the functions of attorneys, including Deputy Public Defenders, Deputy District Attorneys and private defense attorneys. Attorneys must be kept informed of scheduled activities and events throughout the adjudication process. They investigate cases to determine the elements of a crime, the physical evidence, the witnesses, and the attendant circumstances, by using data recorded by other elements of the criminal justice system and by developing their own data.

- . Appropriate notification of potential cases at the time of booking or citation.
- . Provision of identification and background of defendants, witnesses, and others connected with court cases, from current system files.
- . Notification of appearances for attorneys, defendants, witnesses, complainants, and so on (court calendar data).
- . Access to Crime/Incident Report and other pertinent case data.

8. Adjudication

The adjudication element comprises operations of the Municipal and Superior Courts. This element is the source of intermediate information (such as scheduled court events) and final dispositions.

The adjudication information system requirements are:

- . Provision of schedules of the required appearances of defendants.
- . Provision of conflict notification for important principals of a case.

- . Provision of calendars and notification of appearances to defendants (or the jail), attorneys, witnesses, and so on.
- . Updating of the defendant's record with the disposition of each proceeding.
- . Provision of current and anticipated case load information to the presiding judge for assignment of courtrooms and judges.
- . Automatic notification/warrant procedures for traffic citation failures-to-appear.

9. Management

The above organization of the Ventura County criminal justice system by common information requirements was done from a systems perspective. Only the system as seen by the citizen, suspect, or defendant was addressed. To operate, the criminal justice system must obtain, schedule, and monitor resources. Each element of the criminal justice system has its managers and administrators who are responsible for handling the work loads imposed by the criminal justice process. These administrators have a common need for statistics and reports about their current work loads and, more importantly, about their future work loads. It is in this latter area that the current information systems are most deficient, for little capability exists to predict and plan for future requirements. For example, an increase in the police crime closure rate would increase the requirements on criminal justice activities throughout the system, yet the only notice the administrators would get

would be the fact that their work loads had suddenly increased, with the attendant need for more resources immediately. The management information necessary for resource decisions is a by-product of a well-designed criminal justice information processing system. In addition, the management information should be shared, because of the impact each element of the criminal justice system has on all the other elements.

The information system requirements for management are:

- . A data base designed for flexible access.
- . Provision for output in multimedia forms (e.g., cathode-ray tube [CRT], high-speed printer).
- . Query language permitting easy retrieval, correlation, linking and display of data.
- . Capability to determine current work-load status and compare it with past activity and system capacity.
- . Capability to predict resource activity under varying assumptions of resource availability, system environment, and system organization.
- . Generation of daily, weekly, monthly, quarterly, annual, and special statistical reports from the data bases.

D. Criminal Justice Information System Design Goals

Together with the specific user requirements that the criminal justice information system should support, there are general system design goals that should characterize the system development and use. These design goals are summarized in Table 2 and are discussed below.

Table 2

GENERAL DESIGN GOALS FOR THE VENTURA COUNTY
CRIMINAL JUSTICE INFORMATION SYSTEM

- . Comprehensive information base shared Countywide.
- . Computer processing integrated with communications.
- . Flexible data base.
- . Information for decision making.
- . Growth potential.
- . Promotion of cooperation among all criminal justice agencies.
- . Maximum use of existing information.
- . Management and operations involvement at all levels of all agencies.

1. Comprehensive Information Base Shared Countywide

A criminal justice information system that will satisfy the requirements established in previous sections of this report will require large amounts of input data from documents generated during the operations of the criminal justice agencies. Such a system, however, will share only the data and not the documents. Each agency will continue its records function. Only certain specific data on an event will be entered via terminals, with a pointer to the agency controlling the document. Thus, this system is not viewed as a records consolidation project. The data to be entered are those that

most agencies already collect--albeit in a multitude of formats. The success of the project will rest in a large measure on the ability of all jurisdictions to input to and share a Countywide data base consisting of common data elements.

2. Computer Processing Integrated With Communications

The chief rationale for providing a comprehensive shared information system is to put information in the hands of decision makers quickly. This requires centralization of the storage function and dispersal of the inquiry function (i.e., a central computer accessed by many terminals). The storage function must have the capability to file and access large amounts of data rapidly. To transfer information to the decision makers, rapid communication must link the computer with the criminal justice users. Such a combination of technologies is now feasible and should be used to serve criminal justice users.

3. Flexible Data Base

The criminal justice data base must provide information about specific events, people, vehicles, and so on, as well as more general information. To provide the former information, the data must be stored in an unaggregated form--that is, the characteristics of each event of interest to the criminal justice system must be stored, rather than simply being tallied

in various categories and then the tallies being stored. Such a storage policy will require a large storage capacity, yet this is the only way to provide flexibility in system design and system adaptability to new or unforeseen requirements. This flexible data base will rely on computer software to build the necessary cross indexes to permit easy, rapid retrieval of data in whatever order is required.

4. Information for Decision Making

As discussed in the VCJIS MASTERPLAN Summary the system must be designed to provide information in the time frame and the format that will enhance the decision-making process of criminal justice users. The information must be accurate and concise and must satisfy needs as perceived by the user rather than by an external systems analyst.

5. Growth Potential

Two forces cause a system to outgrow its original specifications. First, the information needs of decision makers change as the environment they face changes. Second, users increase their demands as they grow more sophisticated after learning what an information system can do for them. Since a criminal justice information system must be user oriented, it must change as user needs change. This ability for a system

to change can be designed in by using techniques that allow great flexibility in combining system resources. Although this flexibility may increase the cost of daily operations, it will substantially decrease the long-term cost for system development during the maturing process.

6. Promotion of Cooperation Among All Criminal Justice Operations

The mobility of the criminal is a definite advantage when information on his criminal activities is stored in several jurisdictions and is not fully shared. Cooperation in sharing information is one step toward eliminating the advantage of mobility. A second step is cooperation in sharing interests: A system can remember requests for information and then notify an agency when a second agency is asking or has recently asked for the same or similar information. Faced with a system that promotes such cooperation, an offender will perceive the criminal justice system as a unified whole rather than a collection of separate parts. The agencies will benefit by avoiding duplication of effort and having available more information on a particular event or person.

7. Maximum Use of Existing Information

As already mentioned, maximum use must be made of local information sources. While promoting use of local information,

the system must also use available external information. In particular, the system must be capable of utilizing information in regional systems, such as PIN and the State network via CLETS. In addition, it would be desirable to link with other county criminal justice systems, such as Los Angeles, Santa Barbara, San Bernardino, etc. These systems could provide information, such as criminal history, that should not be duplicated. For example, it would be desirable to obtain instantaneous RAP sheet data from the State, thereby freeing the storage necessary to duplicate such information at the County level.

8. Management and Operations Involvement at All Levels of All Agencies

A system with the complexity and cost of a criminal justice information system should not be embarked on without the enthusiastic support of the management and operations personnel of all the agencies to be served. This support was given to the study reported here, and it must continue throughout the planning, design, and implementation phases. The future users cannot completely turn the system design and implementation over to "technical experts" without being disappointed in the resulting system. Each user must develop in-house expert(s) who will ensure that that particular user's needs are understood by the system designers and that the

resulting system will meet those needs. Such user experts are the guarantee of system responsiveness and smooth implementation.

E. Elements of the Criminal Justice Information System (VCJIS) Designed for Ventura County

The VCJIS concept should be used as the basis for detailed system design and planning. The implementation of VCJIS will require data, computers, and communications between criminal justice users and external criminal justice data bases. This section describes the various elements of the VCJIS.

1. Communications Processor

VCJIS will communicate with users throughout the County and with other criminal justice and law enforcement systems at the regional and State level. The communications links will enter a communications processor that manages the details of receiving, formatting, and error checking. This processor may also log messages and perform a preliminary security check on users.

Such a processor is already in use in Ventura County to control the County communications system. This processor might be adapted as the communications processor, the processor dedicated to criminal justice, to meet State and

^ federal guidelines for accessibility to criminal justice systems. Should the main computer completely fail for any reason, the communications processor would still be able to access key external criminal justice systems (specifically, the DMV and DOJ files).

2. Modules

The main computer or central processor contains five modules. These modules represent another way of looking at the system requirements previously described. Two modules represent service to all users: the System Control Module and the Management Information Module. Three additional modules represent support to particular activities: (1) Those associated with law enforcement patrol operations (Police Operations Module), (2) investigation activities (Investigation Module), and (3) the processing of a defendant through the criminal justice system (Defendant Processing Module). These modules should be considered as only a descriptive view of the operations VCJIS will support. Detailed system plans should be based on the system requirements given previously in this chapter. Each of the modules is described in detail below.

a. System Control Module

This module would coordinate the computer resources to serve all user requests for information. It would coordinate

communications to users, to the data bases, and to external criminal justice systems. Here the security checks would be made to determine a user's right to access information requested. System statistics would be tallied and audit trails be established. This module would also manage the data bases to coordinate user queries, updating, and deletion.

b. Management Information Module

This module would support all agencies and functions. The objective would be to provide information on the characteristics of the input, output, and status of individual criminal justice system resources. The module would provide the daily, weekly, monthly, quarterly, and annual reports required by the various levels of government, as well as special reports designed by and for administrators in the Ventura County criminal justice community. The management reports would be summarizations of performance data and would be presented on video display devices, in printed form, and possibly as computer-prepared graphs. A flexible query language would be necessary, because as a manager's needs changed, the reports supporting his decision making would have to change.

c. Police Operations Module

The objective of this module would be the extremely rapid retrieval or insertion of information. It supports requests from patrolmen regarding the status of activities and persons. This module would require rapid information retrieval and display but little processing. Minimum response time would be required. The module would support access to information by specific case number, or license number. It would also support the addition, deletion, or update of such specific information.

d. Investigation Module

This module would support criminal and personal investigation by detectives and by Probation and ROR personnel. Users of this module would be less concerned with response time than with a complete check of all possible files to link and correlate data about persons, events, vehicles, and places. The module would be supported by a flexible query language that could describe the types of relationship these investigators would seek. The output to such queries would be all the data previously linked by the computer cross indexes, and possibly pointers to manual files and agencies where additional information might exist.

c. Defendant Processing Module

This module would support adjudication and adjudication-related functions, such as booking, calendaring, notifications, complaint filing, indictments, and citation warning/warrants. These functions would include both data input, such as scheduling and dispositions, and retrieval, such as calendars, and status of defendants, cases, or courtrooms. Some of the court functions supported would be similar to functions described in the Police Operations Module (e.g., retrieval of status information on a specific individual). The computer programs to support such status searches would probably be shared between modules, but different data files would be searched.

There are additional potential modules that could serve the criminal justice system. Because of uncertainty in the requirements for such additional modules and lack of priority compared to the modules already defined, the additional modules are only noted here and are not recommended for inclusion in the VCJIS system at this time. Such modules might be: A Resource Control Module for aiding dispatch and command and control while collecting calls for service and response time characteristics; a Personnel Module for collecting hours worked by personnel by project or task; and Equipment and Maintenance Module for determining use of and maintenance required for equipment; and a Finance and Budget Module for planning and controlling criminal justice expenditures.

3. Data Files

The last area to be discussed is the data files. These would be of two types. Magnetic tape files would be used primarily for backup and housekeeping, because tapes are low-cost bulk storage, and system failures generally do not affect data written on them. Tapes would also be used for historical analysis and research. The files would be the basis for achieving the system requirements described in a previous section. There would be two types of disk files.

One type of disk file would be an index file that would permit data to be retrieved directly on the basis of a particular characteristic rather than by searching all data and selecting those matching the requirements. Depending on the method of implementation chosen, these index files might be under the control of a particular application program or might be imbedded in a data management system that would handle all file accesses.

One index file would use person name, either by exact spelling (if possible) or by a Soundex-type search. Because of the difficulty of correct spelling of names and multiple occurrence of names, any person information should be identified by more than just name. Any name search would typically be supplemented with a display of specific additional identifiers, such as height, weight, race, sex, date of birth, and

social security number. Some of these critical items would be included in the person index. Associated with each name in the index would be references to each event recorded in the files where the person was involved. The second index would include all the other ways the data could be cross indexed, such as by license number, make/model of vehicle, attorney, case or docket number, and crime type. The number of these other indexes would be decided during the system design phase. The number of cross indexes involves a trade-off between the storage necessary to support a cross index and the number of times information is likely to be accessed on the basis of a particular data element.

The second type of disk file would include the Field Interrogation (FI), Citation, and Event/Incident files and would form the basis of information about persons on the streets and the crime environment faced by the criminal justice system. These basic files would provide the operations statistics and the investigative leads. Input would come from reports by patrol officers and investigators. The citation file would also be used as input to the court, to process bail forfeitures, failures-to-appear, traffic court appearances, and so on.

Accident reports would provide additional information on the street environment throughout the County. A subset of these data containing person, vehicle identifiers, location,

and time information should be used in the VCJIS system.

The Personal Identification file would contain such information as addresses, phone numbers, associates, and employment. The use of elements of this file would be restricted by various security codes to prevent access to information by any except those with a specific need to know. If information were deemed too sensitive to trust to a computer file, data would be stored pointing to manual files within specific agencies. The issue of data privacy is currently in great flux. During system design, legal opinions will be necessary to determine the quantity and nature of the personal information to be retained in VCJIS files.

When a specific query subject had been identified, access to the Defendant/Case File or to the Criminal History File would be permitted. The Defendant/Case File would contain a record of the progress of a defendant through the adjudication process and would be organized to link data on multiple charges, events, and defendants. The courts would update this file when making up schedules (calendars), notices, referrals, and dispositions.

The local Criminal History file would consist of criminal history information on individuals that would be desired by local criminal justice users but would not be in the State Criminal History files. It is recommended that VCJIS rely on

the State Criminal History file for the bulk of its information. There are several reasons for this recommendation. The State is committed to and already is developing a computer based Criminal History file as part of its CJIS system. Thus, storage space and file maintenance time should not be duplicated at the VCJIS level. Second, the DOJ is actively developing guidelines on the appropriate information for storage in criminal histories, given current and projected legislation. As the guidelines change, so will the data included in the State system. Thus, VCJIS can rely on its own County-developed criminal history information, it could be severely impacted by new legislative mandates. Finally, DOJ personnel indicate that they are favorably disposed to such local use of their information. The disadvantage of using State information is the long time required to update criminal histories. The delay might be shortened by automatic VCJIS submission of court dispositions.

The operation of such a split criminal history file might be as follows. For a routine query on a person not currently active in the Ventura criminal justice system (i.e., not a suspect, special investigation subject, defendant, or Probation client), access would be made to the State Criminal History file. A simultaneous search would be made of the local VCJIS file. For a person active in the Ventura criminal justice

process, a copy of the criminal history information would be transferred from CJIS to VCJIS (probably at the time of booking). This information would be entered and stored at the local level and updated as the person proceeded through the Ventura criminal justice process. Such a local copy would decrease the number of accesses to the State files. VCJIS could send intermediate status reports to the State, and after the final disposition had been sent to the State, VCJIS would purge or write onto a backup tape the local copy of the information.

The final file is the Management Information File. This file would contain the specifications and tallies for the required statistical reports--daily, weekly, monthly, and so on. The tallies would be gathered as the data were input to the data bases. The reports could thus be viewed as accumulated, without need to search the entire data base for each query. This file would also contain past data for various reports, so that comparisons could be made.

III. PROJECT MASTERPLAN IMPLEMENTATION GUIDE

A. Summary of Preliminary Planning

This section provides the guide for planning and conducting the development of the VCJIS. Some preliminary work has been accomplished in the tasks of surveying of general system requirements. Preliminary survey forms were distributed and the results analyzed to assess the boundaries of the system design. Associated with the data gathering, a collection and review of previous studies and projects associated with information systems was accomplished.

B. Tasks Required

TASK 1. COORDINATE PROJECT PLANNING

It is important in a project of this nature to develop a sound foundation for successful project completion by performing a comprehensive review, orientation, and coordination activity. Thorough preplanning frequently precludes potential misunderstandings of project objective and requirements, and promotes proper project work schedule achievement. The need for a countywide understanding of the scope and objectives of this project, makes this preplanning task extremely important.

The objectives of Task 1 are to obtain a mutual understanding as to the project goals and objectives, coordination and liaison requirements, and administrative requirements.

Three sub-tasks will be performed during Task 1 as follows:

1.1 Coordinate Project Activities

The project committee will meet with the Project Director and others as appropriate to discuss and refine this proposed work plan. The purpose of these initial meetings will be:

- To assure a mutual understanding of the project's goals and objectives.
- To identify any constraints which may affect the conduct of this project.
- To obtain general approval of the proposed technical approach as a basis for finalizing a detailed work plan.

- To define specific working relationships with the Project Director and members of the Advisory Committee.
- To identify and document the requirements for liaison with governmental agencies, organizations and projects. Additional coordination and liaison requirements may be established during the detailed field study of specific projects. Such liaison will include the following as appropriate:

Agencies and Organizations

VENTURA

Police Department
County Jail
Colston Girls' Home
Coroner/Public Administrator/
Public Guardian/Conservator
Corrections Services Agency
County Clerk
Criminal Justice Planning Board
District Attorney
Jury Commissioner
Juvenile Hall
Law Library
Los Prietos Boys' Camp
Marshal
Mental Health Department
Municipal Court
Public Defender
Sheriff
Superior Court

OXNARD

Police Department
County Clerk
District Attorney
Marshal
Mental Health Department
Municipal Court
Probation Department
Public Defender
Sheriff
Superior Court

PORT HUENEME

Police Department
Municipal Court

CAMARILLO

District Attorney
Marshal
Municipal Court
Public Defender

FILLMORE

Police Department
Municipal Court

OJAI

Police Department
Honor Farm
Municipal Court

SANTA PAULA

Police Department
Marshal
Municipal Court

SIMI VALLEY

District Attorney
Marshal
Mental Health
Department
Municipal Court
Sheriff

THOUSAND OAKS

Mental Health
Department
Probation Department

1.2 Announce Project To Involved Agencies

At the earliest possible point in the project the Project Director will draft a project announcement letter. The letter would be subject to a pre-distribution review by the Project Director and members of the Advisory Committee. The purpose of the letter will be to convey the project objectives and to encourage the support and participation of interested agencies.

It is suggested that announcement letters be sent to the following:

- . Regional Criminal Justice Planning Director to request him to announce this project to key individuals who should attend the technical workshops later in the project.
- . Local governmental and intergovernmental association or organization to provide material for announcement in their internal newsletters.

1.3 Define Project Administrative Requirements

Due to the multijurisdictional nature of this project, the administrative aspects of the project require early definition. The purpose of this sub-task will be to define the administrative requirements and roles.

- . Distribution and review of project reports. It will be important to clarify the extent to which the potentially numerous interested agencies are to be kept informed of project developments. The clarification should include a definition of the requirements for the distribution and review of the four major project reports.

TASK 2. DETERMINE SCOPE AND DEPTH OF END PRODUCTS

The objectives of this task are to establish the boundaries of the project scope and to define the methods for the collection of information necessary to achieve the project objectives. This task will lay the foundation for the detailed planning for the entire project. The specific sub-tasks to be performed include the following:

2.1 Identify and Preliminarily Review Information

Relating to the Project

The purpose of this sub-task is to identify and review documented information related to this project on a preliminary basis to provide an aid to the pre-planning process. As a result of prior committee work, we have identified and collected documents associated with many of the agencies, organizations, and projects noted in sub-task 1.1. Identified reference information will be analyzed in detail during Task 4.

2.2 Establish General System Evaluation Criteria

During this sub-task the project committee will establish the general evaluation criteria to be used during Phase III of the project. The purpose of establishing evaluation criteria at this point in the project is to provide a basis for defining the data to be collected for evaluation. Early direction will enhance the results of the evaluation and will minimize the need to collect supplemental data later in the project.

2.3 Define the Organization and Scope of Data to be Collected

The scope and range of information to be collected and analyzed during the project will be defined during

the project will be defined during this sub-task. The definition will expand and refine the characteristics of information systems previously identified. The characteristics include:

- . The functional uses of information by agency, and department within agency.
- . Categories of information including data thresholds.
- . Technical system capabilities.

Each of these characteristics will be defined in a way to establish the boundaries of data to be collected regarding criminal and juvenile delinquency information system applications. The application data to be collected will be organized as follows:

- . Technical Application Documentation

- data flow identifying data sources, files, and outputs
- data file organization and storage medium
- data element description, mode, and size
- record volumes
- operational security procedures
- software security features
- other special software features

- . User Application Documentation

- operational functions and responsibilities
- uses of automated system outputs
- system output response requirements
- purpose of application and reasons for development
- application benefits

- problems with present applications
- additional information needs and priorities of need
- confidentiality and security policies
- potential alternatives for satisfying information needs

Evaluation Data

- application staffing patterns
- operational costs
- stage of system development
- development costs incurred and anticipated
- agency workload or other indicators

Most of the above data exists to varying degrees and levels of documentation. Although we will be unable to overcome the lack of available documentation, we will uniformly organize data which is collected through the use of data collection forms, procedures and questionnaires and make every effort to gather comprehensive and essential data.

2.4 Prepare Data Collection Forms and On-site Interview

Procedures

The project staff's approach for the collection of detailed criminal justice information system data will be to conduct on-site field surveys and personal interviews. The purpose of this sub-task will be to prepare the necessary forms and procedures to collect data as determined necessary in sub-task 2.3. Each field survey in a jurisdiction will include an initial orientation briefing with agency managers and support staff to assure a mutual understanding of the project and to determine any local constraints which may exist.

Normally, initial forms and procedures are found to be weak in certain areas thereby requiring minor modifications and improvements during the data collection process.

Because of the importance of comprehensive data collection to this project, we have formalized this revision process into two steps: An initial system survey and approach refinement, and then a detailed system survey. This is discussed in detail under Tasks 5 and 6 of this proposal and will be coordinated with the validation of questionnaires.

2.5 Prepare a Preliminary Questionnaire

The purpose of this sub-task is to prepare a questionnaire to obtain data from jurisdictions not selected for on-site surveys. The questionnaires will be prepared considering the following factors:

- . The extent that the data defined in sub-task 2.3 can be collected via a questionnaire.
- . The need to identify all criminal justice information system applications in a manner which permits meaningful classification in a summary inventory.
- . The agencies, departments, or individuals which could most likely supply the requested information.

The objectives of the questionnaires will be to identify existing, developing, or planned criminal justice applications on a statewide basis and to collect related indicative information including the following:

- . Application name or description.
- . Application classification in terms of user outputs provided or functions performed.
- . Major system features or characteristics.
- . Associated operational costs, development costs, and implementation timing.
- . Selected evaluation data.

In addition, the questionnaire should request the resident to identify key problems and unsatisfied information needs.

The questionnaire will be developed to minimize the response time required while providing the necessary data. The level of questionnaire response and the quality of responses will depend to a large extent on simplicity and on the identification during this sub-task of the appropriate individuals to receive questionnaires.

The questionnaire will be validated by requesting the agencies selected for initial field surveys to complete the questionnaire. At the time of the subsequent initial field survey in Task 5, the project team will review the completed questionnaire with the respondents, identify problems in understanding or in providing valid responses, and revise the questionnaire as appropriate prior to the general distribution in Task 6.

2.6 Select Agencies for Survey and Make Initial Contact

Based upon the knowledge of existing applications, developing applications, and the scope of data to be collected, the project committee will select jurisdictions for detailed on-site survey. During this sub-task the project staff will make initial contacts with each selected jurisdiction to determine the following:

- . Interest in participating in the initial and detailed surveys.
- . Agencies, departments, and individuals to be involved.
- . Mutually agreeable dates for management orientation briefings and subsequent detailed surveys.

TASK 3. FINALIZE DETAILED WORK PLAN

The results of the prior tasks will be incorporated into a finalized detailed work plan during this task. Three sub-tasks will contribute to the plan development as follows:

3.1 Prepare a Detailed Work Schedule and Assignments

The purpose of this sub-task will be to revise the Work Plan. The Work Schedule will reflect the revised task time estimates based upon the solidification of the project scope and agency involvement. In addition, the schedule will identify planned hours for each member of the consultant team. The schedule will be updated monthly during the project to show actual man-hours for project control purposes.

3.2 Schedule Project Review Meetings

The revised work schedule will provide a basis for establishing the time and place for project review meetings with the Advisory Committee. At least one week prior to each such meeting, each member of the Advisory Committee will receive a meeting agenda outline and any appropriate materials for their review prior to the meeting.

3.3 Prepare an Updated Detailed Work Plan

A Detailed Work Plan will be prepared to include the following:

- . Project goals and objectives.
- . Project coordination and liaison requirements.
- . Identification of pertinent reference materials.
 - legislation
 - statutes
 - prior study and project reports
 - administrative directives

- . Overview of system evaluation criteria.
- . Definition of scope and organization of project end products.
- . Preliminary data collection methods and forms.
 - field survey forms and procedures
 - questionnaire
- . Summary of project administrative requirements including distribution and review of project reports.
- . Detailed work schedule.
 - selected agencies and interview schedule
 - advisory committee project review meetings

The Detailed Work Plan will be submitted to the Project Director for review and approval prior to proceeding with Phase II activity.

TASK 4. COLLECT AND ANALYZE REFERENCE INFORMATION

During this task the project staff will review legislation, statutes, and administrative directives which affect the development and operation of criminal justice information systems. Also, a meaningful, comprehensive, and expeditious analysis of existing and developing systems can be better assured through a review of available related reports, studies, and papers. Most of this reference information will have been identified and preliminarily reviewed in the previous sub-task 2.1 activity. The collection and analysis performed in this task will determine application independent requirements or conditions that may influence the overall planning and development of criminal justice information systems in California and Ventura County. An overview of reference information will be developed and included in the Summary Analysis of Existing and Developing Applications. The approach to this task will be as follows:

4.1 Collect and Analyze Legislation, Statutes, and Administrative Directives

Controlling legislation from the United States and California Legislatures that relates to criminal justice information systems will be collected and reviewed to determine any legal requirements.

Also, pertinent Sections of the United States Codes, and California Penal and Government Codes will be referenced, including Section 13805 P.C., dealing with the

interchange of development information. Applicable administrative directives will be collected and analyzed to derive common guidelines for system planning and development. This will include material originating from the LEAA Information Sciences Committee, OCJP, California Department of Finance, California Department of Justice, RCIC, CLETS, and CJIS. In addition, materials resulting from major projects such as the confidentiality and security guidelines developed for the RJIS project and the statutory research performed during the Integrated Court Automation/Information project will be included.

The results of this sub-task will be a documentation of planning and development constraints relating to:

- . Management control responsibilities.
- . Confidentiality and security requirements.
- . Reporting timeliness constraints.
- . Audit trail requirements.
- . Interjurisdictional reporting and data interchange requirements.

4.2 Collect and Analyze Related Reports, Studies, and Papers

In order to expand the base of project reference knowledge and avoid duplication of effort, it is desirable to collect and analyze available related reports and papers. Examples of such material to be reviewed in this sub-task are: California Integrated Court/Automation/Information System (ICAIS) reports; Correctional Decisions Information Project (CDIP) reports; the California Statewide Information Study; Interim Status Report on Statewide Federated Information System (SFIS); Project SEARCH publications; CJIS 5-year Plan; and Statewide Uniform Warrant Processing and Service System working papers.

4.3 Develop Overview of Reference Information

The material analyzed in sub-tasks 4.1 and 4.2 will be formatted into an overview of reference information which will be included in the Summary Analysis of Existing and Developing Applications report at the end of Phase II.

TASK 5. CONDUCT INITIAL SYSTEM SURVEY

The project staff's fundamental survey approach will be based upon the utilization of questionnaire and on-site interview methodologies. A description of the type of information to be collected in the surveys was presented in sub-task 2.3.

We have found from our experience that questionnaires must be validated prior to distribution and that interview procedures and forms must be revised after initial use and objective evaluation. Because of the importance to this project of assuring comprehensive data collection and evaluation, we propose to formalize this revision process into two coordinated tasks; an initial system survey before proceeding with a more detailed system survey.

The initial survey conducted in this task will provide for the review and refinement of the data collection forms, on-site interview procedures, and preliminary questionnaire developed in Task 2. The following sub-tasks will help to alleviate potential misunderstandings, oversights, and omissions, and better assure meaningful data collection:

5.1 Conduct Initial Questionnaire Surveys

A brief questionnaire critique form will be developed for the questionnaire prepared in sub-task 2.5. The questionnaire and critique form will be provided to several agencies selected for the initial field survey in sub-task 2.6. The selected agencies will be requested to expedite the completion of the questionnaire and the related critique form. The critique form should be

completed immediately after the questionnaire to provide accurate and complete evaluations. The initial questionnaire survey results will be discussed with the agency during the initial field survey conducted in the next sub-task.

5.2 Conduct Initial Field Surveys

The purpose of this sub-task is to perform initial field surveys in selected jurisdictions by using the data collection forms and procedures developed in Task 2. The initial field survey approach will serve to validate the forms and procedures and to provide guidelines for revisions prior to the detailed survey.

The questionnaires and critiques resulting from the above sub-task will also be reviewed.

5.3 Review Initial Survey Results and Refine Approach

In this sub-task, the initial survey results will be reviewed to determine the requirements to modify and improve the survey approach. Based upon the review, the data collection forms, field interview procedures, and preliminary questionnaire will be refined and finalized for use in the detailed system survey.

TASK 6. CONDUCT DETAILED SYSTEM SURVEY

The comprehensive gathering of detailed application information for subsequent analysis and evaluation will be initiated in this task. The data collection approach finalized in the initial system survey (Task 5) will be implemented. This approach involves management orientation briefings with agencies selected for on-site field surveys, and a comprehensive questionnaire survey of all pertinent criminal justice agencies. Every effort will be made to maintain the cooperation and support of the survey agencies and to promote the timely completion and return of questionnaires. The detailed task approach involves the following:

6.1 Conduct Management Orientation Briefings

As a prelude to initiating a field survey of the selected agencies, a project orientation briefing will be conducted for the selected criminal justice and data processing manager.

The purpose of the orientation briefings will be to explain the project objectives and survey approach, to identify individuals for interviews, and to solicit continued cooperation. Also, any agency liaison and feedback requirements will be identified and the priority and sequence for actual survey initiation will be determined.

6.2 Complete Field Surveys

Subsequent to the management orientation briefings discussed above, a comprehensive field survey will be completed for selected major applications. The field survey will involve the use of the data collection forms and on-site interview procedures that were finalized in sub-task 5.3.

TASK 7. REDUCE AND ANALYZE COLLECTED DATA

The detailed information collected in Tasks 5 and 6 will be reduced and arranged in this task to facilitate analysis and summarization. The reduction will be accomplished in two major steps. The first step will involve the preparation of a comprehensive list of existing, developing, and planned applications. These applications will be categorized in terms of application type, functional approach, governmental level (city, region, State), and agency. The list will also include pertinent detailed information to depict the individual application characteristics. The second step will involve the preparation of an overview description of selected existing and developing systems. This description will portray:

- . Purposes.
- . Data flow.
- . Input/output data identification by source.
- . Data file elements.
- . Operational costs and staffing estimates.

Once the detail data has been reduced, a summary application analysis will be performed to define problem areas in the existing or developing systems and to determine unsatisfied information requirements.

The results of this task will be summarized for review in the next task.

TASK 8. PREPARE SUMMARY ANALYSIS OF EXISTING AND DEVELOPING APPLICATIONS

The culmination of Tasks 4 through 7 activity will be a Summary Analysis of Existing and Developing Applications report. The report will be submitted by the Project Director for review and approval before further project activity is initiated. The report content will include:

- . Overview of reference information.
- . Comprehensive list of existing, developing, and planned applications.
 - application type
 - functional approach
 - major outputs by agency
- . Overview description of selected existing and developing systems.
 - purposes
 - data flow
 - input/output data identification by source
 - data file elements
 - operational costs and staffing estimates

In effect, the report will define the universe of current applications which will serve as the foundation to govern the development of the Master Plan.

TASK 9. EVALUATE EXISTING MAJOR INFORMATION SYSTEMS

The objective of this task is to conduct an evaluation of existing major information systems utilizing the data that was reduced and analyzed in the previous task. This evaluation effort will provide a logical transition into the development of standards and priorities and a Master Plan.

The evaluation will be approached in three distinct steps. First, the trends in system development will be identified. These trends will furnish data to develop criteria for selecting new applications and to structure the recommended action plan in later project activity. Second, existing information system interrelationships will be identified which will be useful later in determining the levels of data file maintenance and communications. Finally, selected system evaluations will be performed to identify system benefits, to identify duplicate, redundant, or unnecessary efforts, and to assess operational cost effectiveness. The results of this task will be included in the Phase IV Preliminary Report. The following sub-tasks will be performed in this task:

9.1 Identify Trends in System Development

The trends in system development will be identified in this sub-task. This will be accomplished by reviewing the material developed in Phase II to extract trend indicators for existing, developing, and planned systems. These indicators may include:

- . System development start date (actual or planned).
- . System operation start date (actual or planned).
- . Application type.
- . Functional use.
- . Governmental level.
- . Automation category.
- . Estimated development cost.
- . Estimated operating cost.
- . Transferability factors.
- . Application origin (vendor, another jurisdiction, or in-house).
- . Estimated system workload.
- . Other development factors.

The extracted trend indicators will be analyzed and arrayed to portray time-phased trends in California criminal justice information systems development.

As previously stated, the identified trends will be useful in developing application selection criteria (sub-task 13.1) and formulating an action plan (sub-task 13.5) in Phase V.

9.2 Identifying Existing Information System

Interrelationships

An important dimension of this project will be the determination of existing system interrelationships and levels of data file maintenance. These interrelationships are critical factors for effective, integrated, and coordinated statewide development. They will also be required to define the levels of data file maintenance and communications in sub-task 10.2.

In approaching this sub-task, we will analyze the existing information exchange requirements and system dependencies in terms of inputs, outputs, and sources using the information developed in Phase II. Also, the timing or sequence of information flow will be identified along with the categories of the exchanged data. The results of the identification effort will be documented reflecting governmental levels for major or representative applications.

9.3 Perform Selected System Evaluations

In this sub-task we will perform a technical evaluation of selected systems. The overview description of selected systems and the summary application analysis resulting from Phase II activity will be used in conjunction with the evaluation criteria developed in sub-task 2.2, and the trends and system interrelationships previously developed in this task to accomplish the evaluation. We will identify the needs met and benefits of all existing major information systems; identify duplicate, redundant, or unnecessary efforts considering the underlying reasons for such efforts; and evaluate the operational cost effectiveness of these information systems in relation to alternative methods of providing the necessary information.

The selected system evaluations will result in the following documentation:

- . Summary of system benefits.
- . Identification of duplicate, redundant, or unnecessary efforts.
- . Operational cost effectiveness.

These results will be contained in the Phase IV Preliminary Report and will provide guidelines for developing recommendations for an action plan during Task 13.

TASK 10. DEVELOP INFORMATION STANDARDS

The purpose of this task will be to develop a list of standard data elements which would be necessary to satisfy the information needs of criminal justice agencies. A simple list of data elements would not provide adequate standards to assist the various levels and types of agencies in identifying and planning future applications. To be most meaningful the data elements must be organized to reflect levels of data file maintenance and communication, and to consider the needs of large and small agencies.

The following two sub-tasks will be performed in the development of information standards:

10.1 Define Recommended Data Element Standards

The potential volume of data elements to be listed and organized in this sub-task will require a highly structured synthesis approach. For example, we understand that approximately ten thousand data elements were identified during the Los Angeles RJIS project which were reduced through synthesis to approximately two thousand unique elements. In order to practically achieve the desired results, we propose a structured methodology for developing data element standards. This approach will furnish a comprehensive identification of data elements relating to the hierarchies of need of the various levels and types of users.

In this sub-task we will develop data element lists applicable to State and local information needs. In effect, the local data elements would include city, county, regional, and State needs, inasmuch as the higher levels of need will both imply and reflect local requirements. The development of the local data elements would

utilize the developmental work performed during the RJIS and CJIS projects. In addition, the work performed by San Francisco and Alameda Counties in validating RJIS and CJIS data elements for local needs will be included. The data element lists from these four jurisdictions will be merged and augmented by data element lists collected during Phase II with specific emphasis on the analysis of the needs of smaller jurisdictions. The results of this synthesis will be a listing of data elements for local jurisdictions.

10.2 Define Recommended Levels of Data File Maintenance and Communication

The purpose of this sub-task will be to develop data standards to include the following:

- . Data element name or description.
- . Data element size, mode, and source.
- . Data file maintenance requirements considering the needs and responsibilities of agency and level of government.
- . Scope of data file content or thresholds of data file maintenance and summarization.
- . Inter-agency communications of data reflecting timing and data element retention requirements.

The resulting data element standards will provide the basis for evaluation and development of recommendations in the remaining tasks.

TASK 11. DEVELOP SYSTEM PRIORITIES

In the prior task, the main thrust was to identify data element standards and to develop a data element hierarchy by identifying levels of maintenance and communication. The purpose of this task is to define alternative information system approaches to achieve the recommended levels of data file maintenance and communication. Four sub-tasks will be performed in order to identify information system needs, and, more importantly, the priorities for system developments to satisfy those needs.

11.1 Evaluate Existing Systems Versus Recommended Standards

As an initial step we will re-evaluate existing systems in relation to the recommended data element standards to identify overlaps and deficiencies in satisfying information needs. As a result of the unsatisfied information needs identified during the field surveys and in the questionnaires, we will attempt to identify deficiencies in satisfying the information needs of small as well as large agencies. The result of this sub-task will provide the basis for identifying alternative system approaches and the priorities for system development.

11.2 Identifying Alternative Development Approaches to Overcome Deficiencies

The purpose of this sub-task will be to identify alternative approaches for the development of information systems which are needed to eliminate deficiencies in providing information. The combination of various

alternative approaches will encompass the broad range of information needs and will thereby represent alternative approaches for achieving an integrated countywide criminal justice information system. The alternative approaches will be evaluated considering the following factors:

- . Practicality of approach from technical and economic viewpoints.
- . Implied shifts in existing information system management control and operational responsibilities.
- . Data security and confidentiality implications.
- . Levels of information response.
- . Requirements for data collection, maintenance, and communications in terms of data volumes.

11.3 Conduct Technical Workshops

During this sub-task we will conduct technical workshops throughout the County to present and discuss the project findings to date. The objectives of the workshops will be to:

- . Review the project goals, objectives, and status.
- . Present the project results to date including:
 - an overview of present systems
 - identified trends, problems, and needs
 - identified system interrelationships
 - recommended data element standards
 - alternative development approaches
- . Discuss and refine project results to date based upon the constructive interchange of ideas.

The workshops will provide the opportunity for the direct involvement of individuals at all levels of county government. The workshops will provide productive results since discussions and comments would be based upon criminal justice systems information collected and organized during this project. Workshop discussions will include an assessment of information requirement priorities.

11.4 Establish Priorities for Systems Development

The prior sub-tasks will provide the basis for identifying system development needs from among the alternative approaches considered in sub-task 11.2. The approaches selected will be prioritized based upon needs and the potential return in terms of impact upon the criminal justice process.

TASK 12. PREPARE PRELIMINARY REPORT

The objective of this task will be to prepare a Preliminary Report containing the results of Phases III and IV (Tasks 9 through 11). The report will include the following:

- . Evaluation of existing information systems.
 - development trends
 - summary of system benefits
 - identification of duplicate, redundant, or unnecessary efforts
 - information system interrelationships
 - operational cost effectiveness
- . Recommended levels of data file maintenance and communications.
- . Recommended data element standards.
- . Identification of alternative system development approaches.
- . Statement of recommended system development priorities.

The report will be submitted to the project committee for review and approval by the Project Director prior to proceeding with the preparation of the Master Plan.

TASK 13. DEVELOP MASTER PLAN

The culmination of project activity will be the development of a Master Plan for Criminal Justice Information Systems in Ventura County. This plan will pertain to systems developed in the areas of law enforcement, adjudication, and corrections, and will be the Final Report of the project. The plan will also relate to the various levels of users and types of applications within the County. In general, the Master Plan will be based upon the sum total of the information gathered, the analyses, and the evaluation performed during the course of the project. However, the results of Phase III and IV activity, as presented in the Preliminary Report, will serve as a major framework for developing the Plan. The direction provided by the Project Director, the Advisory Committee, interested parties, and the results of the Technical Workshops (sub-task 11.3) will also be influencing factors.

The objective of this task activity will be to develop:

- . Criteria for selecting new applications.
- . Recommendations for an information clearinghouse on system development.
- . A recommended action plan for developing new applications or adopting existing systems, including equipment requirements, cost estimates, and schedule, as appropriate.
- . Guidelines for recommended legislation and administrative directives.

The following sub-tasks will be initiated to develop the Master Plan:

13.1 Develop Criteria for Selecting New Applications

Criteria for selecting new applications will be vital to a comprehensive Master Plan. In this sub-task we will develop such criteria based upon the evaluation of criminal justice systems performed in Phase III, and considering the data element standards, recommended levels of data file maintenance and communications, and the system development priorities formalized in Phase IV. Additionally, the criteria will encompass factors such as minimum documentation standards, management responsibilities, and confidentiality and security provisions as appropriate.

The end product of this sub-task will be a set of criteria that will be useful to the Ventura County Criminal Justice Council in promoting or funding projects, and useful to the criminal justice community in considering new applications.

13.2 Develop Recommendations for an Information

Clearinghouse on System Development

This type of information is valuable to an agency contemplating the development of a particular application in terms of potential adoption or modification of an existing system to avoid unnecessary development costs and delays. Current information regarding existing systems and developments is also essential to the mission of the Ventura Regional Criminal Justice Planning Agency to avoid duplication and to optimize funding. In order to promote the needed information exchange, this sub-task will result in the development of recommendations for a clearinghouse on system development information. An example of such an approach relating to documentation is the LEAA National Criminal Justice Reference Service (NCJRS), which would be reviewed in developing recommendations for Ventura County.

13.3 Develop an Action Plan and Schedule

The objectives of this sub-task is to develop a well-defined strategy for planning the orderly, controlled, and efficient development of computerized information systems in the areas of law enforcement, adjudication, and corrections to enhance the administration of justice in Ventura County. The scope of this action plan will be defined in the Phase I Detailed Work Plan.

The development of the plan will be based upon the evaluation of existing information systems, identified trends in system development, existing system inter-relationships, recommended system development priorities, and the criteria for selecting new applications.

The plan will address the costs, equipment requirements, and schedules for developing new applications or adopting existing applications. In addition, a schedule of recommended sequences of events for implementation will emphasize the "action" connotation of the plan.

The thrust of the action plan will be focused on promoting coordinated, integrated, time-phased prototype developments and expansions of existing systems to strengthen deficiencies and add needed capabilities. We believe the impact of the plan will be particularly noticeable in terms of balancing development activities to generally increase the information capabilities of criminal justice agencies.

13.4 Develop Guidelines for Recommended Legislation and Administrative Directives

An important adjunct to the successful implementation of the Master Plan is the legislative and administrative framework that governs criminal justice information system development in Ventura County. This sub-task will develop guidelines for recommended legislation and administrative directives to promote the more effective implementation of the plan. In order to accomplish this objective we will evaluate the previously identified existing legislation, statutes, and administrative directives in the context of the Master Plan to pin-point

needed areas for modification or expansion. This actively will include a summary of guidelines for confidentiality and security based upon existing policies and statements.

13.5 Prepare a Final Report

The concluding activity of the project will be the preparation of a Final Report. This report will contain, as a minimum:

- . A summary of the project.
- . An overview of present systems.
- . A summary of system development trends.
- . A summary of project recommendations.
- . Recommended action plan and schedule.
- . Guidelines for recommended legislation and administrative directives.
- . Recommendations for a clearinghouse on system development information.
- . Recommended levels of data file maintenance and communications.
- . Recommended system development priorities.
- . Recommended criteria for selecting new applications.
- . Recommended data element standards.

The final report will be organized to include the proper levels of detail and summary information depending upon the anticipated distribution of the report. The desired report organization will be a subject of discussion with the Project Director and Advisory Committee at the time of the formal review of the Preliminary Report.

IV. APPENDIX

GLOSSARY OF ACRONYMS

APS	State of California Automated Property System
AFS	State of California Automated Firearm System
BCS	State of California Bureau of Criminal Statistics
BES	Basic Court System
CHS	State of California Criminal History System
CII	State of California Bureau of Criminal Investigation and Identification
CJIC	Criminal Justice Information Control -- Santa County
CJIS	Criminal Justice Information System
CLETS	State of California Law Enforcement Telecommunications System
COBOL	Common Business Oriented
CORPUS	Criminal-Oriented Records Production Unified Systems--Alameda County
DBMS	Data Base Management System
DMV	State of California Department of Motor Vehicles
DOJ	State of California Department of Justice
DOS	Disk Operating System
ISAM	Indexed Sequential Access Method
LCJIS	Local Criminal Justice Information System
NCIC	National Crime Information System---operated by the FBI
OS	IBM Operating System
PTN	Police Information Network--operated by Alameda County

SBS State of California Stolen Bicycle System
SVS State of California Stolen Vehicle System
TP Teleprocessing
VCJIS Ventura County Criminal Justice Information System
WPS State of California Wanted Person System

END