THE DESIGN AND IMPLEMENTATION OF A CRIMINAL JUSTICE INFORMATION SYSTEM

A Thesis

Presented to

the Faculty of the Department of Computer Science

University of Houston

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

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by

Sidney Wayne Frost

August 1975

PREFACE

The Harris County Criminal Justice Information System described in this thesis was scheduled to go into operation August 4, 1975. For several reasons, some of which are described in Chapter 10, the start date was changed to September 15, 1975. The system described in the thesis is, however, operational and nearly all of the capabilities described can and have been demonstrated. The delay is due to some of the non-technical aspects of implementation such as training, terminal installations, etc.

I would like to thank Professor Robert A. Sibley, Jr., for introducing me to the exciting field of criminal justice, Father Patrick Murphy for his moral support, Judge Dan E. Walton and Ray Hardy for supporting the system, and Joe Lucas for making it a reality.

This thesis would not have been possible without their contributions and those of numerous other Harris County officials who participated in the development

of the Harris County Criminal Justice Information System.

I would also like to express my appreciation to Gale Frost for the many hours of typing required to produce this thesis--and for being my wife.

S.W.F.

Houston, Texas

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ABSTRACT

This thesis describes how to design and implement a criminal justice information system by describing the development of such a system for Harris County, Texas. The paper goes beyond standard procedures used by private companies and describes some of the problems which are unique to government agencies--criminal justice agencies in particular. For background purposes, a description of Houston and Harris County is included. Also included is a brief description of previous attempts to develop similar systems in Harris County, the organizational considerations, planning procedures, and the design phase. A complete description of the final system is then given. The paper ends with a summary of the steps required to implement a criminal justice information system.

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CHAPTER ONE

INTRODUCTION

> There is no greater evidence of the total neglect of the criminal justice system than our failure to apply science to the solution of crime.
>
> Ramsey Clark

Former Chief Justice Earl Warren, in a speech delivered at the annual meeting of the American Law Institute in 1966, said:

> It seems to me there is a definite need for thorough analysis and study of the mechanics--in its physical aspects-- of carrying on the business of the courts. I am led to this belief by the accomplishments of new data processing methods employed in other fields--medicine, for example.

Chief Justice Warren Burger in his first state of the judiciary message in 1970 said: "In the supermarket age, we are like a merchant trying to operate a cracker barrel corner grocery store with the methods and equipment of 1900."

Only in the past decade have criminal justice agencies begun to use data processing methods which have been in use by private business since the early fifties. Criminal justice officials have been slow to modernize their offices for several reasons. One factor which has inhibited the implementation of new methods is the organizational

structure of governmental agencies. There is often no one person responsible for the activities of all the agencies that are components of the criminal justice system to organize and support new procedures. Usually, each component agency is organizationaly independent with the agency head being responsible only to the voters.

Another reason why criminal justice agencies have been slow to modernize is because of the restraints placed on them by statutes. Relatively minor changes to current procedure--especially if the change includes the use of data processing equipment--often requires changes in the laws or new interpretations of existing laws. Judge Dan Walton, 178th District Court of Texas, however, points out that he can find nothing in the statutes which restricts the official from implementing good business practices.

Government agencies are also restricted from trying new ideas because of the voters fear of an increase in taxes to pay for the new capability. Therefore, many of the early innovations in the criminal justice field were revenue-producing applications. Parking ticket systems, for example, resulted in an increase in the amount of fines collected--often, more than enough to pay for the develop-

ment and operation of the system. The agencies wishing to modernize the felony courts, however, could not easily cost justify their systems. They could only suggest that the use of data processing might speed up the flow of criminal cases. They pointed out that by speeding the process, the guilty would be sent to prison sooner rather than out on bond to commit more crimes. They also suggested that the high dismissal rate was due to the inordinate amount of time required to try criminal cases. In summary, they felt the use of data processing would decrease the crime rate and save the taxpayers much more than the cost of the system.

Very few such systems were implemented, however, until the Law Enforcement Assistance Administration (LEAA) was established by the Safe Streets Act in the late sixties to distribute federal grant money to local criminal justice agencies to finance their ideas.

At approximately the same time LEAA was gearing up to distribute huge sums of money for the design and implementation of innovative ideas to reduce crime on the streets, another federal agency was gearing down. The National Aeronautics and Space Administration (NASA) reduced its activities in the late sixties and early seventies causing

numerous data processing specialists to turn to other applications. Many found their way to the criminal justice field. A few of the ex-aerospace specialists quickly learned that the techniques used in private business do not necessarily apply to criminal justice.

In an editorial entitled "Device-Oriented Aerospace Specialists May Not Make Very Good Urban Systems Analysts," in the October 1970 issue of Computer Decisions, the editor wrote:

> My suggestion to those of you who would like to become involved with urban and environmental work, is to be prepared for a long learning phase. Although one can develop passable computer programs after a few months of effort, a number of years will be necessary to learn what can be done, how it might be done, and how it will be carried out, to make city life better for all of us.

The learning phase for developing criminal justice information systems has indeed been long. The methods used in aerospace as well as the methods used to develop management information systems for business do not always work when applied to criminal justice applications. The purpose of this thesis is to recommend an approach that will work--an approach that has worked for Harris County, Texas--and to examine some of the differences between implementing a system for government agencies and non-governmental organizations.

To more fully appreciate the problems faced by the implementors of the Harris County Criminal Justice Information System, it would help to have a general knowledge of the geographical area and the government structure involved. The purpose of the remainder of this chapter is to provide that knowledge.

1.1 Harris County

Harris County is the fourth largest county-unit in the United States. Only Los Angeles County, Cook County (Illinois), and Wayne County (Michigan) have populations exceeding Harris County's 1,741,912--as of the 1970 census (National Association of Counties.) As can be seen in table 1, the growth rate for Harris County has been consistently high. The Houston-Galveston Area Council, with the use of the H-GAC Regional Simulation and System Control Model, projects the population in Harris County to be 2,664,294 in 1980 and 4,012,507 in 1990 (HGAC 1974).

Harris County's growth rate between 1960 and 1970, according to U.S. Census Bureau figures, is higher than several other areas selected for comparison purposes (see table 2).

Rapid population growth in any area has an adverse

TABLE 1

HARRIS COUNTY POPULATION, 1850-1970
AND PROJECTIONS, 1980-1990

YEAR	POPULATION	% GROWTH
1850	4,668	-----
1860	9,070	94.30
1870	17,375	91.57
1880	27,985	61.06
1890	37,249	33.10
1900	63,786	71.24
1910	115,693	81.38
1920	186,667	61.35
1930	359,328	92.50
1940	528,961	47.21
1950	806,701	52.51
1960	1,243,158	54.10
1970	1,741,912	40.12
1980	2,664,294*	52.95*
1990	4,012,507*	50.60*

SOURCE: Houston-Galveston Area Council. H-GAC Comprehensive Criminal Justice Plan 1975. Houston: Houston-Galveston Area Council, 1975.

*Projected by Regional Simulation and System Control Model

TABLE 2

POPULATION GROWTH - HARRIS COUNTY AND SELECTED STANDARD METROPOLITAN STATISTICAL AREAS

AREA	1960	1970	% GROWTH
Harris County	1,243,158	1,741,912	40.12
New York City	10,694,633	11,528,649	7.80
Los Angeles-Long Beach	6,038,771	7,021,075	16.45
San Diego	1,033,011	1,357,854	31.45
Denver	929,383	1,227,529	32.08
Chicago	6,220,913	6,978,947	12.19
Detroit	3,762,360	4,199,931	11.63

SOURCE: Houston-Galveston Area Council. H-GAC Comprehensive Criminal Justice Plan 1975. Houston: Houston-Galveston Area Council, 1975.

affect on the criminal justice system. Even with the aid of the statistical projections provided by regional planning agencies wuch as the Houston-Galveston Area Council (H-GAC), most government agencies face a difficult time obtaining sufficient funds to handle the increased demands placed on the criminal justice system resources. An increase in population, for example, usually means an increase in crime. This leads to a need for more law enforcement personnel, more prosecutors, more courts, and all the associated clerical and staff personnel. Local governments, such as Harris County, are slow to respond to these needs. Their budgets are set for a year at a time and their funds are strictly controlled by statute. It takes even longer to create new courts for this must be done by the state legislature which meets every two years.

Some of the other statistics that affect the crime rate of an area are:

Population density

Age distribution

Race distribution

Educational level

Harris County has an area of 1,723 square miles and with a population of 1,741,912 its density is 1,010.98 per-

sons per square mile. The population density for 1974 is estimated to be 1217.98 persons per square mile (H-GAC 1975).

Table 3 shows the statistics for age distribution, race distribution, and educational level.

The incidence and crime rate for the City of Houston is shown in table 4. Houston, rather than Harris County, statistics are used since statistics for Harris County are incomplete due to the large number of incorporated areas within Harris County responsible for crime reporting. Over seventy-five percent of the crimes committed in Harris County, however, are committed in the City of Houston. All cases filed by the Houston Police Department as well as the police departments of the twenty-seven other cities within Harris County end up in one of the nineteen Harris County courts trying criminal cases. Seven of the courts, called County Criminal Courts at Law, have jurisdiction over misdemeanor cases. The other twelve courts are called District Courts and they have jurisdiction over all felony cases. The increased case load for the felony and misdemeanor courts is shown in table 5. On an average day in 1974, 260 criminal cases were filed in Harris County. These were added to the 45,000 cases pending and the total was decreased by only 240

TABLE 3

HARRIS COUNTY POPULATION SUMMARY - 1974

Total Population 2,098,591

	Population	% of Total
Age Distribution:		
Under 20	871,335	41.52
20-39 Years	616,566	29.38
40-64 Years	488,552	23.28
65 and Over	122,138	5.82
Race Distribution:		
White	1,453,064	69.24
Spanish Surname	234,203	11.16
Black	411,324	19.60
Educational Level:		
Less than 12 grades	1,375,416	65.54
High School Graduate	343,749	16.38
College (1 year or more)	379,426	18.08

SOURCE: Houston-Galveston Area Council. H-GAC Comprehensive Criminal Justice Plan 1975. Houston: Houston-Galveston Area Council, 1975.

TABLE 4

INCIDENCE, RATE, AND PERCENTAGE CHANGE IN INDEX CRIMES FOR HOUSTON, 1972-73

INDEX CRIME	1972		1973		% CHANGE IN RATE
	NO.	RATE*	NO.	RATE*	
Murder	294	20	263	19.6	- 2.0
Rape	483	40	557	41.5	+ 3.7
Robbery	5,117	400	6,265	467.2	+16.8
Aggravated Assault	2,169	170	1,909	142.4	-16.2
Burglary	29,411	2,280	28,470	2,123.0	- 6.9
Index Theft	11,801	910	13,460	1,003.7	+10.3
Auto Theft	11,091	860	12,173	907.7	+ 5.5

* Crime Rate per 100,000 population

SOURCE: Houston-Galveston Area Council. H-GAC Comprehensive Criminal Justice Plan 1975. Houston: Houston-Galveston Area Council, 1975.

TABLE 5

CASE LOAD SUMMARY - HARRIS COUNTY, 1969-1973

	1969*	1973
Misdemeanor:		
Cases Filed	17,624	36,311
Cases Disposed	17,401	26,646
Cases Pending	8,996	27,277
Felony:		
Cases Filed	7,931	20,584
Cases Disposed	7,212	18,072
Cases Pending	7,537	16,947

SOURCE: Harris County District Clerk

*Between 1969 and 1973, two additional District Courts and three additional County Criminal Courts at Law were established.

cases. On that same average day, a thousand cases were scheduled for a court appearance in one of the nineteen courts. In addition, fifty people were added to the total of 16,000 on probation while thirty had their probation terminated. Eighty people were booked into the Harris County jail and eighty were released. The jail population remained at approximately 2,100. To aid in processing the 1,000 cases set per day, 600 jurors were summoned to appear each day.

The criminal justice agencies in Harris County must operate within the framework of the Harris County government structure. Section 1.2 describes the structure as well as the criminal justice agencies.

1.2 Harris County Government

The county is a legal subdivision of the state and, as such, is responsible for administering the state's business. The officials to be elected in each county and the functions to be performed by the county government are defined by the Texas Constitution. Each county is governed by a board called Commissioners Court. Commissioners Court consists of the County Judge and the four County Commissioners. The County Judge is elected from the county at large, while

the Commissioners are each elected from separate precincts.

The county government is responsible for performing the following functions (League of Women Voters):

Administering county finances

Assessing and collecting taxes for the state

Recording vital statistics

Conducting elections

Preserving law and order

Administering justice

Constructing and maintaining county roads

Providing for public health and welfare

The Texas Constitution, written in 1876, created a large number of elected officials for each county. This organization was designed to prevent the governor from appointing friends to govern the counties such as occurred during the Reconstruction and carpetbag era.

Although the organizational structure of each county in Texas is basically the same regardless of size or population, there are some additional elected officers for the larger populated counties. For simplicity, the remainder of this section will deal with Harris County in particular.

In addition to the five members of Commissioners Court, the following officials are elected in Harris County:

County Tax Assessor-Collector

County Clerk

County Treasurer

Sheriff

Justices of the Peace (16)

Constables (8)

District Attorney

District Clerk

Criminal District Court Judges (12)

Civil District Court Judges (16)

Courts of Domestic Relations Judges (5)

Juvenile Court Judges (3)

Probate Court Judges (2)

County Criminal Courts-at-Law Judges (7)

County Civil Courts-at-Law Judges (3)

County Surveyor

The main functions performed by the Harris County Commissioners Court are (League of Women Voters):

To supervise and control the county courthouse and jails.

To appoint and employ county personnel.

To fill vacancies in elective and appointive positions.

To determine county tax rates.

To adopt a county budget.

To serve as a board of equalization for state and county tax assessments.

To establish voting precinct boundaries, appoint precinct judges, and call county bond elections.

To let contracts in the name of the county.

To build and maintain county roads and bridges.

To establish libraries and parks.

Figure 1 shows the positions appointed by Commissioners Court as well as those positions appointed by other elected officials.

The major Harris County agencies involved in criminal justice are:

Adult Probation Department

County Criminal Courts at Law

Criminal District Courts

District Attorney's Department

District Clerk's Department

Justices of the Peace

Sheriff's Department

Adult Probation Department

The Director of the Adult Probation Department is appointed by the district judges of the county. The depart-

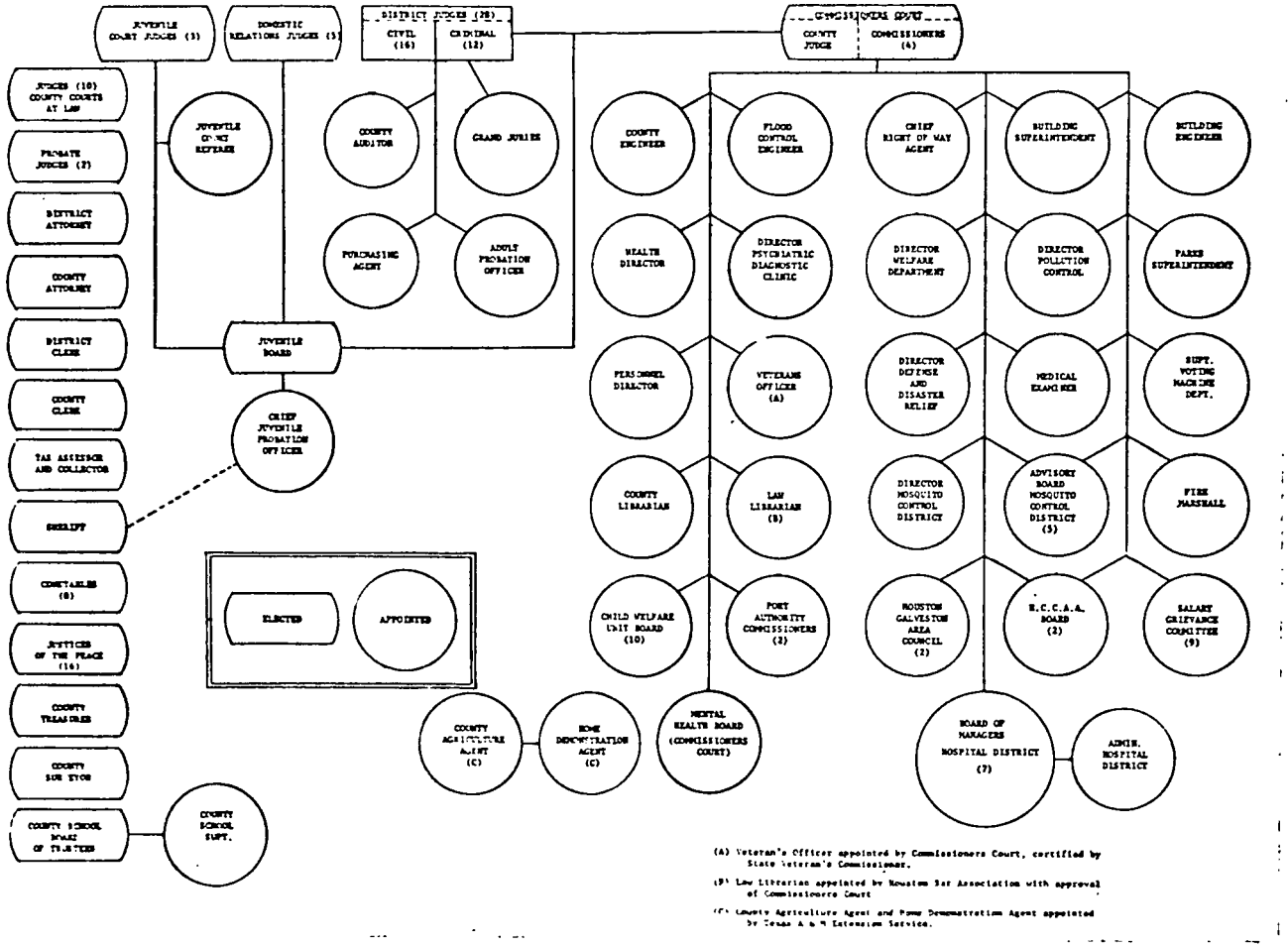


Fig. 1. Harris County Organization Chart
SOURCE: League of Women Voters

ment is responsible for presentence investigations resulting in recommendations to the court regarding the probable success of a person being considered for probation. The department's primary job is to supervise those persons placed on probation and to collect and distribute restitution payments as ordered by the court.

County Criminal Courts at Law

There are seven County Criminal Courts-at-Law in Harris County with original jurisdiction over misdemeanor offenses carrying a jail term or a fine exceeding $200. The County Criminal Courts-at-Law have appellate jurisdiction over cases tried in justice courts and city corporation courts.

Criminal District Courts

The Criminal District Courts have original jurisdiction over felony cases which are punishable by imprisonment in the Texas Department of Corrections and by death. They also have jurisdictions over misdemeanor cases involving official misconduct. There are currently twelve District Courts trying criminal cases in Harris County.

District Attorney's Department

The District Attorney's Department is responsible

for prosecuting those who violate the Texas Penal Code and other laws. The District Attorney prepares formal complaints based on charges filed by law enforcement agencies within the County. The District Attorney also presents felony complaints to the Grand Juries for indictment. The District Attorney then serves as the state's attorney in both misdemeanor and felony courts.

District Clerk's Department

The District Clerk is responsible for filing and indexing all official records pertaining to cases handled in the District Courts (both civil and criminal cases), County Criminal Courts-at-Law, Domestic Relations Courts, and the Juvenile Court. The District Clerk is also responsible for maintaining the jury list and, in conjunction with the Sheriff, calling jurors to serve in both civil and criminal courts.

Justices of the Peace

There are sixteen Justices of the Peace in Harris County; two in each of the eight precincts. The Justice Courts have jurisdiction over misdemeanors with fines up to $200 and serve as magistrates for the District Courts trying criminal cases. As magistrates, they file complaints,

set bond, issue warrants of arrest and hold examining trials.

Sheriff's Department

The Sheriff furnishes bailiffs in all state courts, and process servers in criminal courts. He is responsible for safekeeping of prisoners awaiting trial or serving time. The Sheriff is also responsible for approving all bonds made in Harris County except personal recognizance bonds which are approved by the judges. The Sheriff is the principal law enforcement officer in the unincorporated areas of the county although he has jurisdiction over the entire county. The Sheriff issues jury summons, collects bond forfeitures, serves subpoenas, and executes warrants.

The courts, District Attorney, District Clerk, Sheriff, and Adult Probation Department are all working together for the sole purpose of administering justice in Harris County. They are all independent agencies, but all interested in the same defendants and the same cases. There is a definite need to share information with one another and several attempts have been made to improve the communications between the agencies.

Chapter 2 discusses the communication problem in more detail while developing the basis for using a computer-based information system.

CHAPTER TWO

CRIMINAL JUSTICE INFORMATION SYSTEMS

> It is stating the obvious to observe that information -- timely, correct, and complete -- is the life-blood of criminal justice.
>
> Richard W. Velde

The elements of what is commonly referred to as the criminal justice system are the agencies and departments associated with law enforcement, courts, prosecution, and corrections. The F.B.I., U.S. Marshal, city police departments, Sheriff, constables, justice of the peace courts, county courts, state courts, federal courts, district attorneys, U.S. attorneys, jails, prisons, probation departments, and parole departments are all members of the criminal justice system. In addition to the governmental agencies, private citizens become members temporarily when they are defendants in criminal cases, serve as jurors, file complaints, act as bondsmen, defend persons accused of crimes, and serve as witnesses.

The environment affects the system in many ways. The penal code, which is the basis for the administration

of justice, is constantly being modified by interpretation, emphasis, and by legislative change. Reaction or apathy of citizens affect all phases of the criminal justice system. These reactions, or lack of reactions, of the public may have been caused by many seemingly unrelated changes in society such as attitudes toward pornography, changes in technology, advances in medicine, ecology movements, as well as civil rights movements.

A district attorney, for example, as an elected official, often prosecutes with more vigor those crimes which get the most publicity. In addition, his success is often measured by convictions rather than by how well justice has been served. Therefore, he may decline to indict persons charged with crimes for which defendants have been continuously acquitted by jurors. The police, in turn, will gradually stop arresting people for violating those articles in the penal code for which an indictment is difficult or impossible to obtain.

Another factor of the environment that affects the criminal justice system is the budgetary controls which are placed on the agencies by non-criminal justice groups. In Harris County, for example, the budget is approved by Commissioners Court. Although they make every attempt to allocate funds for the benefit of the County, they cannot

know the exact needs of every department and may be influenced by the voter's desire to reduce taxes. Several methods have been used to alleviate the budgetary control problem. One method used is to implement the desired changes in the Auditor's Office since Commissioners Court is required by law to approve the Auditor's budget. Another method used is to apply for federal grants. Grants, however, often lead to other less desirable controls.

Figure 2 is a diagram showing some of the environmental factors affecting the Harris County criminal justice system.

In Harris County the agencies and departments which comprise the criminal justice system are the Courts, District Attorney, District Clerk, Sheriff, and Probation. The District Court judges appoint the Director of Adult Probation and the other officials, including the judges, are elected. Other than the control which could be used to govern the activities of the Director of Probation - if the District Court judges so desired - each element of the system is an independent entity with its own goals and objectives. Due to the necessity for communication as a defendant progresses from one stage in the judicial process to another, the duplication of information required by

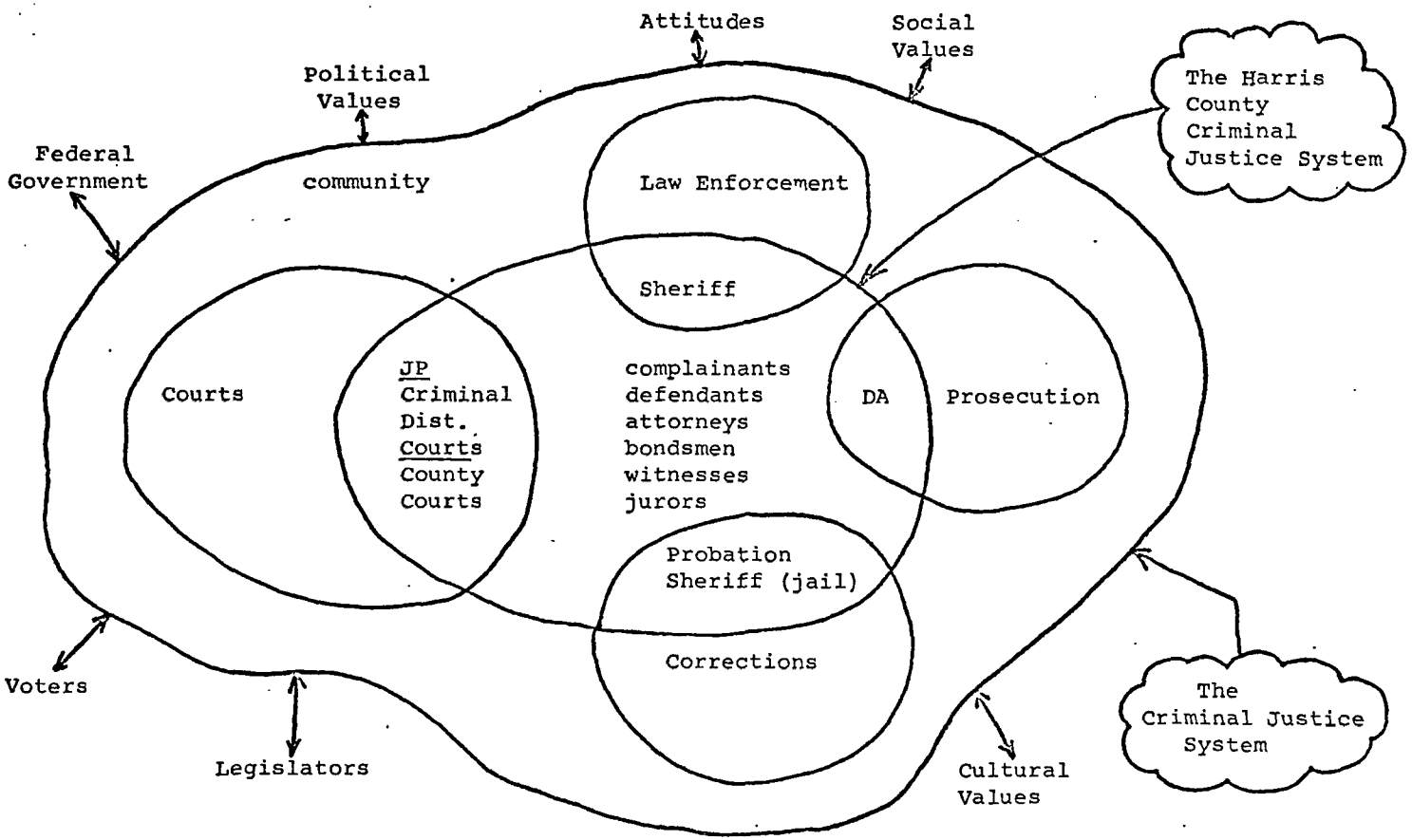


Fig. 2. The Environmental Factors Affecting the Criminal Justice System

each department, and the pure volume, there is a definite need for a totally integrated computer-based criminal justice information system for Harris County.

2.1 Information Systems

The criminal justice agencies of Harris County -- the Courts, District Attorney, District Clerk, Sheriff, and Adult Probation Department --exist for the sole purpose of administering justice in Harris County according to the statutes of the State of Texas. However, if you walked into any one of the offices of these agencies, you would find it difficult to get a clear understanding of the goals of the organization. Most of the people would be busily processing paper, talking on the telephone, or sitting in meetings. In other words, most of the people most of the time are dealing with information. They are achieving the goals of the organization, however, and they are fulfilling the statutory requirements of the elected official who hired them. To do so they must depend on a system of communication that allows the various independent agencies to work together as one. It is this flow of information that binds the criminal justice agencies together into a single coherent unit.

Leavitt, Dill, and Eyring define information system as follows:

> The term "information system" is a label used to encompass a whole range of means for distributing, processing, storing, and monitoring organizationally relevant information - it covers accounting systems, feedback and control systems, record-keeping systems, and future-planning systems.

The authors also point out some of the problems facing the developers of such systems:

> Particularly since the advent of the computer, information systems - which have always been with us - have undergone exciting and innovative developments. The biggest problems the developers of such formal systems face are these: How does one build an orderly, structured system and still leave it flexible enough to adjust to everchanging requirements? How does one get information to the right places fast enough so that the right decisions can be made in time? How does one set the standards against which to evaluate information from the world outside? How can information be turned toward the future to make it useful for planning ahead? What are the human problems generated by such systems?

Burch and Strater define an information system as,

> ...a systematic, formal assemblage of components that performs data processing operations to (a) meet legal and transactional data processing requirements, (b) provide information to management for support of planning, controlling and decision-making activities, and (3) provide a variety of reports, as required, to external constituents.

Unfortunately, the information needed to support the criminal justice agencies has too often been absent in many jurisdictions. Due to increased state and federal

financial support, however, the situation is changing. Information systems are now in use in many areas to assist police, courts, and corrections personnel in decision-making.

2.2 Computers and Criminal Justice

In January, 1973, the National Advisory Commission on Criminal Justice Standards and Goals, which had been appointed by the Law Enforcement Assistance Administration in October 1971, published six reports on criminal justice standards and goals. One of the volumes, Report on the Criminal Justice System, addresses the need to improve the availability of information at all levels of the criminal justice system. The Commission notes that,

> One of the biggest obstacles to improving the criminal justice system has been the lack of information regarding its present operation. Such specific information that is available often is neither timely nor in a form useful for decision-making. Although progress has been made, many often-expressed needs for information have yet to be satisfied.

The progress that has been made in the past five to six years has been significant. Several jurisdictions throughout the country have developed viable information systems. The purpose of this section is to describe several of the most successful systems in an effort to

demonstrate the benefits which are potentially available for all. As is the case with other products, those that are most known are often assumed to be the best. The systems described below are no exception.

Prosecutor's Management Information System (PROMIS)

In Washington, D. C. the U. S. Attorney's office is responsible for prosecuting federal cases as well as violations to laws within the District. To assist in this effort, the U.S. Attorney's office has implemented an innovative national system called the Prosecutor's Management Information System, or PROMIS.

PROMIS contains a complete summary of each defendant - including personal descriptors, previous arrests and convictions, and alcohol or drug use - as well as detailed information about the alleged crime and the defendant's arrest. PROMIS also contains a complete history of the criminal charges which result from the incident and a complete summary of court events.

Priorities are then assigned by computer based on an evaluation of the gravity of the crime and the history of the defendant. After the cases have been scheduled by the Court, PROMIS produces an advance list of cases set and

ranks them by priority. Although the cases are still called in the order established by the court, the prosecutor is better prepared due to the advance list generated by PROMIS.

Another feature of PROMIS is the ability "to trace the history of any formal criminal action from arraignment through final disposition and sentencing, and to account for the separate fate of each court or charge." (Hamilton).

PROMIS also prepares subpoenas or notices for official witnesses and lay witnesses before each court date. If there is not enough time to mail the notices, a telephone list is generated.

PROMIS has proven to be quite successful and has been chosen by LEAA as an exemplary project and is therefore available for transfer to other jurisdictions at no cost.

Dallas County Regional Criminal Justice Information System

Dallas County, Texas implemented the Dallas County Regional Criminal Justice Information System in 1971 in response to the information management needs of the County law enforcement agencies and courts. The System is now available to all counties in the surrounding area. The System consists of the following subsystems:

Adult Probation Subsystem

Book-In and Custody Subsystem

Judicial Information Subsystem

Bonds and Bondsmen Subsystem

Criminal Warrants Subsystem

Criminal Identification Subsystem

Message Switching Subsystem

The Adult Probation Subsystem provides timely data regarding probationers for probation officers and law enforcement officers throughout the sixteen county North Central Texas Region. The Subsystem also provides complete on-line accounting functions for maintaining records of supervisory fee payments and restitution payments.

The Book-In and Custody Subsystem contains pertinent data about all persons in the Dallas County Jail. On-line access to this data is provided in addition to several daily, weekly, and monthly printed reports.

The Judicial Information Subsystem maintains case and defendant transactional information of interest to the courts, District Attorney, District Clerk, and County Clerk. Daily, weekly, and monthly reports are provided as well as on-line access.

The Bonds and Bondsmen Subsystem maintains informa-

tion regarding each bondsman's liability and the status of any pending bond forfeitures.

The Criminal Warrants Subsystem maintains a master file of all outstanding warrants of arrest. In addition to responding to on-line queries regarding whether or not a person is wanted, the Subsystem provides printed reports for inventory and statistical purposes.

The Criminal Identification Subsystem is a master index which uses an on-line inquiry by exact name or sound-alike name to provide pointers to the criminal records jackets physically maintained by participating agencies.

The Message Switching Subsystem is a communications control device that controls all of the transmission and reception of law enforcement traffic on a leased line. Its purpose is to speed communications between local, state, and federal agencies as well as to provide inexpensive access by the smaller agencies to data contained in the other subsystems.

The Dallas County System has also proven to be quite effective.

Santa Clara County Criminal Justice Information Control System

The Santa Clara County Criminal Justice Information

Control (CJIC) system "is an intergovernmental, computer-based information system developed by and for the 23 city and county criminal justice agencies in Santa Clara County, California " (International Business Machines Corporation-1973).

The system monitors, on a real-time basis, the status of every defendant via a network of over 80 on-line terminals to aid CJIC users in decision making. The system processes information regarding over 100 bookings per day and over 500 complaints per week.

The objectives of CJIC are:

1. Improvement of daily criminal justice operations.

2. Support of comprehensive criminal justice planning by utilizing modern data processing technology and administrative concepts.

The system consists of two major subsystems: The Person-Case Information Subsystem which is concerned with the information required to monitor defendants and cases and the Management-Information Subsystem used to support planning, organizational structuring, allocation of resources, and evaluation.

The system is directed by a 20-member Policy Committee which includes the sheriff, 11 police chiefs,

two city managers, a municipal court judge and clerk, the district attorney, public defender, and adult and juvenile probation officers.

Using the subject-in-process concept, information is added to a defendant's computer file as he progresses from one step in the criminal justice process to the next. Information regarding bookings, arraignment, trials, dispositions, sentences, and probation is entered into the system via remote terminals. In addition, court calendars are produced by the system for both municipal and superior courts.

Nassau County, New York

Nassau County, New York, through its Department of General Services, provides data processing services for the Nassau County Medical Center, the police department, public works, social services, and the courts (Caso).

The computer system provides instant information regarding criminal and traffic warrants issued for offenders wanted for arrest in Nassau County. The warrant system is used in conjunction with the New York State Motor Vehicle Information System in Albany, New York, which allows Nassau County police officers to quickly obtain informa-

tion on stolen vehicles and related activities in other jurisdictions throughout the state.

For the courts, Nassau County uses a modified version of the Basic Courts System developed by IBM. This system allows for on-line monitoring of cases from arrest to disposition. Information can be retrieved by case number, person's name, or by the date of a court calendar. The system also provides, via a weekly report, information about cases which are nearing six months old since the prosecution is required to be ready for trial within six months.

The court system is also used to insure that a defendant with multiple cases is assigned to the same court to process bookings and releases at the County jail, and to produce grand jury indictment lists.

San Diego County's Basic Court System

San Diego County, California also uses IBM's Basic Courts System (BCS) as the basis for its criminal justice information system. In fact, San Diego County was the test site for the IBM package.

Robert B. James, Coordinator of the County's Law and Justice Agency, stated in the April 1973 issue of The

American County magazine that "the ease with which BCS was implemented is illustrated by the fact that the decision to go with the system was on December 1, 1970, and the system was online by April 1, 1971."

All input is made via terminals which resulted in the elimination of all manually produced name and number indexes. The on-line data entry provided more accurate and timely information.

Although BCS is used primarily for civil cases, San Diego County also designed and implemented a computer-based information system to maintain an accurate and up-to-date inventory of jail prisoners.

Bexar County/San Antonio Criminal Justice Information System

Bexar County and San Antonio, Texas, joined forces to design and implement a computer-based criminal justice information system which monitors criminal cases from the time of complaint or arrest to final disposition. The system is based on the use of a Master Name File as the nucleus for several subsystems which were implemented in phases. The Master Name File contains names, addresses, aliases, nicknames, names and addresses of relatives and associates, physical descriptors, and fingerprint classifications.

Since identification is not considered complete until a person is fingerprinted, the first subsystem to be implemented was the Booking Subsystem. The Booking Subsystem was designed to simplify the process of booking prisoners into the County jail. The jail, the only county jail in Texas which is administered by Commissioners Court rather than the Sheriff, is also used by the San Antonio Police Department and staffed by both city and county personnel.

The next subsystem to be implemented was the Warrant Subsystem. The Warrant Subsystem maintains an inventory of all outstanding warrants and produces warrant service forms to simplify the execution of warrants.

Early in 1975, the Judicial Subsystem was implemented. This subsystem, used in conjunction with the other subsystems and the Master Name File, is used to monitor the progress of all criminal cases filed in the County.

The Bexar County/San Antonio system was also designed to easily access information in the state (TCIC) and national (NCIC) criminal justice information systems. Utilizing a switcher, system users can access TCIC, NCIC, and they are also making inquiries into the Dallas County Regional System.

Philadelphia Court System

Planning of the Philadelphia Court System began in November of 1967 and the first phase of the system became operational in September 1968 (Blake and Polansky). The current system serves the 56-judge Common Pleas Court and the 22-judge Municipal Court in the city and county of Philadelphia.

The system is designed to aid court personnel with both civil and criminal cases. The data base for criminal cases includes case information such as offense descriptions, names of defense attorneys and prosecuting attorneys, police medical report data, dispositions, length of sentences, records on courtroom availability, bonding company information, and alias records. The system also maintains up-to-date information regarding court appearances.

The Philadelphia Court System is primarily a batch input system. Terminals are installed in the courts, clerk's offices, prosecutor offices, public defender's offices, prison offices, bail agency locations, probation offices and police departments. The terminals are used primarily for inquiry. Inquiries are provided to display:

1. The status of a case
2. Attorney information
3. The charges against a defendant

The system also produces court calendars, subpoenas, and statistical reports for both criminal and civil cases.

The Massachusetts Court Case Management System

The Massachusetts Court Case Management System (CCMS) was designed to "provide all court organizations -- judges, prosecution, defense, probation, clerks and sheriffs -- with day-to-day operational support, as well as much needed management information and statistical summaries" (Kreindel and Moreschi).

The system provides for on-line data entry for the eight busiest county courts and batch input for the remaining six counties. A single data base has been designed to contain calendar, docket, and participant information. Each participant and each criminal case is tracked from indictment to final disposition. A case unit -- the aggregation of defendants and cases that will be tried together -- will also be tracked by the system.

The CCMS has also been designed to produce daily, weekly, and monthly reports such as calendars, notices of scheduled appearances, indexes, jail transportation lists,

probation disposition reports, attorney workload reports, prosecutor assignments, and lists of overdue cases.

PROCES: Prosecutor's On-Line Court Event System

The Prosecutor's On-Line Court Event System (PROCES) was developed in response to a request by the Prosecuting Attorney in Honolulu, Hawaii to implement a system to help manage pending criminal cases (Rogers). The system was designed and implemented by the Department of Data Systems which provides data processing services for all city and county agencies on the island of Oahu.

The system utilizes on-line updating procedures and on-line inquiries. The system periodically produces for each case a case summary document, called a face sheet. The face sheet not only provides the prosecutor with an up-to-date summary of each case and eliminates the need to shuffle through each file folder, it is also used as a source record for data entry purposes. Any information entered into the system from a face sheet will cause the system to produce a new face sheet the following day.

The information from the face sheets is entered via CRT terminals by specially trained terminal operators.

County Law Enforcement Applied Regionally/Criminal Justice Information System (CLEAR/CJIS)

Project CLEAR (County Law Enforcement Applied Regionally) began as the police information system of the Regional Computer Center of Cincinnati and Hamilton County, Ohio. CLEAR provides teletype communications and information storage for all law enforcement agencies in the county. CLEAR also provides message switching to the state and national systems.

Using CLEAR as a base, a Comprehensive Criminal Justice Information System (CJIS) is now available. CJIS provides information on individuals and cases from the time of arrest until final disposition. The system prepares court dockets as well as notices to appear. The system maintains records on fees, fines, and bonds. CJIS is also used to coordinate attorney appearances and assign public defenders.

There are other successful, and well publicized systems now in operation. The reader interested in more information about existing systems will find Larry Polansky's paper, "Contemporary Automation in the Courts," an excellent starting place. In addition, the Law Enforcement Assistance Administration published a directory of automa-

ted criminal justice information systems in 1972 and is currently updating the directory for publication in 1976.

2.3 Harris County's Informational Needs

Harris County's criminal justice agencies identified many of their informational needs in 1969 and 1970 and, as we shall see in the next chapter, attempted to develop computer-based information systems to fill these needs. The purpose of this section is to identify some of the information required by Harris County's criminal justice agencies.

The courts, as well as the District Clerk, need to know which cases are pending. Without a complete, accurate, and timely inventory of cases to be processed, the courts cannot schedule cases properly. In addition to knowing which cases are pending, they need to know the status of the cases and defendants. They need to know who the bondsmen and attorneys are in order to prepare notices of settings. Alphabetical indexes are extremely difficult to maintain without the use of a computer and nearly all inquiries about cases are by defendant's name rather than by case number.

The Court Coordinators, who are responsible for selecting dates for the settings, need to know which cases

are settable, the best time to set a particular case, and whether or not the court's calendar is scheduled efficiently.

The District Attorney needs to know how well the prosecutors are doing their job. The prosecutors themselves need to know case schedules so that they can properly prepare for trial.

The Adult Probation Department needs to know who is on probation, who is going on probation and who is scheduled to be terminated. The department also needs to know how much supervisory fee and restitution to collect, when it is due, when it was paid and where to send the restitution payments. They also need to know if any probationers have been arrested and the status of any pending motions to revoke probation.

The Sheriff needs to know who is in jail, why they are in jail, and when they are eligible for release. He also needs to know the amount of bond for each case and who is eligible to make bond. He needs to know when a prisoner is required to be in court and the type of clothes the prisoner must wear to court.

As can be seen, the information needs of the Harris County criminal justice agencies do not differ significantly from the information needs of other organizations. Both

public and private organizations need instant access to information which will aid in day-to-day decision making. Why, then, is the design and implementation of a criminal justice information system so different from designing and implementing an information system for private organizations? In an effort to answer this question, the next chapter describes the initial efforts of Harris County to develop criminal justice information systems to meet the needs of the criminal justice agencies.

CHAPTER THREE

THE HISTORICAL DEVELOPMENT OF CRIMINAL JUSTICE INFORMATION SYSTEMS IN HARRIS COUNTY

> The last five years have seen many efforts to marry tools and dreams in the courthouse--some of these shotgun unions have already dissolved, leaving only starving and unhappy love-children as reminders of their romance.
>
> Judge Thomas J. Stovall, Jr.

Harris County is recognized nationally for having been one of the pioneers in the use of computers in county government. Harris County's automated jury selection system, implemented in 1969, has been emulated throughout the country (Frost, Sibley, and Wyatt). Many of the ideas that went into the design of the Harris County Subject-in-Process System, developed in 1970, have been successfully implemented in other counties and are included in the National Advisory Commission's Standards and Goals.

Being a pioneer, however, meant not having the trial and error experiences of others readily available. When the Harris County systems were designed there were no standards and goals available. The potential users of

the systems as well as the agency heads themselves were not familiar with the capabilities of computers and left the design entirely up to the data processing specialists.

Even so, several useful systems were developed. These systems then became the link between the users of information and the information specialists. The users learned what types of things could be done and the technicians got a better understanding of what should be done. Although somewhat costly, it seems in retrospect to have been a necessary step toward the development of an effective criminal justice information system.

Harris County implemented four criminal justice information systems to communicate information about criminal cases and the persons associated with the cases between the various criminal justice agencies. These systems are:

Subject-in-Process System (SIPS)

Criminal Records Information and Management System (CRIMS)

Misdemeanor Information and Docketing System (MIDS)

Probation Fee System

3.1 The Subject-in-Process System (SIPS)

The Harris County Subject-in-Process System (SIPS)

was designed to maintain on computer all pertinent information about criminal cases. The system information was made available via printed reports and remote terminals, to the District Clerk, District Attorney, Sheriff, Probation Department, and the courts. The primary objectives in the design of SIPS were to produce a system which would provide an efficient means of monitoring the progress of criminal cases and to define methods of using such information to reduce the total time and effort required to process a case.

The system was designed to be mutually beneficial to the various County departments concerned with the criminal process by eliminating unnecessary duplication of information recording and speeding the process of retrieving information. Many questions regarding criminal cases were instantly answered by the system.

The following cathode ray tube (CRT) terminals and printer terminals connected to the County Auditor's IBM 360/50 were installed:

LOCATION	CRT	PRINTER
County Auditor-Computer Room	2	1
County Auditor-Data Control Room	2	
District Attorney-Felony Section	1	
District Attorney-Grnd Jury Sect.	1	
District Clerk-Criminal Div.	1	
Pre-Trial Release	1	
177th, 178th, 179th Dist.Courts	1	

LOCATION	CRT	PRINTER
Sheriff-Warrants Division	1	
Sheriff-Jail	1	
Sheriff-Rehabilitation Center	1	1
Criminal Court Manager	1	1
TOTAL	13	3

The Subject-in-Process System consisted of teleprocessing and batch processing functions built around a nucleus of files serving as the System's data base. The System organization is shown in figure 3 (Baca, et al).

The four basic data files were the Case File, Name and Number File, Calendar File, and Misdemeanor Case File. All files except the Misdemeanor Case File were updated by the Batch Input Monitor, using the appropriate Input Processor (labeled I_1, I_2, I_3,...I_n in the figure). The Misdemeanor Case File was rewritten daily from the District Clerk's MIDS pending file.

The following on-line inquiries were provided by the Subject-in-Process System:

NAM: Allowed the user to search the Name File for a particular name (defendant, defense attorney, or bondsman) and display on the CRT all cases associated with the name.

NAMS: (Same as NAM except defendant only and different display format)

CAS: Allowed the user to search the Case File for a particular case and display a summary of the case status and transactions.

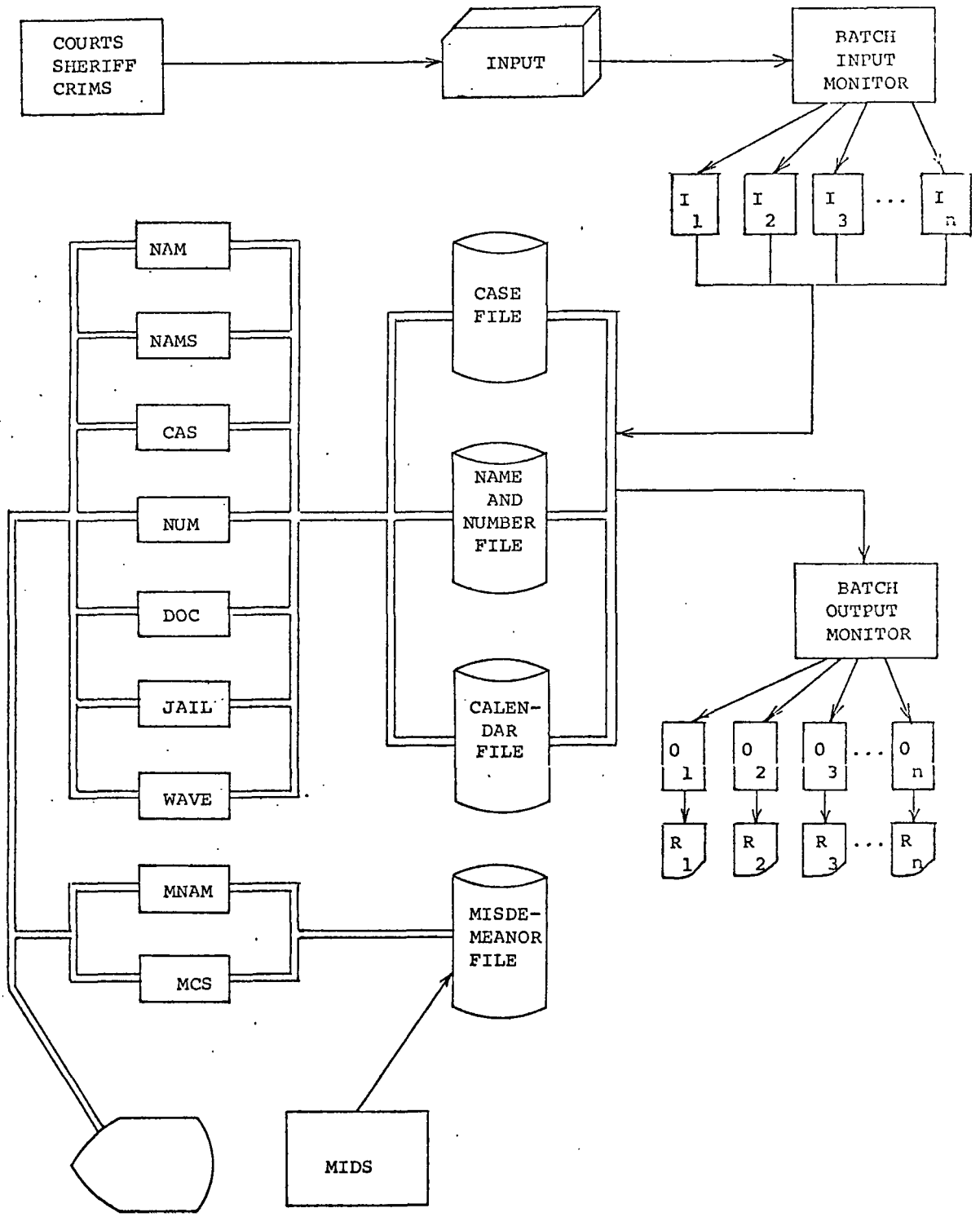


Fig. 3. Subject-in-Process System Organization

NUM: Allowed the user to search the Number File and display a cross reference number.

DOC: Allowed the user to inquire by date and court and display a list of all cases docketed on that day in that court.

JAIL: Allowed the user to search the Name File for a particular person, and, if the person was in jail, display booking and identification information.

WAVE: (Same as JAIL with slight modifications.)

MNAM: Allowed the user to search the Misdemeanor File for a particular name and display a list of all misdemeanor cases associated with that name.

MCS: Allowed the user to search the Misdemeanor File for a particular case and display a summary of the current status of the case.

Due to the limited number of terminals, most information was supplied to the users via printed reports. Except for jail information, all output about misdemeanors was provided by terminal only.

The Batch Output Monitor consisted of output functions (labeled O_1, O_2, O_3,...O_n in the figure) that produce a variety of printed reports (labeled R_1, R_2, R_3,...R_n). The following reports were provided:

Court Docket

Each District Court received daily a printed docket

of all cases set on a given day in that court. The docket contained, in addition to the court and the date of the setting, the following:

Case number

Defendant's name

Defendant's status

Prosecuting attorney's number

Defense attorney's or bondsman's name, address, and phone number

Offense description

Reason for setting

Time of setting

The cases were arranged on the docket according to the time of the setting.

Additional copies of each docket were publicly posted and given to persons associated with the courts.

Turnaround Court Docket

The Turnaround Court Docket was a copy of the Court Docket with spaces provided to enter results, resets, sentences, etc. This report was completed daily by the Court Coordinator and the information written on the report was then entered into SIPS. Any case that did not receive a result would continue to be printed out as a

reminder to the Court Coordinator that SIPS was expecting an update. This helped prevent cases from being lost or passed without action.

Court Docket Control Sheet

The Court Docket Control Sheet report contained one line of information for each date a particular court had open settings. This line contained the date of the setting, the number of cases set for that day, and two spaces for input. One space was used to write in the number of cases being added to that day's docket and the other was used to write in the number of cases being taken off of that day's docket.

The Control Sheet was supplied to the Court Coordinators daily to insure that every transaction affecting the docket had been properly executed by the System. The report also provided the court with a quick reference as to the case load for a particular day.

Jail Reports

Several reports describing persons in jail were provided. Each report was similar in content, differing only in arrangement.

There was an alphabetical list of all persons in jail showing the prisoner's name, race, sex, age, date

jailed, and all cases with which the person was associated. The case information included case number, offense description, date filed, court, and status. The report included misdemeanor cases and felony cases (indictments as well as cases pending grand jury action).

In addition, each court received two reports of those prisoners with cases in their court. One report was in alphabetical order and the other was arranged according to how long the person had been in jail.

Alphabetic Case Index

Each court received, weekly, an index of all cases with open settings. The report contained:

Defendant's name

Case number

Offense description

Prosecuting attorney's number

Defense attorney's or bondsman's name, address, and phone number

History of settings

The history of settings contained the date and time of each setting, the type of setting, and the results (if any) of the setting. Space was also provided for comments.

Numeric Case Index

The Numeric Case Index contained, in case number order, one line of information for each case assigned to a particular court.

Each line contained:

Case number

Defendant's name

Offense description

Case status

The case status could be inactive (pending disposition, but not currently set), active (pending disposition and had open setting), or disposed. Disposed of cases were purged from the files after sixty days.

In addition, the Subject-in-Process System produced several exception reports to pinpoint cases not progressing properly and to point out possible system errors.

The Subject-in-Process System proved to be quite beneficial for the courts. The process of setting cases for court appearances and producing the courts' dockets was greatly simplified. The system also provided the court coordinators with an efficient method of keeping track of all cases assigned to each court.

The other agencies, for which the system was designed

however, failed to fully appreciate the benefits of the system. The District Attorney, for example, used the system-produced dockets to prepare for court appearances and made some inquiries via terminal regarding specific cases. The District Attorney did not, however, use that part of the system designed specifically for his office and which required input from his office. The Cases Pending Grand Jury Report had to eventually be suspended due to inaccuracies caused by the lack of participation by the District Attorney.

The Sheriff also failed to participate in the system causing the jail information to be consistently inaccurate. Ironically, the Sheriff did use the system-produced jail list even with the inaccuracies.

The District Clerk refused to participate in the system and even went so far as to design and implement his own system.

3.2 The Criminal Records Information and Management System (CRIMS)

The Criminal Records Information and Management System (CRIMS) was designed and implemented by the District Clerk in an effort to more efficiently achieve the statutory requirements of the office of District Clerk. The District Clerk, as the official keeper of the records for the courts,

was faced with an ever-increasing problem of storing, protecting, and providing access to the official court documents. The use of microfilm was considered and the required legislative changes were approved in 1971. However, microfilm did not solve all of the District Clerk's problems.

The District Clerk also needed to respond to requests for information about criminal cases in a timely manner and to produce statistical reports for the state.

CRIMS, then, was designed to be a computer-based information system containing only information abstracted from official documents--including the microfilm number of each document. By microfilming the documents and implementing approved control procedures, the District Clerk was able to reduce his space requirements, protect the integrity of the records, and provide rapid access to the information. Figure 4 illustrates the flow of documents and information associated with providing input to CRIMS.

As can be seen in figure 4, CRIMS received information abstracted from documents which had been microfilmed and then placed in the case file folders. CRIMS produced computer output microfilm, sorted alphabetically by defen-

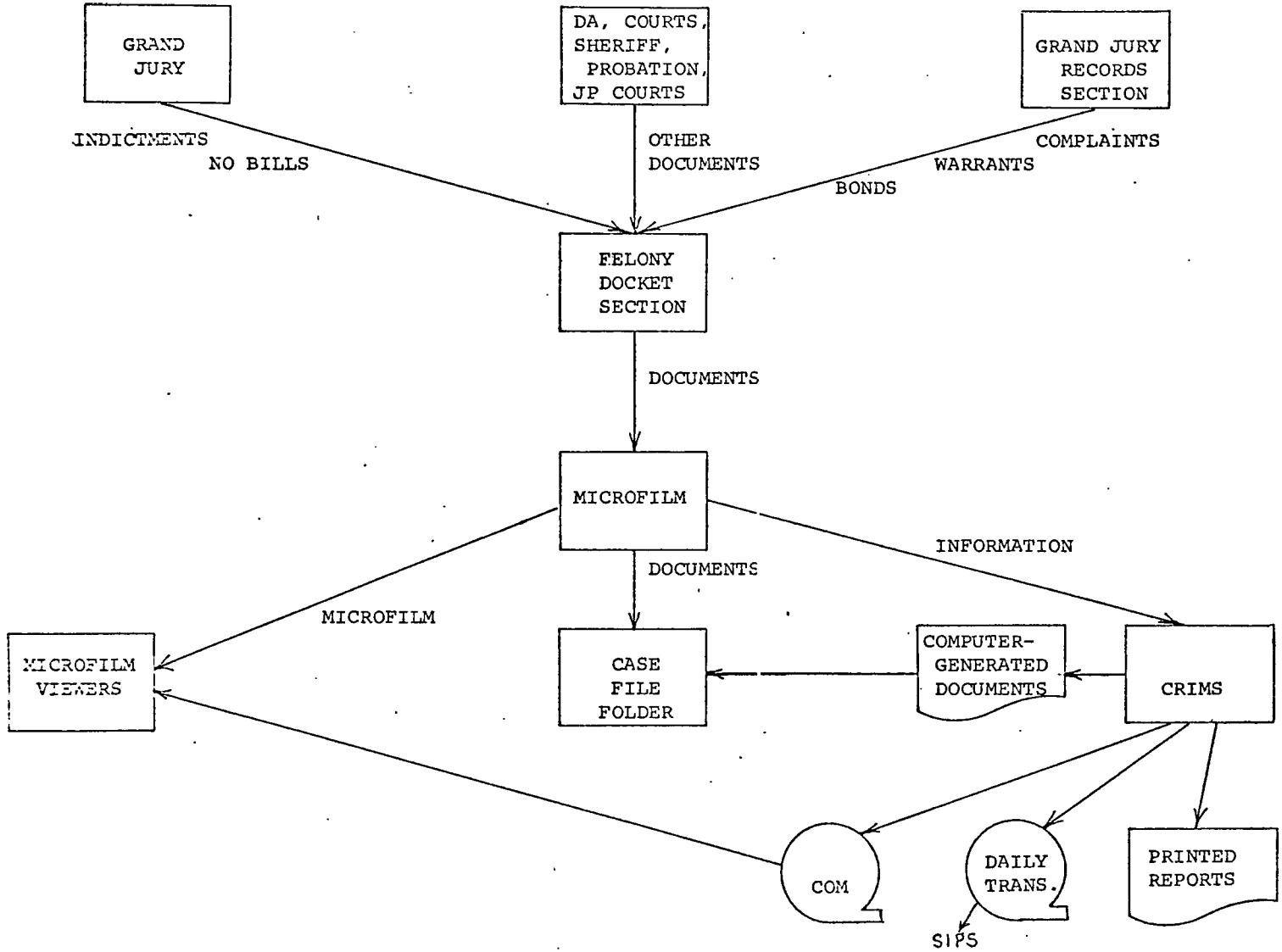


Fig. 4. Criminal Records Information and Management System Input

dant's name, of all transactions associated with a particular case. Each transaction contained a reference to the role and frame of the microfilmed documents. Therefore, it was possible to inquire about a particular defendant and quickly and easily view (or obtain copies of) the official records regarding the defendant.

Since the microfilm viewers were not readily available to other criminal justice agencies, CRIMS also produced various printed reports which were duplicated and distributed throughout the criminal justice community. In 1975, the District Clerk's office was producing 220 reports daily and delivering the reports to over sixty locations.

One of the most popular reports was the Felony Pending Cases Report which contained, in alphabetical order, a one-line summary of each pending felony case. In addition to the defendant's name, the report contained:

Bondsman Name (if any)

Amount of Bond

JP Case Number

District Court Case Number

Court Appearance Dates

District Court

Offense Description

CRIMS was initially implemented on an RCA/2 computer in the County Clerk's office. With the establishment of the County Data Processing Department and the purchase of an IBM 370/158, CRIMS was shifted to the new computer in mid-1974.

CRIMS was a very useful tool for all Harris County criminal justice agencies. However, like SIPS, CRIMS failed to meet all the needs of the users. For example, if the user wanted to know if a defendant was charged with both a felony and a misdemeanor, CRIMS could not respond since the Misdemeanor Information System was entirely separate from CRIMS.

3.3 The Misdemeanor Information and Docketing System (MIDS)

The Misdemeanor Information and Docketing System (MIDS) was also designed and implemented by the District Clerk. Due to the large volume of cases and the speed in which the cases flow in comparison with felony cases, only a limited amount of information concerning the misdemeanor case was abstracted for computer processing. Rather than maintaining an abstract of every transaction, MIDS contained only the latest information about a case. The Misdemeanor Cases Pending Report, therefore, consisted of

nearly all known information about the case:

Defendant

Bondsman (if any)

Amount of Bond

JP Case Number

County Criminal Court at Law Case Number

Appearance Date

Court

Case Status

Offense Description

From this limited amount of information, however, many useful reports were prepared. Figure 5 illustrates some of the capabilities of MIDS.

MIDS was initially implemented on the County Tax-Assessor-Collector's Univac 9400 and later converted to the County Data Processing Department's IBM 370/158.

3.4 The Probation Fee Accounting System

The Probation Fee Accounting System was not originally designed to be an integral part of Harris County's criminal justice information system. It was designed and implemented by the County Auditor to account for all payments made by probationers and, at the time it was implemented

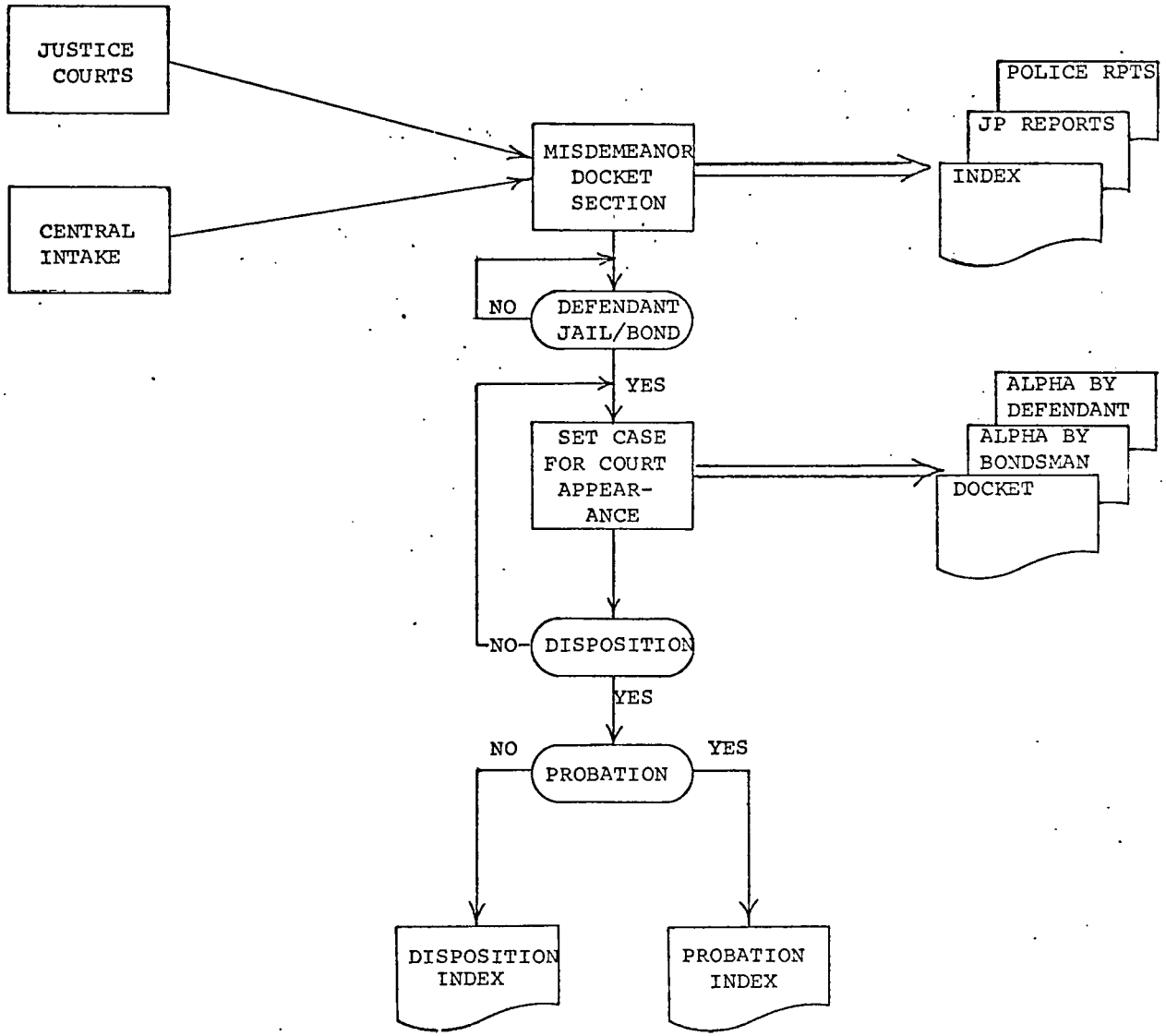


Fig. 5. Misdemeanor Information and Docketing System Capabilities

it was thought that only the Auditor and the Adult Probation Department would benefit from the system. However, since the system contained the only complete list of all probationers--both felony and misdemeanor--the information was of value to the District Attorney, Sheriff and the courts.

A special report was produced to provide non-accounting information for the use of the other agencies. This report contained the probationer's name, court, and case number. The report was used to determine if persons recently indicted were on probation, for if they were, their new case was automatically transferred to the same court in which the probation was granted.

The Probation Fee Accounting System was implemented on the County Auditor's IBM 360/50.

3.5 The Need for a New System

Early in 1973 the users began to seriously question whether the systems they had developed met their needs. They recognized that many problems existed due to the approach they had taken and that only by working together could they develop a more useful information system. Chapter 4 discusses in more detail the formal organization of the users in an effort to improve their information systems, while this section focuses on some of the particular

problems which led to the organizational changes.

The users evaluated their systems and found one of the biggest problems was that each of the systems operated entirely independently of the others. Figure 6 illustrates the systems which were in operation in January of 1973. With the systems designed in this manner, it was possible for a person to be in each of the five systems at once without the knowledge of any of the users. This resulted in unnecessary duplication as well as a loss of useful information regarding the defendant's status.

Through user coordination, the systems were modified in mid-1973 to reduce the amount of effort required for data input and to improve the output. Figure 7 shows the results of these efforts.

The modifications did not significantly improve the overall system, however, and the users began to seriously consider designing and implementing an entirely new system. Before discussing the new system which resulted, however, it will be beneficial to first describe in more detail the user's organization that resulted from these initial efforts to coordinate the Harris County criminal justice information systems.

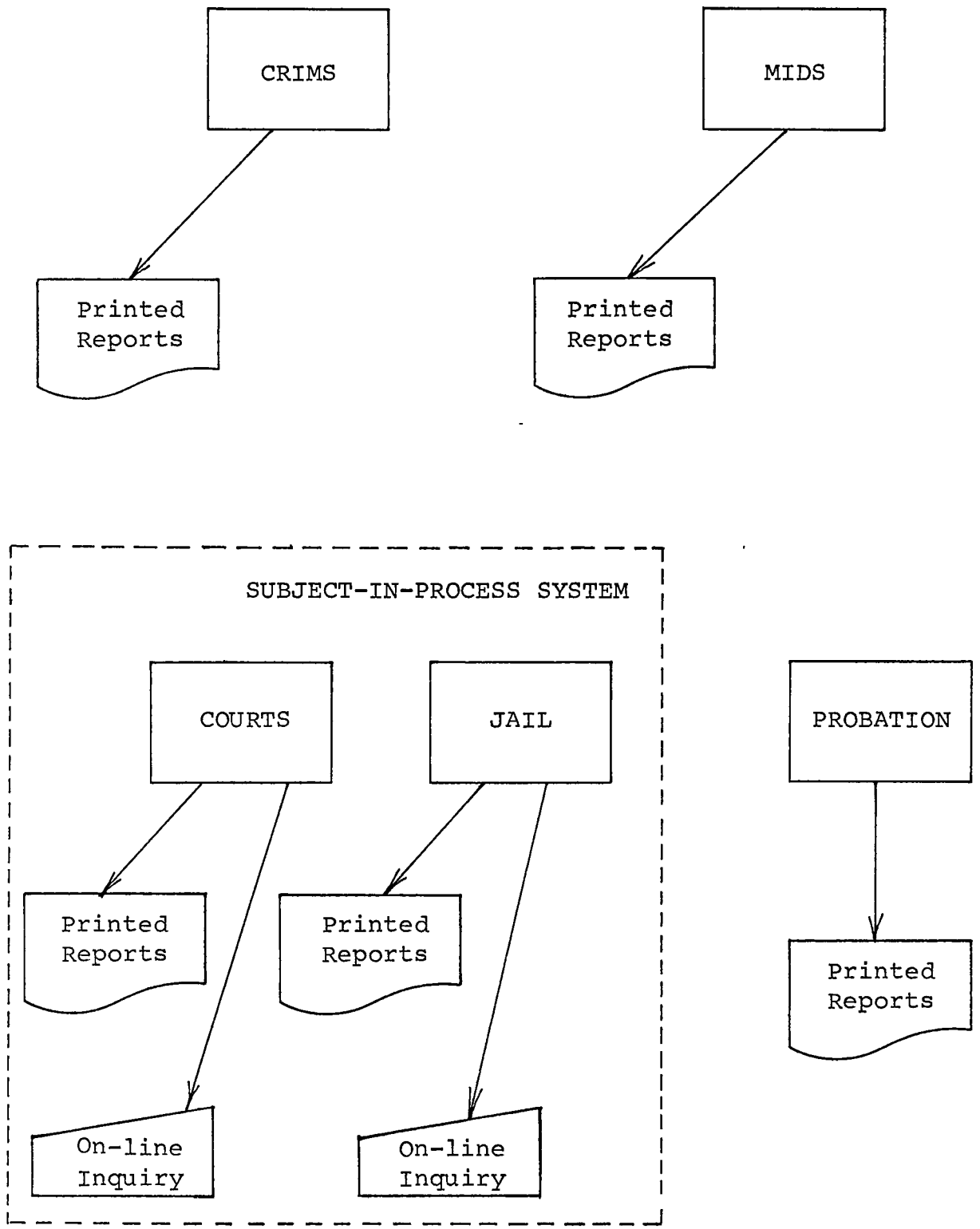


Fig. 6. Harris County Criminal Justice Information System - January, 1973

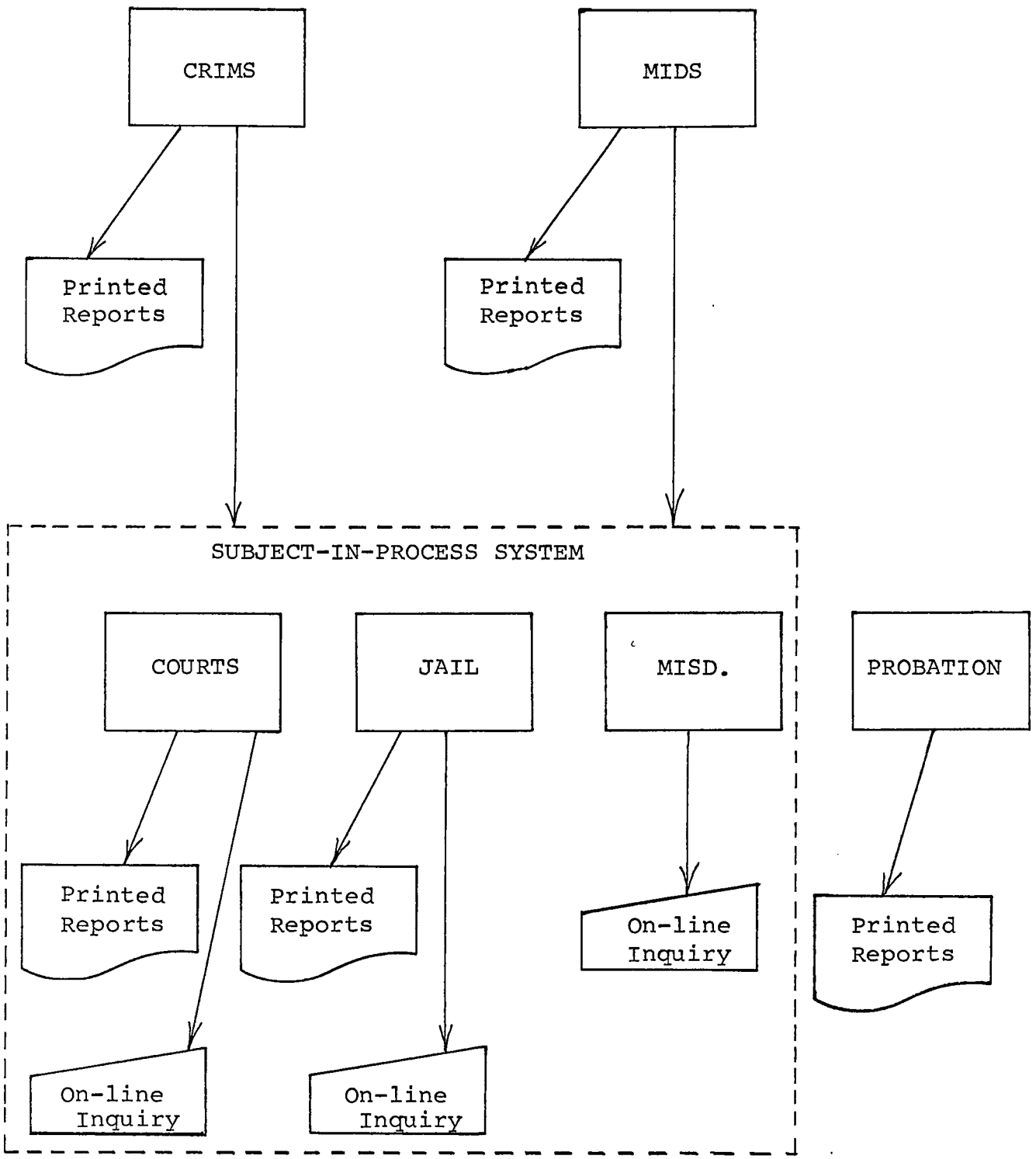


Fig. 7. Harris County Criminal Justice Information System - September, 1973

CHAPTER FOUR

THE HARRIS COUNTY CRIMINAL JUSTICE INFORMATION SYSTEM ORGANIZATION

> The necessity for the Court to preserve its independence to adjudicate disputed issues of fact does not require, in the Commission's view, that Judges and other Court personnel avoid direct and vigorous involvement in criminal justice planning.
>
> National Advisory Commission on Criminal Justice Standards and Goals

Although SIPS, CRIMS, MIDS, and the Probation Fee Accounting System had proven to be quite beneficial, the segmented approach had not fully improved communications between the departments. The users recognized that only through a cooperative effort of all user agencies could a more meaningful system be developed. To facilitate this goal, the users organized what is now know as the Harris County Criminal Justice Information System (HCCJIS) Executive Board--a voluntary cooperative group whose primary function is to manage the Harris County Criminal Justice Information System.

The current HCCJIS organization began with the formation of the Subject-in-Process System (SIPS) Users

Committee in 1971. The functions of the committee were:

- Review and approval of design specifications
- Review and approval of documentation
- Supervision of implementation
- Auditing of security controls
- Review requests for changes and/or deletions to the system
- Informing users of System capabilities and limitations

In actual practice, however, the committee held infrequent meetings for the purpose of disseminating information about SIPS.

After several complaints about SIPS by the Court Coordinators, the Management Committee of the Harris County District Judges hearing criminal cases, at a meeting held January 26, 1973, asked one of its members to call a meeting of the SIPS Users Committee for the purpose of proposing a more coordinated effort to improve SIPS.

A meeting of the SIPS Users Committee was held January 30, 1973 to discuss methods of improving the System. The group agreed upon the need for a more formal organization and suggested the use of subcommittees to improve the organization and communication. On February 9, 1973 the group approved the establishment of a SIPS Executive Board

to direct the operations of the committee. A representative of the District Court judges, the District Clerk, the Sheriff, the District Attorney, and the Project Director of the SIPS grant were appointed to the Executive Board. The representative of the Judiciary was selected to chair the Executive Board meetings. Later, the Director of Adult Probation and a representative of the County Criminal Court judges were added as members and the Director of the Data Processing Department became an ex-officio member.

The Justice of the Peace Courts were also invited to appoint a representative to the Executive Board, but none participated until mid-1975.

Two subcommittees were appointed by the Executive Board to perform the actions agreed upon by the whole committee. The Systems Development Subcommittee was established to determine the status of the project and to set priorities for future development. A Grant Application Subcommittee was appointed to coordinate the preparation of a grant renewal application.

With the new organization, changes to SIPS began almost immediately. The Systems Development Subcommittee reported shortly after its formation that SIPS was indeed a useful and viable system. The Subcommittee reported that particular attention needed to be devoted to input

controls. They suggested a meeting of judges, court coordinators, and systems personnel be called for the purpose of standardizing, where possible, docket formats, dissemination schedules, input control procedures, and court transfers. The subcommittee also began investigating methods for obtaining input into SIPS from the District Clerk's Criminal Records Information and Management System. They made recommendations regarding where the system terminals should be installed and presented a three-day seminar on the Subject-in-Process System for users and potential users in the County.

Meanwhile, the Grant Subcommittee was busily preparing an application for third-year funding. The resulting grant differed significantly from the previous two. The Subcommittee recommended that a full-time SIPS Coordinator be hired to manage the system and be answerable to the Executive Board. A full-time programmer, reporting to the SIPS Coordinator was also requested. Control clerks were requested for the District Clerk to supply input to SIPS. In addition, the Subcommittee suggested the Chairman of the Executive Board be named as the Project Director of the grant. The recommendations of the Subcommittee were approved by the Executive Board

and the grant application was approved by the Texas Criminal Justice Council.

The SIPS Coordinator was hired July 1, 1973. The Coordinator surveyed the System and, working with the Systems Development Subcommittee, made several recommendations for improvements. The Systems Development Subcommittee supervised the addition of misdemeanor case information to SIPS and formed several special project groups to investigate particular areas of concern. The special project groups were:

- Offense Codes
- Security and Privacy
- Statistical Reports
- Training and Education

Members of the Systems Development Subcommittee attended and assisted in the formalization of the State Users Group. The Training and Education Project Group planned and held several seminars, updated and published users manuals, and began publishing a newsletter.

The SIPS Executive Board approved goals and implementation plans for a new integrated Harris County Criminal Justice Information System presented to them by the SIPS Coordinator. On November 21, 1973, the SIPS Executive

Board changed their name to the HCCJIS Executive Board for a more unified approach to the development of the new system.

The HCCJIS organization has served as a vehicle for improving communication between the criminal justice agencies for manual procedures as well as for the automated systems. The Systems Development Subcommittee, for example, brought together for the first time, representatives of the departments to discuss problems they had faced for years. The Chairman of the Systems Development Subcommittee recognized this need to strengthen the communication between departments and purposely allowed the discussions to stray from the objective of developing an automated system. Many significant changes in manual procedures resulted from the Subcommittee and Executive Board meetings. Prior to the formalization of the HCCJIS organization, there was no convenient way for the various departments to discuss common problems and institute changes of benefit to all.

Figure 8 illustrates the HCCJIS organization which resulted. The next section discusses in more detail the system users who were involved in the development of the organization.

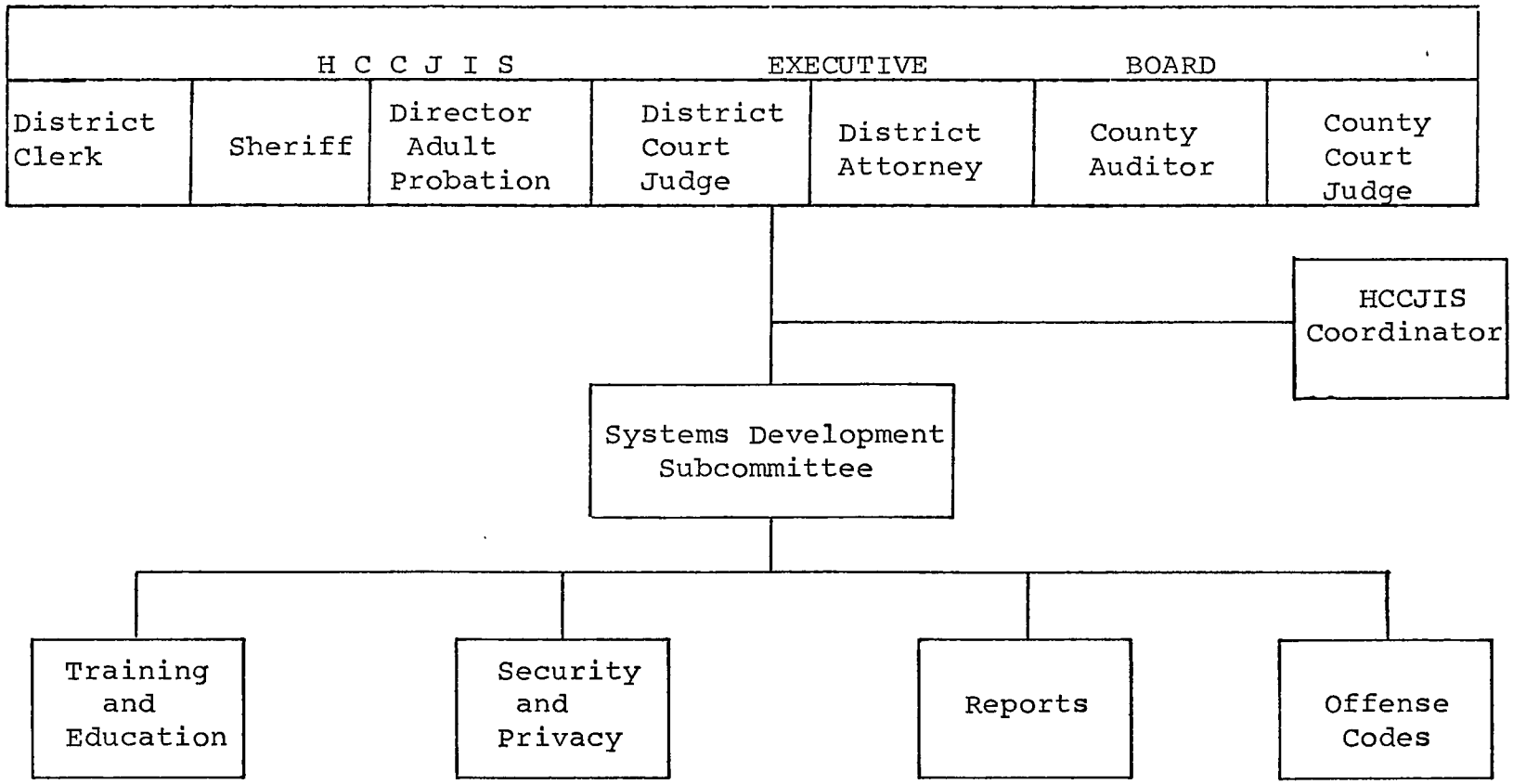


Fig. 8. Harris County Criminal Justice Information System Organization

4.1 The System Users

Standard 10.9 of the National Advisory Commission on Criminal Justice Standards and Goals Report on the Criminal Justice System recommends the establishment of criminal justice user groups "because of the decentralized nature of the criminal justice system..." The Commission goes on to say, "one of the easier and more significant ways in which to achieve the essential ingredient of cooperation is through a properly constituted user group."

Due to its importance, standard 10.9 is shown below in its entirety.

> All criminal justice information systems, regardless of the level at which they operate, must establish user groups. These groups should, depending on the particular system, have considerable influence over the operation of the system, its continuing development and modifications to it.
>
> 1. A user group should be established from representatives of all agencies who receive service from the criminal justice information system.
> 2. The user group should be considered as a board of directors assisting in establishing the operating policy for the criminal justice information system.
> 3. The user group should also be responsible for encouraging utilization of the system in all agencies and should be directly concerned with training provided by both their own staff and the central agency.
> 4. Membership in the user group should include the officials who were actually responsible for the various agencies within the criminal justice system.
> 5. Technical representation on the user group should be of an advisory nature, should assist in providing information to the user group but should not be a voting or full member of the user group.

Harris County, like most government organizations, is not structured in the pyramidal fashion of corporations. Harris County is governed by many independent elected officials. However, their duties are often interrelated by statute and they are forced to adhere to certain organizational constraints by the use of budgetary controls placed on them by Commissioners Court. Although this type of organization protects the voters from corruption by public officials, it is costly and inefficient.

Due to the organizational structure of Harris County and the departmental independence, intra-county communication is extremely poor. Even among the criminal justice agencies where steps have been taken to coordinate the activities of the various agencies, communication between the departments has failed miserably. For example, the Sheriff made changes in procedures relating to the recording of jail information without considering what impact the change would have on other departments. The change led to errors in the jail list which was being used by the court coordinators to set cases.

In another example, the District Attorney acting alone decided to use the multi-charge indictment provided for in the new Texas Penal Code that went into effect

January 1, 1974. When the new Penal Code was first adopted in the summer of 1973, the District Attorney was specifically asked if he intended to use the new procedure because system changes were required if he did. At that time he said it would not be used. Then in the summer of 1974, he began to use it without advance notice.

The users group does not want to tell any agency head what to do or how to run his department. All they want to do is to insure that all changes are coordinated ahead of time so that all are informed in time to prepare for the change. This is not always possible, however, due to the rapid employee turnover in agencies such as the District Attorney's office. By the time a person who is serving on the users group becomes familiar with data processing and the system, he is often transferred or leaves the county.

Since the formation of the HCCJIS Executive Board, however, the intra-county communication problems have decreased considerably.

4.2 The Executive Board

Since its conception early in 1973, the HCCJIS Executive Board has met at least once a month to perform the following functions:

- Establish Standards and Goals
- Approve Designs
- Approve Documentation Standards
- Supervise Implementation
- Audit Security Control
- Approve Changes
- Training
- Administrative Matters

One of the first tasks of the Executive Board was to develop a set of goals. These goals were then used during the evaluation of the existing systems and led to the development of the new system. The goals of the HCCJIS Executive Board are:

1. Provide prompt access to data concerning felony and misdemeanor cases and the persons associated with such cases to all criminal justice agencies in Harris County from the time of the charge until no further criminal justice transactions can be expected within Harris County concerning that charge.

2. Avoid the duplication of data collection and dissemination for data needed by more than one agency.

3. Provide detail information about individual cases in process to assist the courts and the prosecution in the decision-making process.

4. Provide the necessary information to permit efficient docket management.

5. Provide sufficient data and statistics to determine case flow and judicial workload patterns, to assist in case handling, and to prepare required statutory statistical reports.

6. Provide the necessary data for continued research and evaluation of the criminal justice process.

7. Provide a method of interface with the state and national criminal justice information systems.

The HCCJIS Executive Board is not the system governing board on paper only. No changes, for example, were made to SIPS, CRIMS, or MIDS without the formal approval of the Board. The approval was upon motion and second of Board members followed by a vote of the membership. The minutes of each meeting is recorded and copies are distributed to each member. During the design and implementation of the new system, the Executive Board formally approved each step upon recommendation of the Systems Development Subcommittee.

4.3 The Systems Development Subcommittee

The Systems Development Subcommittee was established by the HCCJIS Executive Board to investigate the technical

aspects of the system and to make recommendations to the Executive Board. The Subcommittee consists of representatives - usually technically qualified - from each of the user departments. The actual functions of the Subcommittee have changed during the past two years depending on the status of the system. Initially, the Subcommittee functioned as an evaluation team to determine if the systems were achieving the HCCJIS Executive Board goals. Next, the Subcommittee became a planning committee to develop the plans for the new system. Then the Subcommittee became the implementors of the system using a project management organization to insure that the new system was implemented properly. Soon, the Subcommittee will probably revert back to an evaluation team.

During the evaluation and planning phases, the Systems Development Subcommittee met at least once a week. Often, much of the weekly meeting was devoted to improving manual procedures especially those involving two or more agencies.

During the implementation phase, many of the Subcommittee members met on a daily basis to insure that the project stayed on schedule.

Perhaps one of the longest phases, however, was the planning phase. It was during this phase that the

new system, now called the Harris County Criminal Justice Information System, was actually defined. Chapter 5 contains a summary of the results of the planning phase while Chapter 6 discusses in detail the methods used to develop the plans.

CHAPTER FIVE

THE HARRIS COUNTY CRIMINAL JUSTICE INFORMATION SYSTEM

> It is a fundamental truism that to provide maximum benefit to the organization, the information system must be addressed to the areas critical to the success of the organization.
>
> McFarlan, Nolan, and Norton

The objective of this chapter is to provide the reader with a general understanding of the Harris County Criminal Justice Information System so that the chapters which follow will be more meaningful. In addition to an overview of the system and a brief description of each of the subsystems, this chapter also discusses the system capabilities which were implemented initially and the capabilities which will be added at a later date.

5.1 General Description

The primary objective of the Harris County Criminal Justice Information System is to provide a centralized source of information regarding criminal cases and the persons associated with criminal cases which can be accessed via terminals located in each of the various

criminal justice departments.

The principal users of the system are the criminal court judges, court coordinators, deputy district clerks, assistant district attorneys, adult probation officers, and sheriff deputies. The information will also be made available to law enforcement agencies within the County upon request.

The capabilities of the system include the ability to provide:

- Prompt access to the data contained in the central data base.
- Detailed information regarding individual cases.
- Information for efficient court docket management
- Sufficient management data for a variety of statistical reports.
- Management information to aid in the continual improvement of the administration of justice.
- An efficient interface between state and local criminal justice agencies.
- Efficient standardized input and output procedures to avoid duplication of effort.

The system is designed to achieve individual department objectives while maintaining all common information in a single location. For example, all information

about a person is stored in a unique record of the Persons File independent of which agency entered the information. If a person is in the system because he has a misdemeanor case pending, he will not be added to the Person File again if a felony charge is made against him. Therefore, all interested agencies know immediately when a person has cases pending in more than one jurisdiction.

The nucleus of the Harris County Criminal Justice Information System consists of two interrelated files: the Case File and the Persons File. The Case File contains an abstract of each case transaction as the case progresses through the criminal justice system. In addition, the Case File contains a summary of the current case status and a pointer to the Persons File for each person associated with the case -- such as defendant, defense attorney, bondsman, witness, etc.

The Persons File contains the person's name (or names), personal descriptors, identifying numbers, physical location information, and pointers to the Case File for each case with which the person is associated.

The Harris County Criminal Justice Information System can best be summarized by grouping the functions into four categories: case initiation, pre-trial functions, trial functions, and post-trial functions.

Case Initiation

A case is added to the system when a complaint is filed in the central intake section, when an indictment is filed without complaint, when a person is booked into the county jail or released on bond by the Sheriff's Office due to a complaint filed in a justice court, or when a writ of habeas corpus, post conviction writ, or exparte proceeding is filed in the District Clerk's office.

Prior to adding a case to the system, an inquiry must be made to determine whether or not the defendant is in the Persons File. If not, the defendant information must be added to the Persons File prior to initiating the case record.

At the time the case record is initiated, only the essential information is entered directly into the Case File. The detail information, from the complaint, indictment, or whatever instrument was used to initiate the case, is entered into a temporary storage location called the Hold File. The instrument is then microfilmed and, after verifying the accuracy of the information in the Hold File, the microfilm reference number is added to the information in the Hold File. Once the instrument has been microfilmed and the Hold File information has been verified and

updated, the Hold File information is transferred to the Case File.

Persons inquiring about a case prior to the information being transferred from the Hold File to the Case File are notified that additional information can be found in the Hold File and they may, if they so desire, access the Hold File directly to obtain the latest, yet unverified, information about the case.

All instruments following the initiation of a case--such as, warrants, capias', commitments, etc.--are also entered into the temporary Hold File in the same manner as described above.

Pre-Trial Functions

After case initiation, several activities may occur depending on the method of initiation, the type of case, and the defendant status. All activities which occur between case initiation and the first court appearance are referred to as pre-trial functions. Pre-trial functions may include:

- Booking
- Bonding
- Examining Trials
- Grand Jury Action
- Trial Settings

All instruments prepared by the District Clerk to fulfill the pre-trial functions are handled in the same manner as described above for case initiation. That is, the information is first entered into the Hold File, then microfilmed and verified before being transferred to the Case File. All pre-trial information initiated by other agencies is entered directly into the Case or Person File.

Trial Functions

The activities referred to as trial functions include processing all transactions which occur between the time of the first setting and the final disposition. These transactions include:

- Results of Settings
- Subsequent Settings
- Bond Forfeiture Activities
- Judgements

Setting information may be entered into the Case File directly by the court coordinator or via the Hold File by the District Clerk. Setting information includes the date, time, and reason for the setting and, optionally, the estimated duration time for the court appearance. After the court appearance, the court coordinator or Dist-

rict Clerk enters the results of the setting, the actual duration time, and the date, time, and reason of any future settings.

The system is designed to use the setting information to prepare the court's dockets and to check for possible setting conflicts which might result from scheduling a person to be in two or more places at the same time. To facilitate the docket management functions, a Calendar File is provided which contains a copy of all setting records and which is organized according to the date of the setting.

Judgments are entered into the system by the District Clerk and included in the judgment record is sufficient detail to prepare statistical reports required by the state.

Any transactions occurring during the trial phase which affect the status or location of the defendant are entered directly into the Persons File while information from the associated instrument, if any, is entered into the Case File via the Hold File by the District Clerk.

Post-Trial Functions

The processing of transactions which occur after judgment are referred to as post-trial functions. These

transactions include:

- Sentencing
- Probation
- Appeal
- Delivery Orders

A case continues to be of interest to Harris County criminal justice agencies--and, therefore, remains in the system--until dismissal, acquittal, completion of jail sentence, termination of probation, or delivery of the defendant to the Texas Department of Corrections.

During the probation period, violation reports can be entered into the system as well as motions to revoke probation which will be followed by alias capias information, setting information, and, possibly sentencing information. By maintaining up-to-date information about probationers, the system can easily notify the Probation Department if a probationer is arrested on new charges.

The system also provides the capability to monitor the progress of appeal cases and to produce exception reports when transactions do not occur according to procedure. The system is designed to handle all transactions associated with appeals including mandates.

In addition to providing a means to maintain up-to-

date information about criminal cases and the persons associated with the cases, the Harris County Criminal Justice Information System also provides numerous terminal displays and printed reports. These displays and reports were designed to meet the needs of each of the user departments and will be described in Chapter 9. The needs of the various departments are addressed by providing subsystems designed to fulfill specific requirements.

5.2 The Subsystems

Section 5.1 summarizes the Harris County Criminal Justice Information System by evaluating the scope of the system with respect to the various phases of a case. Another way to describe the system is by examining the various subsystems which are a part of the total system. Figure 9 illustrates the subsystems and shows how they are interrelated.

The Records Management Subsystem provides the other Subsystems with information about criminal cases based on documents filed in the office of the District Clerk. In addition to being the source of information for judicial events, the Records Management Subsystem provides a method of ensuring that all required documents are processed and

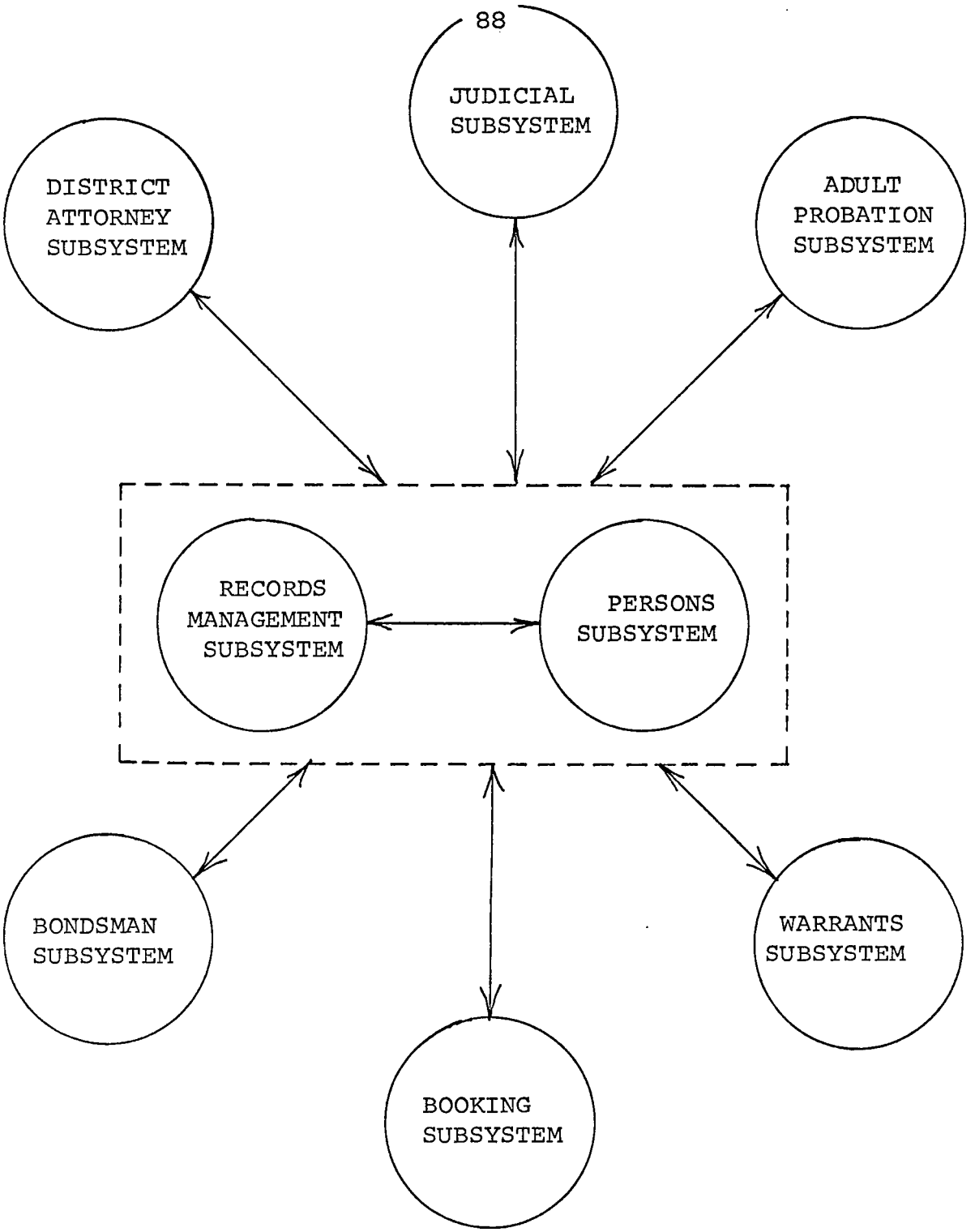


Fig. 9. HCCJIS Subsystems

filed in a timely manner by generating exception reports such as a list of persons said to be in the Harris County Jail for which no warrant or commitment is filed in the District Clerk's office.

The Records Management Subsystem initiates case records, issues case numbers, maintains information regarding all judicial transactions, and maintains a complete inventory of pending cases. In addition, this Subsystem provides an index to microfilm copies of all case documents.

The Records Management Subsystem consists of the necessary files, indexes, programs, and procedures to fulfill the Subsystem objectives. The following data elements are maintained by the Records Management Subsystem:

Case Number
Justice of the Peace
Law Enforcement Agency
Law Enforcement Agency Case Number
Date Filed
Date of Indictment or Information
Date of Offense
Defendant
Type of Counsel
Grand Jury Prosecutor
Probation Officer
Property Owner
Citizen Witness
Co-defendants
Judge
Case Status
Defendant Status
Amount of Bond
Warrant Issued To-Date
Defendant Number
Justice of the Peace Case Number
Court
Type of Case
Intake Attorney
Date Indictment Waived
Offense
Enhancement
Counsel
Prosecutor
Bondsman
Complaining Witness
Police Witness
Companions
Court Reporter
Jurors
Case Status-Date
Defendant Status-Date
Warrant Issued To
Warrant Executed By

Warrant Executed By-Date
Warrant Returned-Date
Warrant Recalled-Date
Setting Reason
Setting Time
Disposition
Disposition-Prosecutor
Sentence
Fine Payment Schedule
Restitution Payment Schedule
Supervisory Fee Amount
Probation Start Date
Probation End Date
Motions to Revoke Probation
Status of Violation Reports
Record and Data Control Information
Related Case Numbers
Warrant Returned
Warrant Recalled
Location of Warrant
Setting Date
Setting Results
Disposition-Date
Judgment
Fine
Restitution Amount
Restitution Payees
Supervisory Fee Payment Schedule
Probation Early Termination Date
Appeal Information

Cases are entered into the Records Management Subsystem, and are available to all Subsystems, at the time a case is filed. Procedures provide for instantaneous case initiation at the Central Intake Section by using a combination of the magnetic card typewriters and CRT type terminals. An operator requests via the CRT a case number (which will remain with the case even after indictment) and then enters pertinent case information on a pre-formatted screen. After the data has been checked for errors, the computer automatically activates the magnetic card typewriter causing it to produce the complaint, indictment, commitment, etc. The resulting documents are then microfilmed and used to verify the system data. The system information will then be flagged as verified.

Similar procedures are used for cases initiated at locations other than the Central Intake Sections.

Persons Subsystem

The Persons Subsystem provides all known information about persons currently or potentially associated with criminal cases. The subsystem consists of defendants, attorneys, judges, witnesses, bondsmen, probation officers, etc. The purpose of the subsystem is to provide a central location, accessible by all other subsystems, to store person-oriented information. Therefore, an update of person-oriented information by one subsystem is instantly available to all subsystems. The Persons Subsystem assists the criminal justice agencies in properly identifying persons of interest through the association of names with physical descriptions and unique identifiers.

To fulfill the goals of HCCJIS, it is necessary to relate a defendant to all cases in which he is involved. Therefore, each person in the subsystem is assigned a unique identification number based on sound identification practices referred to as a system person number or SPN. Each non-defendant is also assigned a unique permanent SPN. Defendants are not assigned permanent SPNs until after fingerprint classification and a

determination by the Sheriff's office of whether or not the person is already in the system.

Unfortunately, this identification is often not available when a case is initiated. Usually, a number of judicial events as well as person-oriented events occur before a person's true identity is determined. Therefore, the systems provide for the use of a temporary SPN which is automatically linked to the permanent SPN after a person is firmly identified.

The other subsystems access the Persons Subsystems by SPN. An inquiry by name into any subsystem results in three steps:

1. Conversion of the name to a phonetic (or sound-alike) code.
2. Determination of whether or not the person (or a person with a similar-sounding name) is in the Persons Subsystem.
3. Determination of whether or not the person is associated with the subsystem of interest.

The Persons Subsystem consists of the necessary files and indexes to provide the subsystem objectives. The following data elements are maintained by the Persons Subsystem:

Name
SPN
* Alias Names
* Names of Associates
* Addresses
* Telephone Numbers
* Occupations
Race
Sex
Date of Birth
Place of Birth
Height
Weight
Build
Color of Eyes
Color of Hair
Skin Tone
Scars, Marks, Tattoos
Fingerprint Classification
SO Number
DPS Number
FBI Number
Social Security Number
Texas Driver's License Number
Miscellaneous ID Number
Location (Jail, Prison, Hospital, Deceased, Unknown, et cetera)
Current Probation/Current Parole
Previous Convictions
Case connections

Data elements indicated by an asterisk may appear in multiples.

Booking Subsystem

The Booking Subsystem provides the ability to enter booking and prisoner status information into the system at the time it is originated. The subsystem is used in conjunction with the Persons Subsystem and the manual identification process to identify incoming

prisoners. The Booking Subsystem is also used in conjunction with the Records Management and Warrants Subsystems to maintain current information regarding prisoners.

The Booking Subsystem is used to maintain information on all persons in the custody of the Harris County Sheriff, not just those with cases pending in Harris County courts.

Prisoner status information is provided via on-line inquiry to all authorized criminal justice agencies. The Booking Subsystem also provides periodic printed reports on the jail population and the status of prisoners as well as statistical and accounting reports.

Warrants Subsystem

The Warrant Subsystem provides on-line inquiry capability to all law enforcement agencies within Harris County regarding the issuance, execution, return, recall, and location of warrants. The Warrant Subsystem was designed to answer all questions regarding warrants and wanted persons.

The Subsystem is based on information in the Records Management and Persons Subsystems, but also contains warrant information regarding persons wanted for agencies outside of Harris County.

Judicial Subsystem

The Judicial Subsystem provides via CRT terminals a summary of every case from the time of complaint until no further transactions can be expected within Harris County concerning that charge. The case file data can be accessed by name (defendant, attorney, bondsmen, et cetera) or by any one of the various numbers associated with the case. A user can request a display of a general summary of a case or a display of the chronological transactions which have occurred since the case was filed. In addition, the Judicial Subsystem provides computer-assisted court docketing procedures and the capability to produce various summary and statistical reports.

The information in the Judicial Subsystem is based on data in the Records Management Subsystem.

Adult Probation Subsystem

The Adult Probation Subsystem, in conjunction with the Records Management and Persons Subsystems, provides on-line response to inquiries regarding probationers. The Subsystem includes the capability to monitor all probation incident activity utilizing case histories pertaining to each probationer. It is hoped that the subsystem will be expanded to have the capability to monitor fees and

restitution payments made through the Adult Probation Department including the automatic preparation of receipts for payments received and the preparation of restitution checks. A monthly summary or balance sheet of all financial transactions pertaining to each case would also be provided.

Many of the objectives of the Adult Probation Subsystem are achieved from information in the Records Management Subsystem. For example, the following daily printed reports regarding probationers are produced from information in the Records Management Subsystem:

1. New cases
2. Revocations
3. Terminations
4. Dismissals of Motions to Revoke
5. Bonds being set on Motions to Revoke

In addition, the Records Management Subsystem provides timely information regarding the status of Violation Reports and the Booking Subsystem immediately notifies the Adult Probation Office when a probationer is jailed.

The financial accounting information, when implemented, however, will be maintained in separate files with procedures designed and approved by the County Auditor . Although initial fee information is a matter of record and

can be provided by the Records Management Subsystem, payments and balances will be maintained separately by the Adult Probation Subsystem.

In addition, it would be feasible to maintain additional department-only information such as a psychosocial profile of each probationer to assist the department in its rehabilitation efforts.

The Adult Probation Subsystem requires persons to be included in the Persons Subsystem who were never in the Harris County Judicial Subsystem such as probationers being supervised under the interstate compact. For this reason and because the Adult Probation Department often learns more about the probationers than other agencies, the Department is a primary source for purifying data in the Persons Subsystem.

District Attorney Subsystem

The purpose of the District Attorney Subsystem is to provide for the District Attorney's Office those inquiries and reports which are not a part of the Judicial Subsystem due to confidentiality or lack of general interest. The bulk of the information requirements of the District Attorney's Office are provided by other Subsystems and are not discussed here.

Reports and inquiries provided by the District Attorney Subsystem include:

1. Management reports summarizing the activities of prosecutors.
2. Management reports describing case flow and the elapsed time between judicial events.
3. Schedules of action for Assistant District Attorneys.
4. Individual prosecutor statistics.
5. Automated Statements of Facts for TDS.
6. Automated Juror Letters.
7. Automated subpoena processing and continuance notice preparation.
8. Criminal non-support cases.
9. Worthless Checks.
10. Consumer fraud.

Information required by the District Attorney and not provided by other Subsystems also includes previous convictions and parole information which is provided by direct contact with TCIC.

Bondsman Subsystem

The Bondsman Subsystem provides the capability to respond to on-line inquiries from the Sheriff's Bond Office

regarding bondsman eligibility, outstanding bonds, release information, and bond forfeitures. The Bondsman Subsystem is used in conjunction with the Persons, Records Management, and Booking Subsystems and does not duplicate information already included in those subsystems.

The subsystem is capable of handling the following information which is not part of another subsystem:

1. Bondsman licensing information.
2. Bondsman security information.
3. Property descriptions.

In addition, the Bondsman Subsystem accesses information in other subsystems such as current bonds, bond forfeitures, etc.

5.3 Initial Capabilities

All of the capabilities described above for each of the subsystems have not been implemented. The system files, however, have been designed to include the data elements required for the capabilities which are to be added later. The ability to design for future capabilities was possible due to the planning methods used and the dedicated participation of the users. Chapter 6 describes the methods used to plan the system as well as some of the problems the users had to overcome regarding funding and implementation.

CHAPTER SIX

PLANNING THE SYSTEM

> The act of planning itself changes the situation in which the organization operates.
>
> David W. Ewing

The success of the Harris County Criminal Justice Information System is due largely to the active participation of the user agencies. After formulating goals and evaluating their current information systems in the Summer and Fall of 1973, the HCCJIS Executive Board recognized the need to define and implement a new system. Therefore, a Planning Committee was established in January of 1974 which, with the support and direction of the agency heads, set about to define a new computer-based information system and to develop a written plan to implement the new system.

The purpose of this chapter is to describe the planning activity and the results which followed.

6.1 The Planning Committee

In January 1974, the HCCJIS Executive Board estab-

lished a Planning Committee to develop the necessary plans to achieve the goals which had been adopted by the Executive Board in November of 1973. The Committee was specifically charged with developing a written action plan which was to include:

- Departmental objectives
- Information requirements
- Steps required to achieve objectives
- An implementation schedule
- Manpower requirements

The members of the Planning Committee were, for the most part, the representatives of each user agency assigned to the Systems Development Subcommittee. Each agency head, however, was given the opportunity to designate whomever he desired to attend the planning sessions. The committee consisted of the following:

Courts

- The HCCJIS Coordinator
- The Criminal Courts Manager
- A Criminal Court Coordinator

District Attorney

- The Operations Bureau Chief
- The Worthless Checks Division Chief

Adult Probation

- The Assistant Director

Auditor

- The Programming Manager

Sheriff

- The Director of Corrections and Detentions
- The Director of Research and Development
- The head of the Warrants Division
- A Chief Jailer
- A Warrant Officer

The first three days of meetings were held in a hotal conference room some distance from the courthouse so that the committee members would not be disturbed by the day-to-day operations of their offices. Telephone calls were not allowed, but messages were posted outside of the room and many calls were returned during coffee-breaks and meals. IBM Corporation provided the meeting room, a speaker, and a trained planning guide. IBM had just recently announced a new program product--the System/370 Justice System (SJS)--and had hopes of selling it to the County. The HCCJIS Executive Board, however, accepted IBM's offer to furnish the room, speaker, and guide on the condition that the new product, SJS, would not be mentioned and that no attempt would be made to slant the plan toward

SJS. The HCCJIS Coordinator, who had earlier attended the SJS announcement, watched for any violation of the condition.

The planning session began with an opening speech by the Chairman of the HCCJIS Executive Board which was designed to motivate the committee and firmly establish the goals of the session. Next, was a presentation by the IBM criminal justice expert which, in essence, was a summary of what other jurisdictions had achieved in the field of criminal justice information system implementation. The speaker also discussed the National Crime Information Center (NCIC) and ended his presentation with a discussion of security and privacy considerations.

The planning guide then divided the committee into groups by department and asked each group to list their information needs. To aid in this task, the guide suggested the following format:

- Activity Description
- Information requirements for this activity
- Location of this activity
- Frequency of this activity (e.g. 120 inquiries per day)
- The speed in which the information is required (five seconds, one day, etc.)

- The department that originates the information
- The known information or key to the required information (name, case number, etc.)
- The security level of the information (public, county only, or department only)

An example of the form used is shown in Figure 10.

From the information requirements forms produced by each department, it was clear that the information needed by all could be associated with either a person or a case. Two large charts were then prepared using rolls of butcher paper. The department names were listed along the side of each chart. The data elements which were associated with names were listed across the top of one chart and the data elements associated with cases were listed across the top of the other. Figure 11 illustrates how these charts were then used to show how all agencies were concerned with the same basic information. By using various colored felt-tipped pens the charts were used to signify a department's need to retrieve, create, update, or delete information. The department representatives were then asked to identify, in writing, the information which would be useful in helping them do a better job. That is, in addition to the information required to perform the

D.A.'s REQ.
Page 1

FUNCTION	INFORMATION REQUIREMENT	LOCATION	FREQUENCY	SPEED	ORIG.DEPT.	INDEX	SECURITY Public County Department
Offender Contact	Previous Convictions Pending Cases Current Probation Current Parole	Intakes	120 pending	5 Sec.	Clerk Clerk Probation Dept. Parole Officer	Name	P
OPERATIONAL NEED	Defendant's Name Offense Charged Related Cases Pending Co-Defendants Witnesses Jail or Bond Amount of Bond Bondsman Defense Attorney Grand Jury Prosecutor Trial Court Prosecutor Cause Number Court Number History of Previous Settings Next Setting Disposition-Manner and Sentence	D.A.'s Office Intakes	100 per day	5 Sec.	D.A. Intake & Clerk	Name & Case #	P

Fig. 10. An Example of the Information Requirements Form Used by the Planning Committee

PERSON RELATED INFORMATION	NAME	ID #	ALIASES	ADDRESS	RACE	SEX	DATE OF BIRTH	PLACE OF BIRTH	HEIGHT	WEIGHT
Sheriff/LE	C U D R	C U D R	C U D R	C U D R	C U D R	C U D R	C U D R	C U D R	C U D R	C U D R
District Attorney	C U D R		C D R	C U D R		C D R		C D R		C D R
District Clerk	C U D R	C U D R	C U D R	C U D R	C U D R	C U D R	C U D R	C D R		C D R
Courts	C U D R	C U D R	C U D R	C U D R	C U D R	C U D R	C U D R	C D R		C D R
Adult Probation	C U D R		C D R	C U D R		C D R	C U D R	C U D R	C U D R	C U D R

CASE RELATED INFORMATION	CASE NO.	LE NO.	COURT	TYPE	DATE FILED	OFFENSE	DATE OF OFFENSE	ENHANCEMENT	DEFENDANT	COUNSEL	TYPE OF COUNSEL	PROSECUTOR
Sheriff/LE	R	C U D R	R	C R	R	C U D R	C U D R	R	C U D R	R	R	C U D R
District Attorney	R	R	R	C U D R	R	C U D R	R	C U D R	C U D R	R	R	C U D R
District Clerk	C U D R	R	C U D R	C U D R	C U D R	C U D R	R	R	C U D R	C U D R	C U D R	R
Courts	R	R	C U D R	C U D R	C U D R	C U D R	R	R	C U D R	C U D R	C U D R	R
Adult Probation	R	R	R	R	R	R	R	R	R	R	R	R

KEY	C U / D R	C: Create U: Update D: Delete R: Retrieve

Fig. 11. The Data Element Access Charts Used by the Planning Committee

day-to-day functions of their office, what information would be useful to them as managers to insure that their organization was functioning properly. The Criminal Courts Manager, for example, was interested in information to answer questions such as:

- How long does it normally take to get from one stage to the next in the judicial process?
- Are the court coordinators setting all jail and bond cases within a reasonable amount of time?
- How many cases are disposed of by plea or dismissal after being set for trial?
- Are the court coordinators setting efficient dockets or is the court taking an inordinate amount of time for resetting cases?

The District Attorney's representative wanted information such as:

- The number of cases assigned to each grand jury assistant.
- The number of cases assigned to each prosecutor.

After discussing each departments needs, a chart was made to outline the requirements of the departments and the person and case charts were updated to reflect the additional data elements that had been identified.

Next, the committee prepared a list of projects required to achieve the objectives of each department.

The results of the three day planning session were the preparation of departmental objectives, the identification of basic files and data elements, and the preparation of a list of projects required to achieve the objectives of each department. It was agreed by all participants that more time was needed to further refine the list of things to do, to assign each project to the appropriate person or group, and to establish a completion schedule.

The results of the planning session were presented to the HCCJIS Executive Board on February 1, 1974, and the Board approved the request to continue developing the plan at expanded Systems Development Subcommittee meetings.

6.2 The Action Plan

By February 18, 1974, the first draft of the HCCJIS Action Plan had been prepared and on March 7, 1974, the final version was presented to the HCCJIS Executive Board.

The Action Plan began by describing the proposed system--its scope, purpose, and capabilities. It then described each of the subsystems which had been identified by the Planning Committee and enumerated the steps

required prior to implementing each subsystem.

Next, was a recommendation as to how the system should be implemented including who would be responsible for implementing each subsystem. This section of the plan addressed procedures for converting the data from the existing systems to the new. Included also was a time schedule for implementing the system with some subsystems being implemented as early as October 15, 1974, and some not until October of 1975.

The plan also included a recommendation that a systems analyst be hired by each of the user departments--Sheriff, Adult Probation, District Attorney, and the courts. At that time, only the District Clerk had a systems analyst. The plan included other manpower requirements such as:

- Programmers to be furnished by the Data Processing Department
- Conversion Clerks
- A Training Coordinator
- Additional booking and identification personnel for the Sheriff

The plan also contained a recommendation for terminal installations and a list of specific actions requested of the HCCJIS Executive Board. The implementa-

tion schedule was based upon the HCCJIS Executive Board's prompt approval of the committee's recommendations.

6.3 Funding and Implementation Considerations

Prior to formally presenting the HCCJIS Action Plan to the HCCJIS Executive Board on March 7, 1974, copies of the rough draft were distributed to all criminal justice departments as well as the recently-established Data Processing Department. The new Department had been created by Commissioner's Court January 2, 1974, and had not yet been fully staffed.

The new Director of Data Processing, after reviewing an advance copy of the HCCJIS Action Plan, suggested that the Planning Committee investigate the possibility of using the IBM System/370 Justice System. He arranged for three members of the committee (called the Technical Project Group) to attend a two-day seminar on SJS to aid in the feasibility study.

The Technical Project Group reported that SJS would not meet Harris County's needs as it is currently implemented but it could possibly be modified in less time that it would take to design and implement an entirely new system. Therefore, the HCCJIS Executive Board was asked to postpone final decisions regarding the Action Plan until IBM had time to prepare an estimate of the cost to

modify SJS to meet the needs of Harris County.

For the next three months, many meetings were held to discuss how to obtain the funds required to implement the system. The Data Processing Department had begun to hire analysts and programmers, but still could not provide the manpower required to implement HCCJIS. In addition, Commissioners Court did not have sufficient funds to provide additional personnel.

The Director of the Data Processing Department, now an ex-officio member of the HCCJIS Executive Board, suggested that his budget would allow for the lease of SJS as well as a contract with IBM to modify the system for Harris County. IBM's unsolicited bid had been received and the cost for modifying the $26,000 package program was estimated to be $150,000. The Director of Data Processing felt that Commissioner's Court would approve the contract as long as the funds were provided from his budget.

6.4 Project Inception

On June 19, 1974, the HCCJIS Executive Board unanimously approved the objectives of the Action Plan which had been presented to them by the Planning Committee in March. The method of implementation recommended in the plan was not approved. Instead, the Executive Board

ordered the HCCJIS Coordinator and the Chairman of the Systems Development Subcommittee to prepare a presentation for Commissioners Court which would include a description of the current systems and the accomplishments of the HCCJIS Executive Board followed by a request to lease SJS and to contract with IBM for assistance in implementing the system.

The presentation was tentatively scheduled for July 18, 1974, but since several of the Commissioners were on vacation, it was not given until September 12, 1974.

On September 26, 1974, Commissioners Court approved a request from the HCCJIS Executive Board "...to obtain an IBM contract for services and related items for the development and implementation of the first phase of the Harris County Criminal Justice Information System." Then, on October 30, 1974, the implementation phase, which is discussed in Chapter 7, began.

CHAPTER SEVEN

DESIGNING THE SYSTEM

> Too often, system design and operation is considered a technical task to be left entirely to technicians.
>
> National Advisory Commission on Criminal Justice Standards and Goals

The following steps have been identified as guidelines for systems design (Burch and Strater):

1. Identify the most important output in support of the system's goal.

2. List the specific information fields required to prepare that output.

3. Identify the specific input data required to develop the information fields.

4. Describe the data processing operations, particularly the logical or calculating algorithms, which must be applied to the input data to produce the desired information.

5. Identify those input elements which can be input once and stored for use in subsequent processing.

6. Continue executing steps 1-5, for each output requirement on a priority basis, until all outputs are considered.

7. Develop the data base that will support the system most effectively by considering systems requirements, data processing methods, and commonality of data.

8. Based on any developmental constraints, support priorities, and estimates of developmental cost, eliminate extreme input, output, and processing considerations.

9. Define the various control points desired to regulate the data processing activities and ensure the overall processing quality.

10. Finalize the output and input formats which best satisfy the current systems design.

These guidelines could not easily be applied to the design of the Harris County Criminal Justice Information System due to the HCCJIS Executive Board's election to use IBM's System/370 Justice System (SJS) as the basis for HCCJIS. Even so, the project personnel made every possible effort to insure that the resulting system met the needs of the users. The analysts ignored the file structure and file interrelationships provided by SJS initially while analyzing the user's output requirements. The design guidelines used by the analysts responsible for docketing, for example, were:

1. Meet with the Court Coordinators to determine the desired output.

2. Determine what data elements are required to produce the desired output.

3. Identify where the data elements can be found in the SJS files.

4. Make sure all required data elements are in the system.

5. Design the screen formats required--using terminology familiar to the Court Coordinator.

6. Format the printed reports--using standard headings and user terminology.

7. Obtain the Court Coordinator's approval of the displays, reports, and the associated process.

8. If any changes are made, check the SJS files to see if they need to be changed also.

9. Establish edit rules for all fields to be edited.

10. Modify the SJS tables to meet the needs of the users.

11. Develop error correction procedures.

12. Develop backup procedures.

13. Develop data security procedures.

14. Write the programs required to accomplish the output and update tasks.

Analysts and programmers working in other areas were given similar instructions. At the completion of the design phase, therefore, the SJS file structure had been modified in numerous places.

The purpose of this chapter is to describe the events leading up to those modifications and to describe the resulting system design.

7.1 The System/370 Justice System Contract

The contract with IBM's Federal Systems Division to modify and install the System/370 Justice System (SJS) began October 30, 1974. The first task of the contractors was to assist Harris County to:

1. Establish specifications for initial subsystems, including data base elements and interrelationships; file maintenance requirements; input sources and controls; data entry and validation procedures; batch report formats and frequencies; operational flow and control procedures; online terminal query and response requirements; and the security requirements to be imposed on HCCJIS.

2. Compare the specifications established for the initial HCCJIS with the specifications of System/370 Justice System Field Developed Program (SJS) to ensure its adaptability to Harris County.

3. Estimate the number of county personnel needed to implement and maintain the HCCJIS.

Due to the limited knowledge of Harris County personnel regarding SJS, the contract was written to allow for cancellation after task one.

> The County shall have the option to terminate this Agreement following delivery of the "Initial HCCJIS Specifications/SJS Comparison and Estimated County Personnel Report" (task one deliverable). This option must be exercised within ten (10) working days after delivery of the report.

The HCCJIS Executive Board insisted upon including the cancellation clause in the contract for two reasons. First, to provide a method of documenting the fact that SJS could indeed be used as a basis for HCCJIS. Secondly, to document the estimated manpower requirements and to obtain Commissioner's Courts' approval of any new positions prior to expending additional funds for the SJS contract. If Harris County had exercised the termination option after

task one, the cost would have been $32,611.

The first objective of including the cancellation clause--documenting the feasibility of SJS--was achieved. During task one Harris County personnel became more familiar with SJS and the contractors became familiar with the Harris County criminal justice system. The resulting document stressed the contractor's conviction that SJS would work for Harris County.

The second objective--getting Commissioner's Courts' approval of additional manpower--failed to materialize. Due to Commissioners Courts' reluctance to commit to the manpower requirements, the HCCJIS Executive Board very seriously considered cancelling the contract. Section 7.3 discusses this and some of the other problems that faced the Executive Board at that time.

Another feature of the SJS contract which the Executive Board insisted upon was that the contract be supervised jointly by the HCCJIS Coordinator and the Chairman of the Systems Development Subcommittee. Previously, similar contracts had been supervised by the department providing the funds rather than by the department or departments for whom the work was being done. For example, at the time the SJS contract began, the Data Processing Department was supervising another contract to design a

Law Enforcement System for the Sheriff. All attempts by the HCCJIS Executive Board to gain control of the project to insure that the resulting system would be an integral part of HCCJIS failed. Therefore, since the Data Processing Department was also funding the SJS contract, the contract was designed to allow Executive Board representatives complete control of the project. The Chairman of the Executive Board made this quite clear on the day the contractors arrived.

7.2 The SJS Feasibility Study

Task one of the SJS contract actually began November 1, 1974, at a meeting of the Systems Development Subcommittee. Due to the time that had elapsed since the Planning Committee had produced the HCCJIS Action Plan, a two-week planning session was scheduled to refresh the memories of the users and to train the contractors. Of the three fulltime contractors assigned to the project, one had some familiarity with court systems in Florida, one had worked with Harris County on another contract, and one had been most recently assigned to the oil industry as a programmer. None of the three had studied SJS in any detail.

In the first week of the two-week planning session,

day from 10:00 a.m. to 3:00 p.m. With guidance from the Chairman of the Systems Development Subcommittee and the HCCJIS Coordinator, the group reviewed and modified the HCCJIS Action Plan.

The charts, identifying desirable data elements, which had been produced in January 1974 by the same group were reviewed item by item and updated as required. The data elements were expanded somewhat after a guest speaker, a professor from the University of Houston, discussed the potential of developing a simulation model of the criminal justice system.

The users were well represented during the first week of meetings even though the meetings were held in county facilities. The meeting hours had purposely been selected to allow each representative to have two hours before and two hours after the meetings to attend to their normal duties.

During the first week, the users were told that each department would have a full day set aside in the second week to discuss their particular needs and they were encouraged to invite other members of their organization to attend at that time. The meetings in the second week were from 9:00 a.m. to 4:00 p.m. according to the following schedule:

Monday - Sheriff's Office

Tuesday - District Attorney's Office

Wednesday - Adult Probation Department

Thursday - Court Coordinator's Department

Friday - District Clerk's Office

During the second week, the users were encouraged to view their information needs based upon decisions they make or would like to be able to make. Zani, in "Blueprint for MIS" points out that

> The only way to isolate the specific information requirements of individual managers is to isolate the nature, frequency, and interrelationships of the major decisions made in the company.

The author suggests that a series of questions such as the following will help identify the specific information requirements for these decisions:

- What decisions are made?
- What decisions need to be made?
- What factors are important in making these decisions?
- How and when should these decisions be made?
- What information is useful in making these decisions?

Using Zani's list of questions, the HCCJIS Coordinator developed a questionnaire for the users to fill out for each decision point. The questionnaire, shown in figure 12, was designed to assist in isolating decisions

HCCJIS DESIGN QUESTIONNAIRE

DEPARTMENT:	*DIVISION:*	*Decision No.*	*Control No.*
DECISION:			
What are the factors involved in making this decision?			
How is the decision made?			
What information would be useful in making the decision?			
Completed by:		*Date*	

HCCJIS Form No. 102 (10/30/74)

Fig. 12. The HCCJIS Design Questionnaire

and, therefore, information requirements.

The users were first told how the questionnaire could be beneficial to them. Next, they were given specific criminal justice examples of operational, management, and planning decisions:

- Operational Decisions
  1. How much bond should be set?
  2. Is this bondsman eligible to make bond on this case?
  3. When should this case be set?
  4. How much is the restitution payment?
- Management Decisions
  1. What is the average time from complaint to indictment?
  2. What is the average cost of processing a case?
  3. How many settable cases are not set?
  4. How many defendants commit crimes while out on bond?
- Planning Decisions
  1. How will the addition of a new District Court affect the processing of felony cases?
  2. At the current rate of increase, when will the jail facilities be inadequate?

Finally, the users were given an example of how to complete the questionnaire (see figure 13).

HCCJIS

DESIGN QUESTIONNAIRE

DEPARTMENT:	DIVISION:	Decision No.	Control No.
District Attorney	Grand Jury	18	

DECISION:

Should this case be transferred to another court or remain in the one assigned by rotation?

What are the factors involved in making this decision?

A case is transferred if the defendant has open cases in another court, is on probation in another court, or is a companion of a person in another court.

How is the decision made?

The decision is currently made by checking the alphabetical list of pending cases and the alphabetical list of probationers. These lists do not contain descriptor information, however. If a similar name is found, it is necessary to check the case file or call the probation officer to obtain descriptor information.

What information would be useful in making the decision?

Since most indictments contain race, sex, and date of birth, it would help to have the same information on the alphabetical lists that are used for research. It would also help to have a cross reference for alias names.

Completed by	Date:
[redacted]	11-14-75

HCCJIS Form No. 102 (10/30/74)

Fig. 13. An Example of the HCCJIS Design Questionnaire

It had been hoped that an evaluation of the questionnaires would result in a better understanding of the information requirements of each department and, therefore, a more useful system could be designed. These results failed to materialize, however. Only two departments turned in their questionnaires and very few of the questionnaires included the decision to be analyzed. Most contained information requirements only without any basis for needing the information.

If properly filled out, the questionnaire should prove quite beneficial. The form may have to be filled out by a trained interviewer, however, to ever be successful.

During the two-week planning session, the contractors took many notes and reviewed their findings with Harris County project personnel between meetings. This process resulted in valuable orientation for the contractors and provided a permanent record of the results of the sessions for Harris County. From the two weeks of meetings, the contractors obtained sufficient information to establish the specifications for the initial subsystems--the Persons Subsystem and the Records Management Subsystem. They then began to study SJS to determine how well the product fit the needs of Harris County.

Task one of the contract was completed on December 20, 1974, and Harris County had ten working days to decide whether or not to continue the project.

7.3 SJS Contract Continuation

Considering the amount of time allowed (November 1, 1974 to December 20, 1974) the report produced by the contractors in accordance with task one of the contract was surprisingly complete, accurate, and comprehensive.

The 112-page document, called the Harris County Criminal Justice Information System Project Task 1 Report, contained a detailed description of the system, an analysis of how SJS could be used as the basis for the system, and a description of the manpower required to implement and maintain the system.

Late December was an unfortunate time to complete task 1, however. In addition to being a holiday period, many of the county personnel were faced with the choice of taking their accrued vacation by the end of the year or losing it. Also, budget requests for 1975, which had been submitted on November 1, had to be rewritten in response to the Commissioners desire to implement a zero-based budget system. All project personnel, therefore, were

either on vacation or busy revising their budgets.

In addition, the Sheriff's Law Enforcement System contract was not progressing satisfactorily. It had been hoped by HCCJIS project personnel that the Booking Subsystem and Warrants Subsystem would be designed by the Law Enforcement System contractors. Unfortunately, the Booking and Warrants Subsystems were being designed to be associated with two other non-criminal justice subsystems and were being designed for implementation with a data base management language that could not easily interface with SJS.

On January 7, 1975, the HCCJIS Executive Board met to discuss whether or not to continue the SJS contract. The Chairman reported that, based on his review of the Task 1 Report and discussions with the Chairman of the Systems Development Subcommittee and the HCCJIS Coordinator, the System/370 Justice System could be effectively used as a base for the development of HCCJIS. He pointed out, however, that the success of the system would be affected by the Law Enforcement System and the budget hearings.

The Director of the Data Processing Department, who was directing the Law Enforcement System contract, agreed to modify the Booking and Warrant Subsystems to be compatible with SJS.

At the next meeting of the Executive Board, January 9, 1974, the Director of the Data Processing Department added that the Booking and Warrants Subsystems would also be placed under the supervision of the Executive Board.

The Chairman of the Systems Development Subcommittee reported that the subcommittee had met and recommended the continuation of the contract. The Board then authorized the continuance of the contract and asked the HCCJIS Coordinator to prepare a letter to Commissioner's Court informing them of the decision and also requesting their approval of the additional manpower required by each department.

7.4 Project Management Organization

The task 1 report included a section addressing the HCCJIS manpower requirements. Figure 14 contains the organization chart recommended by the contractors for the initial implementation of HCCJIS. The report stressed that the manpower requirements should be regarded as estimates and "...should be constantly reviewed and revised as more detail information regarding the task to be accomplished becomes available."

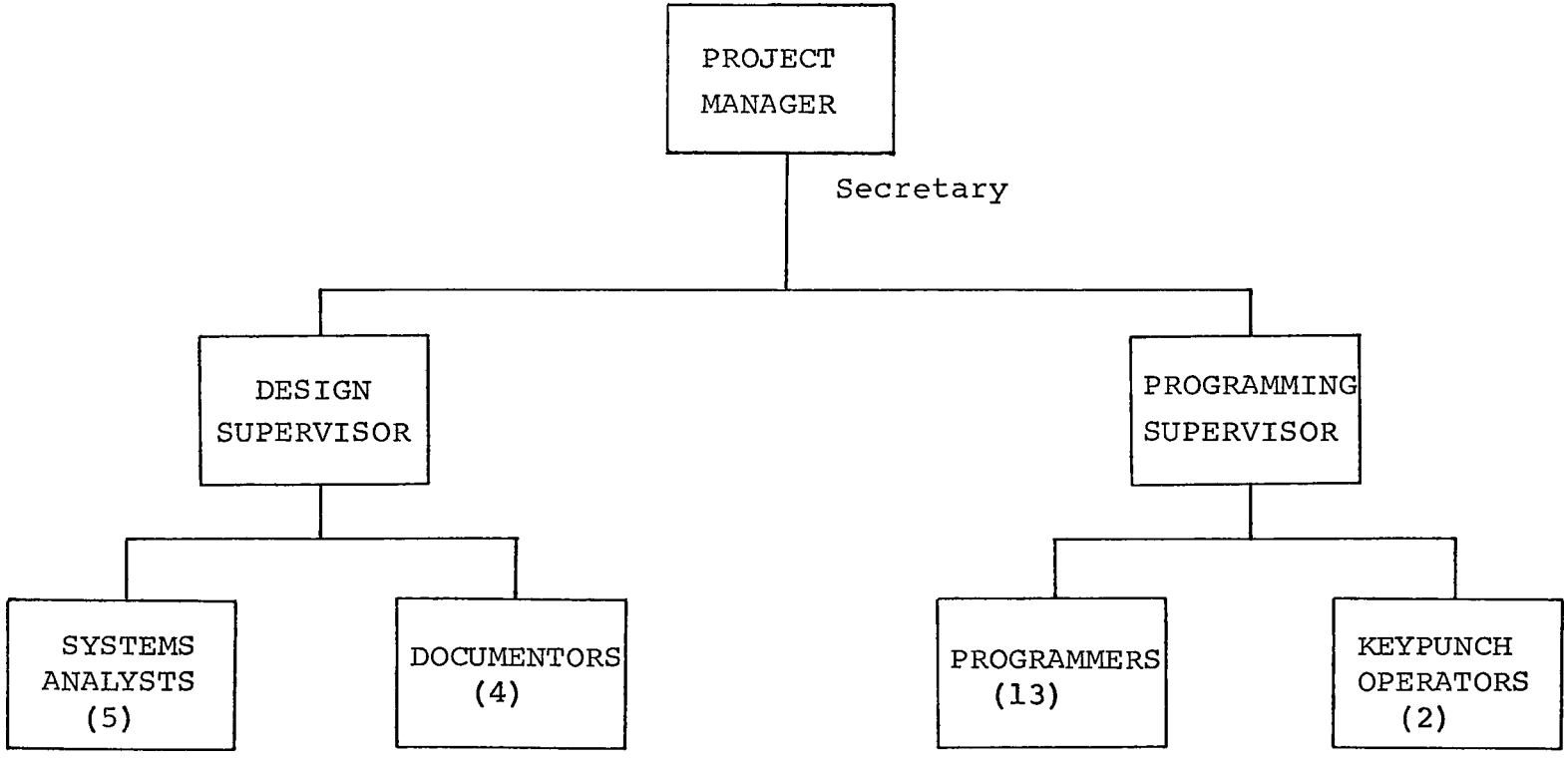


Fig. 14. Recommended Organization of the Project Staff for HCCJIS Initial Implementation

The report also noted that personnel required by the Data Processing Department to operate the hardware and maintain the system software were not included.

The schedule of functions to be accomplished which was used to determine the manpower requirements is shown in figure 15.

Although not explicitly stated, the organization recommended by the task 1 report was a project management organization. It is highly probable that the suggestion that members of independent county agencies work together in such a formal way had never before been made. Voluntary groups consisting of members of various agencies had been in operation before, but the recommendation to form a temporary organization for the sole purpose of implementing HCCJIS was entirely different. To work properly, it was necessary for the agency head to relinquish control of his employee and delegate the supervision of that employee to someone who was in an entirely separate agency. It also meant that those persons assigned to the project would not be able to also carry out their normal duties.

Some agency heads were concerned about how this might look to Commissioner's Court. They feared the

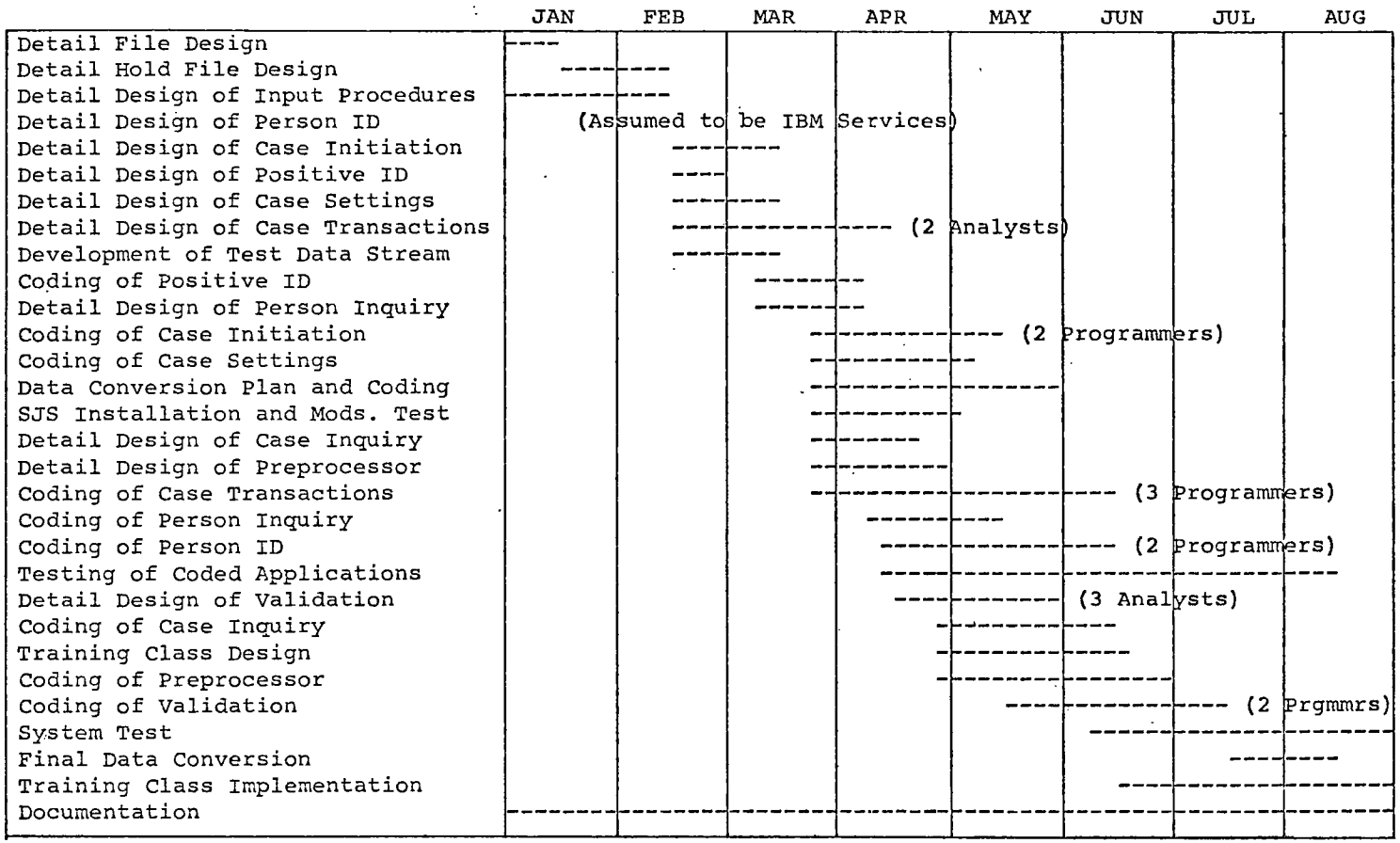


Fig. 15. Estimated Schedule of Initial Implementation

Commissioner's might even eliminate the position if it was not needed for the duration of the implementation phase. Other agency heads simply did not have sufficient personnel to assign to the project. Some assigned people to the project, but continued to require they complete their normal duties.

At the same time the project team was being organized and the HCCJIS Executive Board was attempting to obtain support for manpower resources from the Data Processing Department as well as individual departmental budgets, the Director of Data Processing was experiencing problems with Commissioner's Court.

On January 1, 1975, two new members of Commissioners Court were sworn in. The outgoing members had been supporters of the Data Processing Director. The remaining Commissioners as well as the new Commissioner and new County Judge were not as familiar with the activities of the Data Processing Department as the outgoing members had been. Therefore, they hired a consulting firm to review the Data Processing Departments' budget request.

The consulting firm, with a very brief period of time to review the county's data processing needs, eliminated many of the resources requested by the Data

Processing Department as well as the criminal justice departments. The budget which was finally approved at the end of January contained only about one-half of the personnel requested and less than one-half of the terminals requested for HCCJIS. In addition, several existing positions which had been funded by federal grants were not approved for continuation when the federal money ended during 1975.

In response, several departments requested and received grant extensions as well as additional positions on existing grants.

Due to the time required to obtain new positions, and new grants and the time lost due to the budget study by the outside consulting firm, the implementation of HCCJIS did not begin until approximately February 1, 1975. Figure 16 is the implementation schedule actually used and figure 17 shows the final organization. The boxes drawn with dotted lines indicate positions which were not dedicated entirely to HCCJIS.

The implementation schedule was near impossible and the organization was extremely difficult to hold together. There were many new people assigned to the project

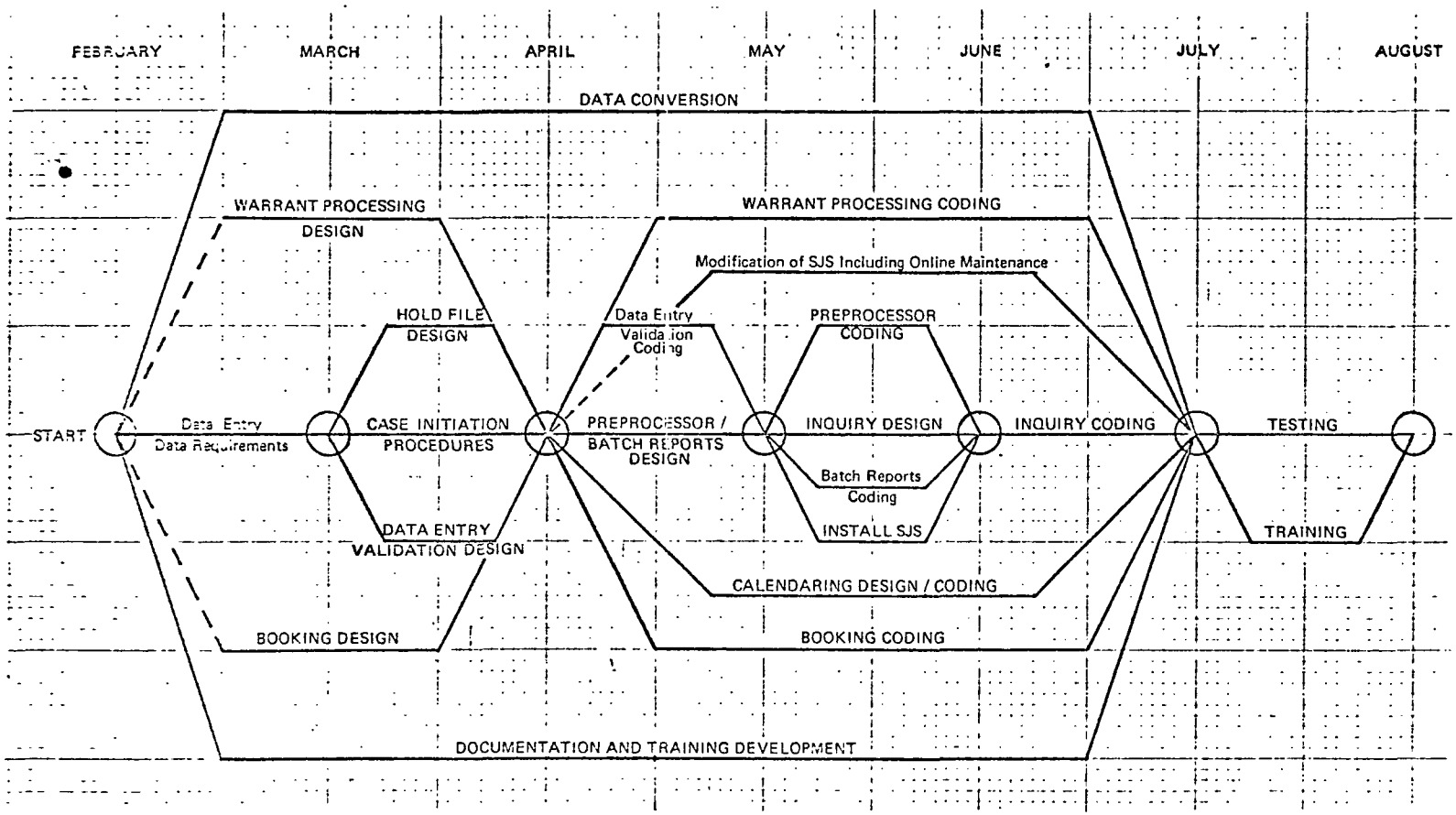


Fig. 16. HCCJIS Implementation Schedule

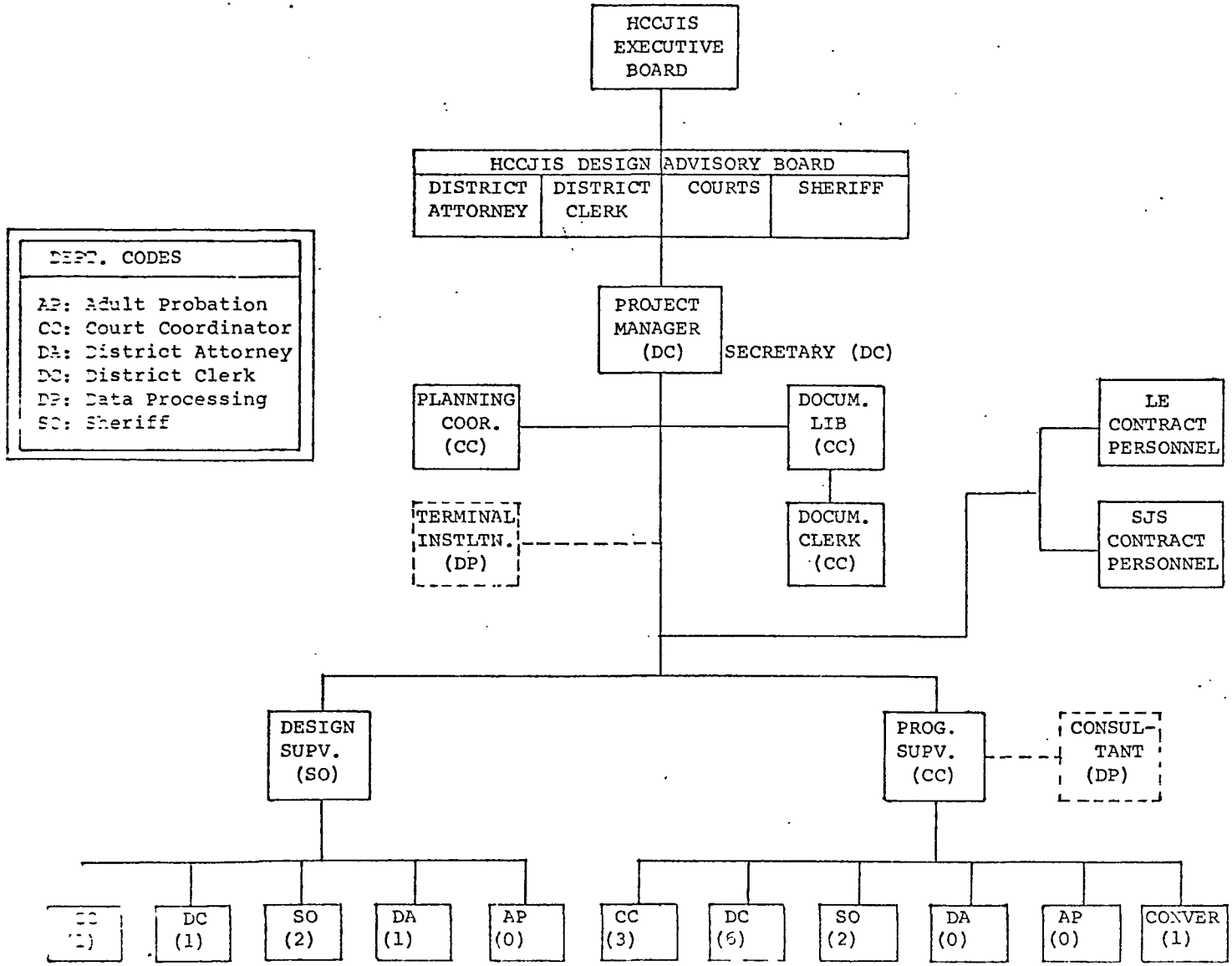


Fig. 17. HCCJIS Project Management Organization

who had never been exposed to criminal justice before. The manager and the supervisors were required to function as analysts, coordinators, managers, teachers, and public relations experts in order to finally complete the project.

7.5 The Final Design

One of the major problems with the implementation schedule involved the phasing of design with coding. Unfortunately, the files were constantly being revised even after some coding had been completed. SJS, which was modified and tested in Maryland, was not installed on the Harris County computer until late in May. Harris County personnel, therefore, did not have a complete understanding of how the system functioned until that time. After some initial experience with SJS, the files and maintenance programs were modified more.

The final version of HCCJIS consists of four major files:

1. Name Index
2. Person File
3. Case File
4. General Purpose File

Name Index

The name index consists of one record for each personal name or alias in the system. Each record contains a phonetic code, system person number (SPN), name, marital status, U.S. citizen flag, jail indicator, warrant indicator, type of person indicator, sex, race, date of birth, alias/true name indicator, and a caution indicator.

The name index is used by on-line inquiry programs to locate a person or a group of persons matching a particular name. As will be seen in chapter 9, the other information in the record can be used to further refine the selection. For example, one may wish to retrieve information about the John Smiths who are in jail rather than simply all John Smiths.

The phonetic coding scheme used is the standard soundex. (See Name Search Techniques published by SEARCH for a detailed analysis of phonetic coding techniques.)

Person File

The Person File is organized according to a unique identification number called the system person number (SPN). When a person is added to the system, the SPN is automati-

cally created by the system. Each person is issued only one SPN even though he may be associated with numerous cases and may be using different names on each case. Attorneys, bondsmen, and witnesses as well as defendants are issued SPNs.

The Person File consists of thirteen basic record types. Some will appear in multiples, some have continuation records, and some might not be created at all for a particular person. The record types are:

1. Master Name Record

   There must be at least one Master Name record for each SPN and there can be as many as 999. The record contains the name of an agency, business, or person and, if a person, the personal descriptors such as race, sex, date of birth, place of birth, skin tone, and build. In addition, the record contains indicators such as whether or not the person is in jail or wanted.

2. Identification Comments

   The comments record is provided to allow space for free-formatted comments and is used for caution information.

3. Address Record

   The Address Record contains space for the person's address, phone, and occupation. It is useful for preparing notices to attorneys and bondsmen regarding court appearances.

4. Main Identification Numbers

   This record is used to store identification numbers such as the FBI number, Texas Department of Public Safety number, social security number, drivers license number, and Sheriff's office number. It also contains additional descriptor information such as scars, marks, and tattoos, and fingerprint class.

5. Miscellaneous Identification Numbers

   This record can be used repeatedly to store information about other identification numbers.

6. Warrant Information Records

   The Warrant Information Records contain all information about the issuance, execution, and return of warrants. One of the records is used to maintain a history of attempts to serve a warrant with space provided to indicate why the warrant was not served.

   Information regarding the offense and the complaint are also included.

7. Related Case Records

   For each case with which a person is associated, a multiplicity of records are possible depending on the situation. For each case, there is at least one record which contains a summary of the current case status and serves as a pointer to the Case File. If the defendant has been arrested, there is a record which contains arrest, booking, and initial arraignment information. If the defendant is in the county jail, there may be a record containing information that he is to be held for another agency before being released. If he has been released on bond, there is a record for bonding information.

8. Vehicle Identification

   The record contains a description of a person's automobile.

9. Person-to-Person Record

   This record is used to relate one person in the system to another by relationship such as "codefendant of."

10. Alias SPN Record

    This record is used to connect one SPN to another when, by mistake, a person is issued more than one SPN. An SPN consolidate program is provided which will consolidate the multiple SPNs to one.

11. Jail and Billing Record

    This record is independent of a person's cases and contains information about the person, if he is in jail, for billing purposes and to aid in computing his release date if he is serving time.

12. Personal Property Record

    This record was designed to record personal property being held by the Sheriff for people in jail. It has not yet been implemented, however.

13. General Name and Address Records

    These records were designed to store the names and addresses of people associated with a person in the system who are not, themselves, in the system. One example of its intended use is authorized jail visitors.

Each of the records described above also contain a computer-generated last change date and, where required,

an indication as to who entered the record.

Case File

The Case File is organized by case number within court division and consists of six basic record types which are created depending on the status of the case.

1. Case Master Record

   A Case Master Record exists for each case and contains a summary of the current case status. It includes information such as next appearance date, filing date, type of case, date completed, disposition, bond amount, defendant status and court.

2. Related Numbers Records

   These records are used to associate a case with case numbers issued by lower courts like the Justice of the Peace Courts.

3. Basic Name Record

   For each person associated with a case--defendant, attorney, bondsman, witness, etc.--there is a record which contains the person's name, connection code, and a pointer to the Person File.

4. Basic Appearance Record

   For each setting, there exists a record containing the setting date, time, reason, court, and estimated duration. For those settings which have been completed, the record also contains the results of the setting and the date of the next setting, if any.

5. Statistical Records

These records summarize the results of a case upon disposition and are used for statistical purposes.

6. Case Transaction Records

There are nineteen Case Transaction Records which contain information abstracted from official court documents. Each of the records also contains the microfilm number for reference to a microfilm copy of the actual instrument.

The Case Transaction Records are:

a. Appeal
b. Complaint
c. Examining Trial
d. Warrant
e. Bond
f. Grand Jury Action
g. Attorney
h. Sheriff's Notice
i. Transfer Order
j. Judgment
k. Sentence
l. Agreed Setting
m. Motion
n. Motion to Revoke Probation
o. Citation
p. Abstract/Execution
q. Delivery Order
r. Cost Bill
s. Precept

All records in the Case File contain a computer-generated last change date.

General Purpose File

The General Purpose File consists of numerous sub-

files which can be classified into four groups:

1. Security records
2. Code tables
3. Index records
4. Calendar records

The security records contain valid terminal operators by transaction code, password, and operator ID. These records are used to control the access of the data records.

The code tables are used for two purposes: to edit coded data as it is entered and to store more explicit information about the data element which can easily be retrieved for output purposes.

The index records are created as records are added to the Person and Case Files. For example, when a Main Identification Number Record is added to the Person File, the FBI number is added to the FBI number subfile. The records in the subfile contain a pointer to the Person File.

The calendar records are organized by date set and court. The information stored in the calendar records includes the reason for the setting, the results of the setting, and the names of all persons associated with the case. The records are used to generate a schedule of cases

set for a particular day in a particular court.

File Interrelationships

The files have been designed to speed the inquiry process and, therefore, a certain amount of duplication of data is necessary.

Figure 18 shows how the files are related for inquiry purposes while figure 19 shows the relationship for update purposes. The actual inquiry and update procedures are discussed in more detail in chapters 8 and 9.

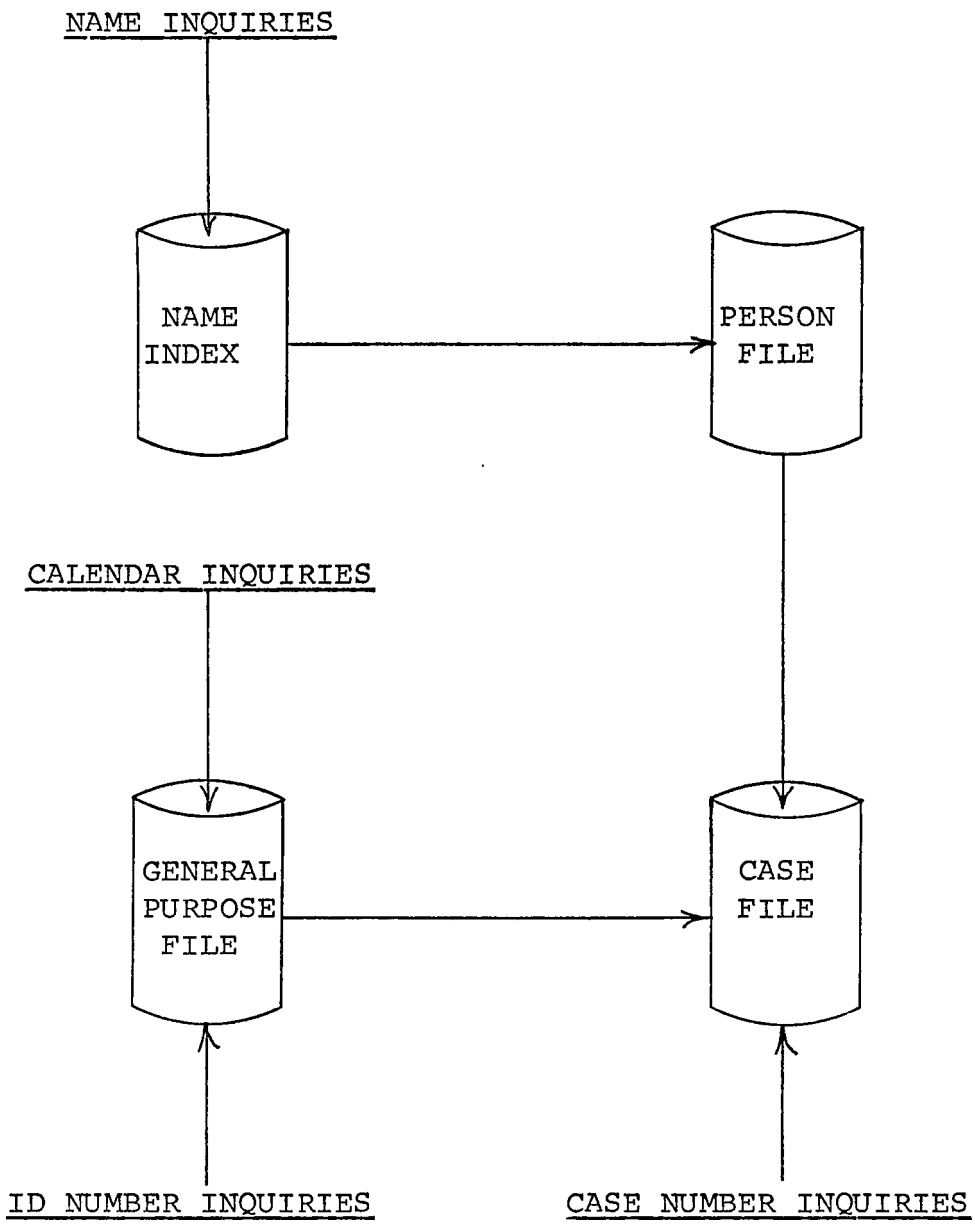


Fig. 18. HCCJIS File Interrelationship for Inquiry

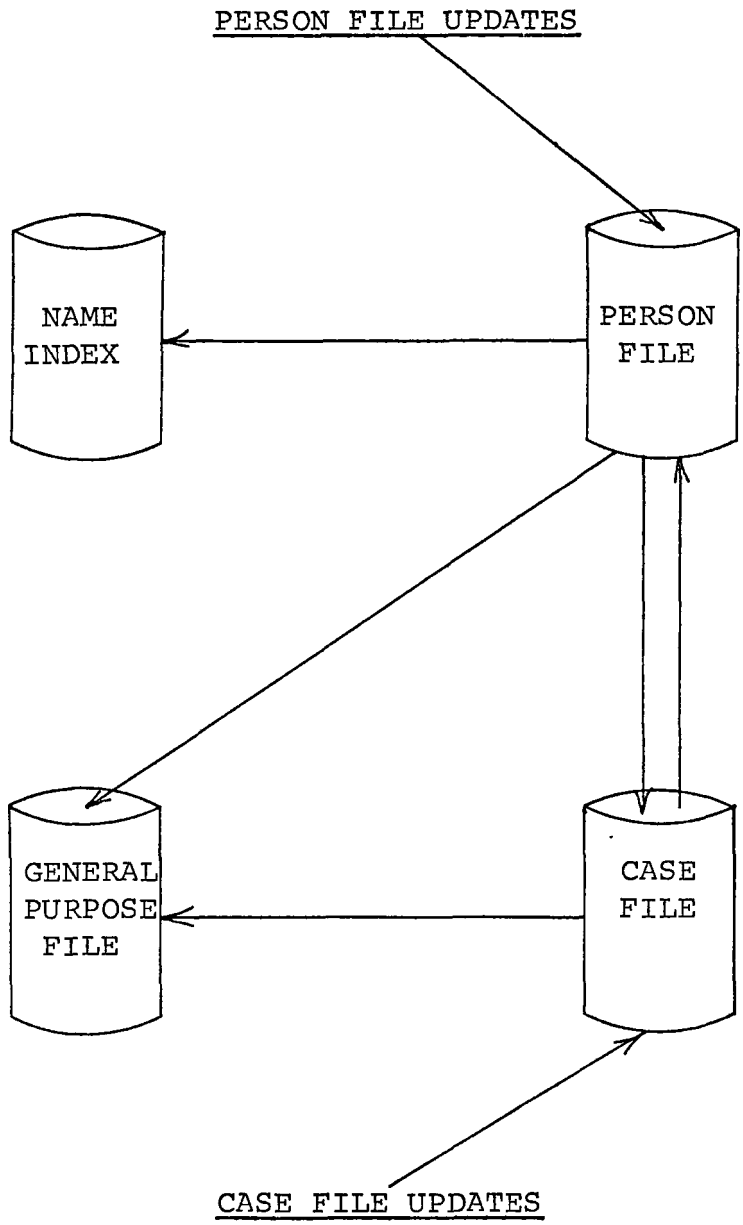


Fig. 19. HCCJIS File Interrelationships for Update

CHAPTER EIGHT

DATA INPUT/VERIFICATION PROCEDURES

> Computers are not magic tools. You get out of them only what someone else has put in, and it takes a lot of manpower to introduce information into the system and to analyze what comes out.
>
> John D. Nichols

A system can be thought of--in its most simplistic form--as having three parts: input, process, and output (Coffey). The purpose of this chapter is to describe the most vital part of the Harris County Criminal Justice Information System--the input.

Harris County has learned through experience with the previous information systems that accurate, timely input is a must. Nothing causes user dissatisfaction more than finding an error in the output --and most of the errors in the previous systems were due to input. Process errors can be quickly identified and corrected while input errors occur sporadically, without pattern, and are more difficult to permanently correct.

Due to this experience, every effort was made to design input procedures that will work. Errors will still occur however, so methods of identifying the source of

errors have been designed into the system.

Regarding timeliness, the design team identified which data elements had to be entered immediately and those that could wait. Data elements describing the location of a defendant as well as information regarding the existence of a case, it was decided, must be entered into the data base as quickly as possible. Abstract information from case documents, however, could be entered over night.

Using these guidelines along with the input procedures provided by the System/370 Justice System, the HCCJIS design team developed input procedures which should prove to be quite viable.

8.1 Standard System/370 Justice System Procedures

The System/370 Justice System, as delivered by IBM, is basically a batch system. Although the VSAM files were designed to facilitate on-line processing, all input is by punched cards. Several edit and maintenance programs are provided to process the input cards. Two cards are required to add, change, or delete an SJS record. An update to the Person File or the Case File (other than calendar records) is processed by one group of programs

while updates to the calendar records in the Case File and the General Purpose File are handled by another.

Figure 20 illustrates the process used by SJS to update the four files. The edit program checks the data elements of each input transaction for validity and, if no errors are found, passes the information to the master maintenance program, checks the input transactions against the Case and Person files and, if no errors are found, updates the Case and Person files. If the updates require an associated update to the Name Index or the General Purpose File, control is passed to the index maintenance program.

The calendar maintenance program edits the input transactions and updates the calendar records in the Case File and General Purpose File.

A listing showing each input transaction along with the record or records generated as a result of processing the transaction or an error message as to why the files were not updated is also provided by SJS.

Prior to installing the basic System/370 Justice System, Harris County, with assistance from the contractors, modified SJS to edit the input transactions based on changes to the data base required by Harris County. SJS

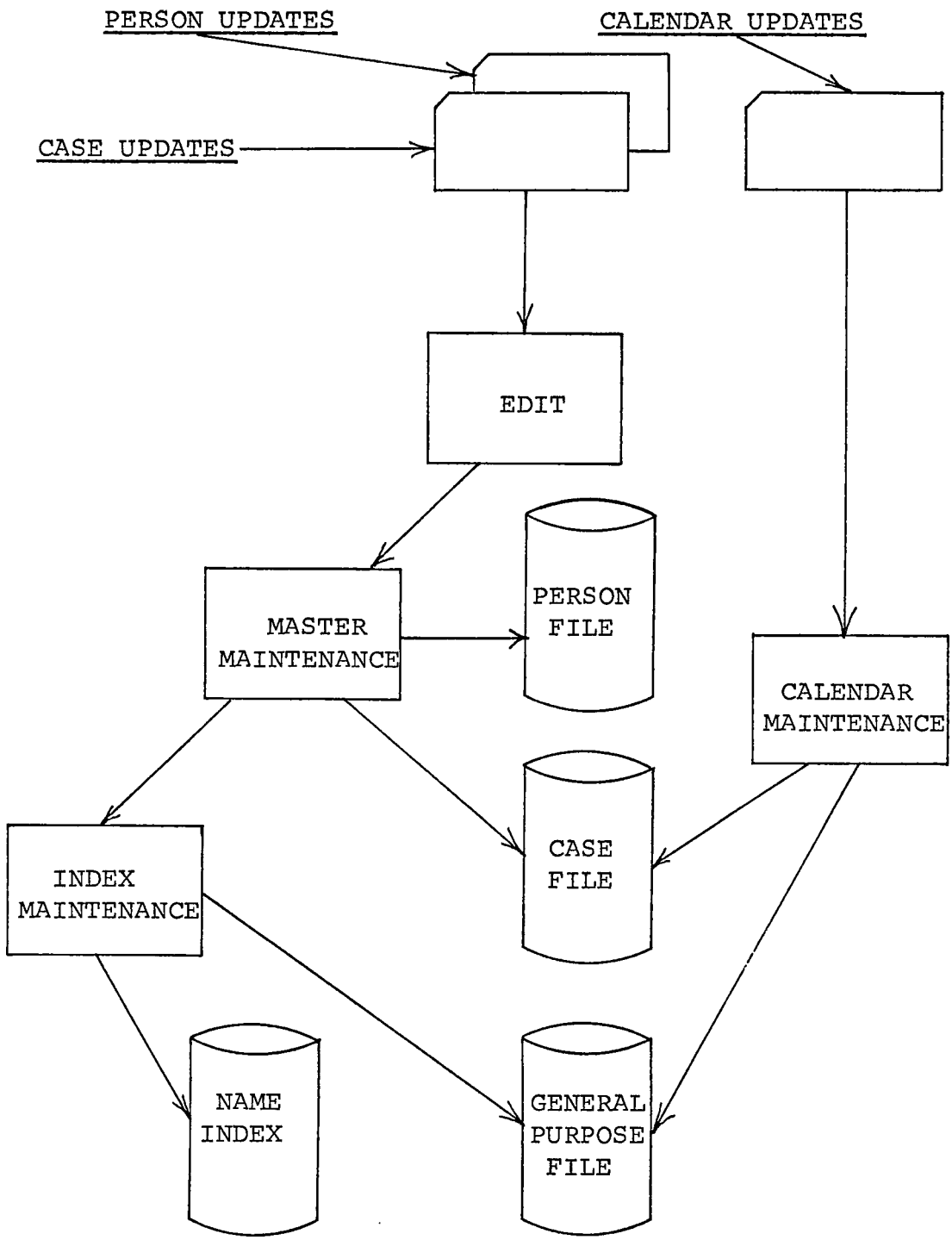


Fig. 20. The System/370 Justice System Input Process

was also modified to accept input transactions from disk in addition to cards. This facility, designed primarily for use with the Hold File and Preprocessor discussed in the next section, was used to simplify the data conversion process.

The new system was initiated by loading data from the existing systems: SIPS, Probation, CRIMS, and MIDS. CRIMS and MIDS were used as the source of input for all felony and misdemeanor cases except probation cases which were loaded from the Probation Fee Accounting System. SIPS was used as the source for docket and jail information.

The actual conversion process was implemented by executing programs that read existing files and created SJS input records. Figure 21 illustrates which SJS files were created from each of the existing systems. The SJS card images were stored on disk and then processed by the SJS input programs. The same procedure is used to process data created on the Hold File and then converted to SJS card images by the Preprocessor.

8.2 Hold File and Preprocessor

To control the accuracy of the Case File, Harris

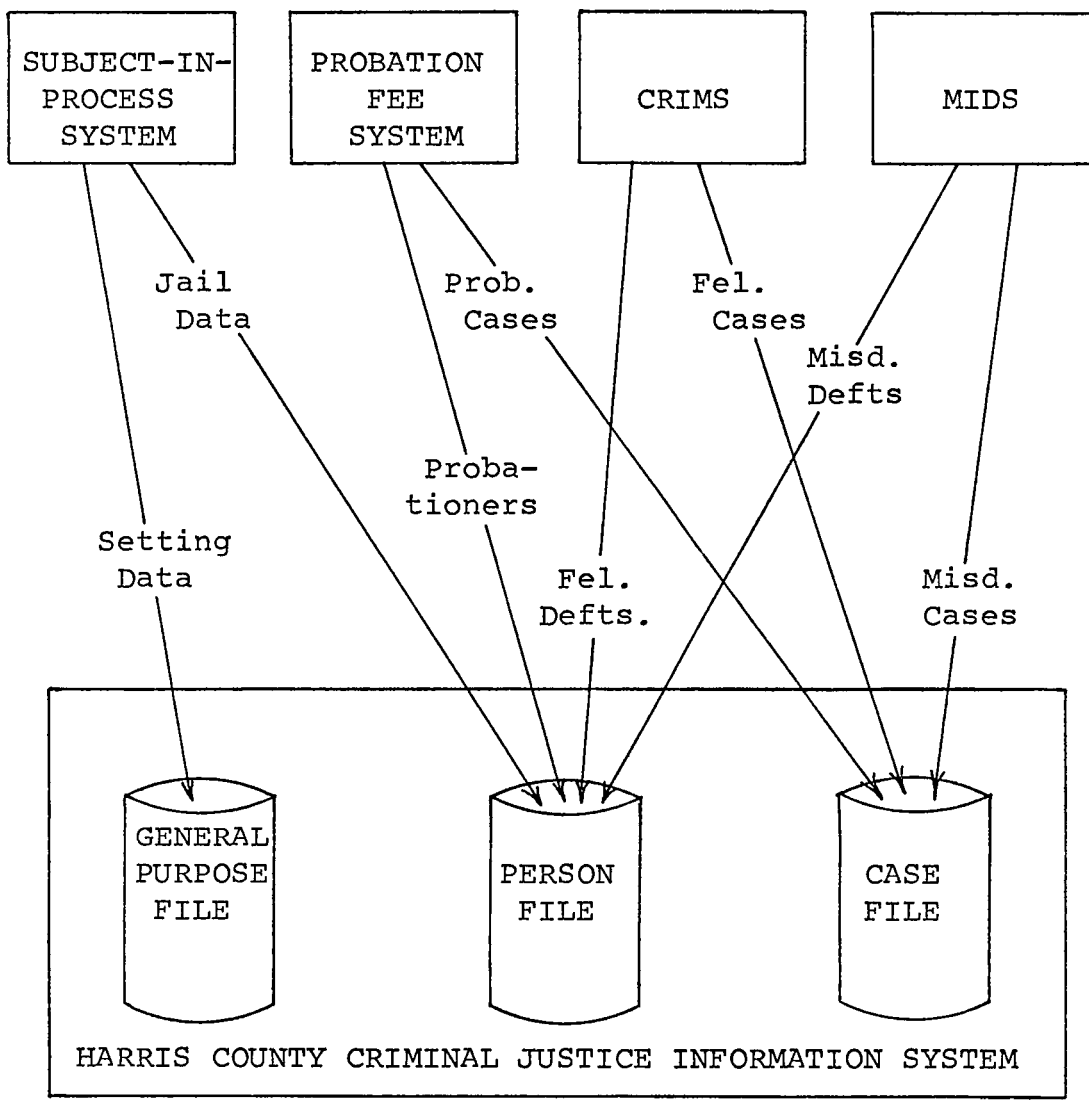


Fig. 21. The HCCJIS Data Conversion Process

County modified the basic System/370 Justice System to require that all Case File record creation and updates be accomplished by the SJS batch input programs. Even so, all data is initially entered via on-line CRT terminals.

This is made possible by the use of a temporary file called the Hold File which is used to store case transactions entered on line

As each document is prepared, information is abstracted and entered into the Hold File via special on-line programs which are described in the next section.

The document is then recorded and microfilmed and the Hold File record is validated against the document, by a different person than the one who entered the transaction originally. If no errors are found, the microfilm identification numbers are added to the transaction which is now ready for the Preprocessor. Errors are corrected on line.

The Preprocessor is a special program which converts the Hold File transactions to card images for processing by the SJS batch input programs.

The use of the Hold File concept greatly enhances the accuracy of the Case File. However, the time required to process the input is increased and the informa-

tion is unavailable to the user until execution of the Preprocessor program. The Preprocessor is currently run once a day. It is hoped that the Preprocessor can be modified later to interface with the on-line version of the SJS input program and immediately update the data base as each transaction is verified.

Some records are currently updated on line. Although the timeliness of case transactions is not as important as the timeliness of person transactions, it is important to know immediately whether or not a case exists. Therefore, initial case records are entered directly on line. The records entered on line are the case summary record and the defendant name record. Anyone inquiring about a case, therefore, will be able to access the basic information immediately after the case is initiated.

The procedures described above are referred to as the Criminal Records Management Subsystem. The Subsystem is described in more detail in the next section.

8.3 Criminal Records Management Subsystem

The Criminal Records Management Subsystem provides the other subsystems with information about

criminal cases based on documents filed in the office of the District Clerk. The Criminal Records Management Subsystem initiates case records, issues case numbers, maintains information regarding all judicial transactions, and maintains a complete inventory of pending cases. In addition, this subsystem provides an index to microfilm copies of all case documents.

Cases are stored in the Case File according to a computer-generated case number and a court division code. The court division code is used to segment cases according to jurisdiction. The following court division codes are used in Harris County:

Code	Court Division
1	Justice of the Peace Courts
2	County Criminal Courts at Law
3	District Courts
4	Misdemeanor Scire Facias Cases
5	Felony Scire Facias Cases
6	Non-Harris County Cases

The computer-generated case number is of the format:

YY-mmmmm-dd-cc

where,

YY is the last two digits of the year in which the case is filed

mmmmm is a five-digit sequential number for uniqueness

dd is a two-digit number to signify the defendant number. It is "01" for the first defendant, "02" for the second, etc."

cc is a two-digit number to signify the charge or count

The case number is generated at the time a case is first entered into the system. This process is referred to as case initiation.

Case Initiation

Although cases may originate in several ways and in several locations, the large majority of cases originate in the central intake office. For purposes of simplification, central intake case initiation will be the only method discussed.

The central intake office is located in the Houston Police Department and is staffed by assistant district attorneys, deputy district clerks, secretaries, and justice court clerks. The office is open twenty-four hours each day and receives offense reports from law

enforcement agencies throughout the county. Most are filed in person by Houston Police officers, but some are sent by telecopier from some of the more distant police departments.

The charges are reviewed by the assistant district attorneys and, if accepted, the official complaint is prepared.

The computer system is first checked to see if the defendant is already in the files. If so, the same System Person Number (SPN) is used. If not, the defendant's name and all known information about the defendant is entered into the Person File and the defendant is issued the next available SPN.

When initiating a case a new SPN should be obtained if there is any doubt as to whether or not a person is already in the system. This procedure is used since it is a simple matter to consolidate two SPNs into one at a later time when additional identification becomes available, but it is very difficult to split one SPN into two.

At the time a complaint is filed, felony cases are assigned to the twelve district courts by rotation and misdemeanor cases are assigned to the seven county courts by rotation. Felony cases, however, are

immediately transferred if research indicates the defendant is on probation or has cases pending in another court.

In addition to the defendant's name and identifiers,the following information is entered directly into the data base:

Court Division
Case Number
Case Status
Filing Date and Time
Case Type
Offense
Court
Amount of Bond

Information from the complaint document itself is entered into the Hold File for subsequent processing. The following additional information is collected from the complaint:

Microfilm Number
Date of Offense
Date of Arrest

Figure 22 shows the screen format used to enter complaint information.

At the time a complaint is filed, other documents are often prepared such as warrants of arrest, commitments, etc. These, too, are entered via the Hold File.

Following case initiation, misdemeanor cases are

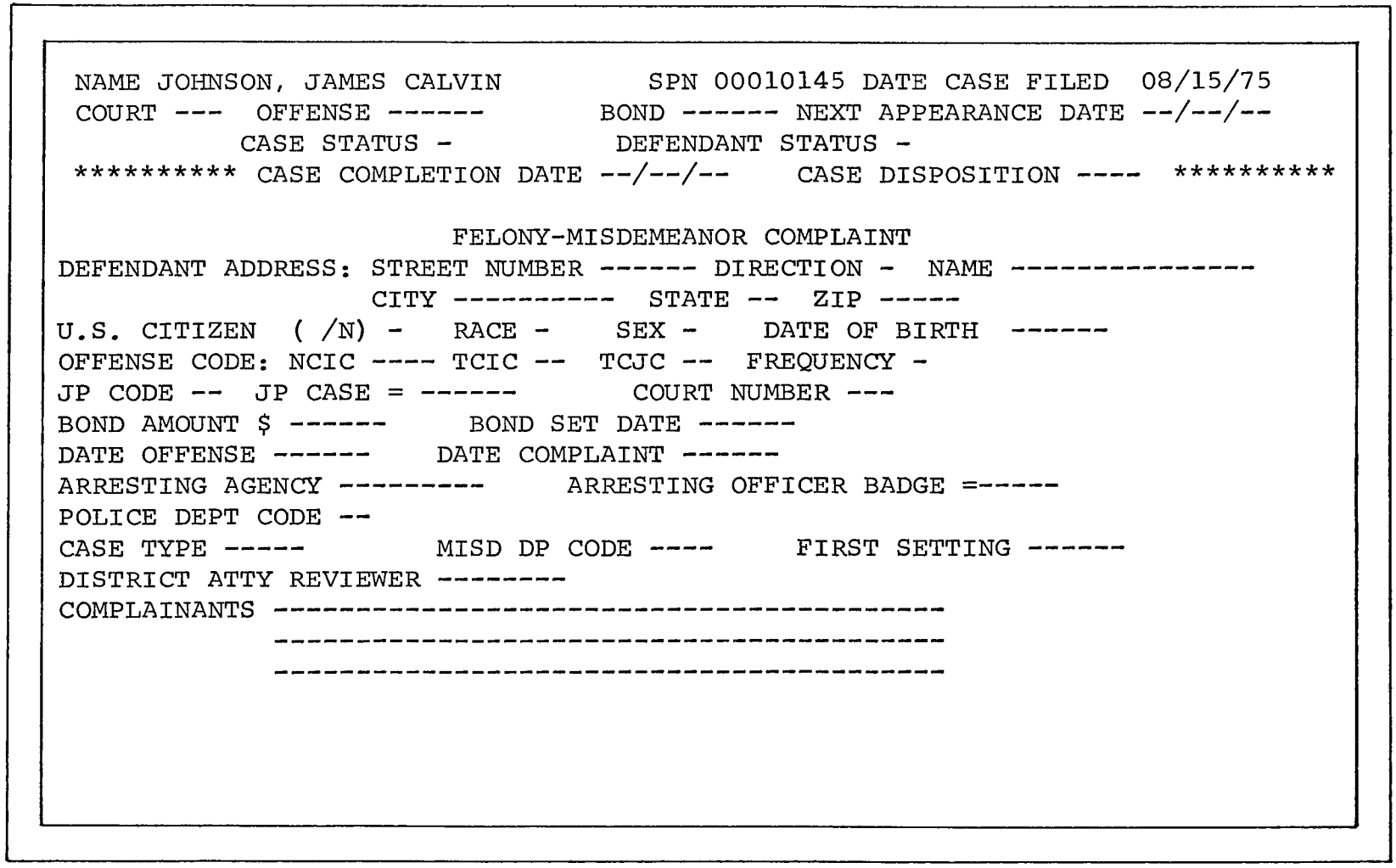


Fig. 22. HCCJIS Complaint Screen

set for arraignment within seven days if the defendant is in jail or on bond. Felony cases are all scheduled for presentation before a grand jury regardless of the status of the defendant. From this point on, numerous case transactions will be prepared depending on the particular circumstances of each case.

Case Transactions

From the time a complaint is filed in central intake to the time a case is finally disposed, any combination of the following transactions may occur:

Warrant Issued
Warrant Returned
Capias Issued
Capias Returned
Bond Document
Indictment
Information
Precept Document
Transfer Order
Agreed Setting
Motion
Bench Warrant
Judgment
Sentence
Delivery Order
Appeal
Motion to Revoke Probation

For each of the documents, a screen format similar to the one shown in figure 22 is provided. Information about the document is entered on the appropriate screen,

edited, and then transferred to the Hold File. The documents are then microfilmed and the Hold File information is verified. Once a day, all verified records are converted by the Preprocessor to SJS card images for batch update of the data base. Unverified data is listed on an exception report for immediate correction.

Exception reports are also produced if information entered by the Criminal Records Management Subsystem does not match the corresponding information entered by the Docketing Subsystem or the Booking Subsystem. For example, if the Booking Subsystem indicates that a defendant has been booked into jail, the Criminal Records Management Subsystem should not show that a warrant is outstanding.

Differences between the Criminal Records Management Subsystem and the Docketing Subsystem are more subtle, however, and consist of such things as a coordinator having entered a setting result which implies the case is complete while no judgment has been entered.

8.4 The Docketing Subsystem

The HCCJIS Docketing Subsystem was designed and implemented and is controlled by the Criminal Court

Coordinator's Department. Information about cases is entered by the District Clerk's Department and information about defendants is entered by the Sheriff's Office. All setting information, however, is entered by members of the Criminal Court Coordinator's Department.

The primary objectives of the Docketing Subsystem are:

1. To aid the Court Coordinator in determining if all cases in which the defendant is in jail or on bond are scheduled for a court appearance.

2. To aid the Court Coordinator in maintaining an efficient, up-to-date record of scheduled court appearances and the results of such appearances.

3. To produce a printed list of all cases scheduled for a particular day in a particular court to be used as the official court docket.

To achieve objective number one, the Docketing Subsystem provides information in two different formats. One is the Case-to-be-Calendared Report. The other is the Cases-to-be-Calendared terminal display.

Case-to-be-Calendared Report

The Case-to-be-Calendared Report, shown in figure 23, is automatically produced whenever a case is not set for a future date and the defendant is in jail or on bond.

CASE TO BE CALENDARED

REASON FOR REPORT: DEFENDANT BOOKED INTO HCJ - 1630 03AUG75 ** NOTICE NO. 2 **

DEFENDANT	R-S-DOB/ADDRESS	ATTORNEY/BONDSMAN	PHONE/ADDRESS
DOE, JOHN J JR AKA: DOE, JONATHAN JAMES JR AKA: SMITH, GEORGE ALLEN	[redacted] PASADENA TX 77502		

RELATED CASES:

CON	CDI	CASE-DEF-CHG	CRT	OFFENSE	CASE STATUS	DEF STATUS	BOND SET	NEXT SETTING DATE	DISPOSITION
DEF	003	75-00291-01-01	178	BURGLARY	ACTIVE	JAIL	5000	AC - 19AUG75	
DEF	003	75-00292-01-01	178	THEFT	ACTIVE	JAIL	5000	AC - 19AUG75	
DEF	003	75-00293-01-01	178	BURGLARY	INACTIVE	JAIL	5000		

COURT: 178 DNC: _____ PRIORITY: _____ CASE NUMBER: 75-00293-01-01 RUN DATE: 03AUG75

DATE: _____ TIME: _____ REASON: _____ EDU: _____ PAGE: 01 OF 01

Fig. 23. Case-to-be-Calendared Report

The report continues to be produced daily until either the case is set or the Court Coordinator signifies that the report is no longer desired. The report is initially produced immediately following the filing of a complaint--if the defendant is in jail or on bond--and is produced again throughout the life of the case whenever the case status is "inactive" and the defendant status is "jail" or "bond".

If a court is not interested in setting cases prior to indictment, the Court Coordinator, upon receiving the Case-to-be-Calendared Report, indicates on the report that the case status is to be changed from "inactive" to "pending grand jury". The change will remove the cases from the "to be calendared" status.

The Case-to-be-Calendared Report is produced in duplicate and contains all known information about the case and the defendant involved in the case. Upon receiving a Case-to-be-Calendared Report, the Court Coordinator reviews the case and the Docket Book to determine the best time to set the case. The Docket Book is a loose leaf notebook which contains, in date order, a summary of all cases set in a particular court. After selecting a setting date, the Court Coordinator writes the following

setting information on the report:

Date
Time
Docket Name Code
Priority
Reason
Estimated Duration Time

The docket name code is used to signify a unique grouping of settings for a particular date, time, and court. Depending on the code used, a docket name will be printed on the docket. Examples of docket names are: Master Calendar, Arraignment Calendar, and Sentencing Calendar. All dockets converted from SIPS will have the name "SIPS Docket". If a docket name is not desired, the Coordinator will enter the code "XX".

The priority is used to order the cases on the docket and consists of any two alphabetic or numeric characters. If it is not used, the priority is assumed to be "0" which is the highest priority. Each court also has the option of requesting that the priorities be assigned by HCCJIS based on a predetermined algorithm using the reason for setting and multiple cases for individual defendants as criteria for assigning the priority.

The estimated duration time, which is also optional, is entered in hours and tenths of hours. An appearance

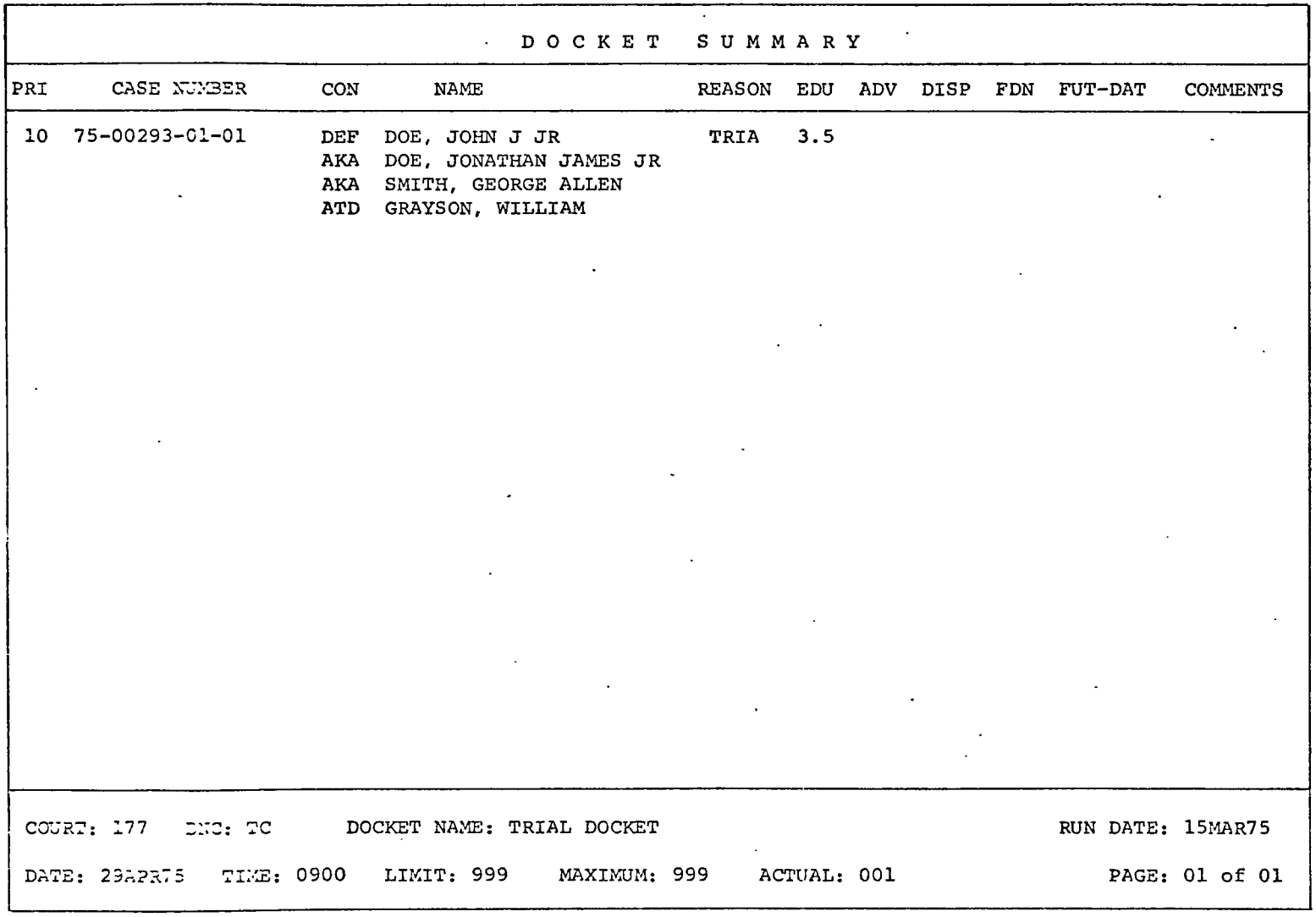
estimated to be thirty minutes, therefore, would have an estimated duration of 0.5 while a fifteen-minute case would have 0.2 or 0.3 for an estimated duration.

In addition to entering the setting information described above, the Case-to-be-Calendared Report can also be used to enter attorney name and address information.

After filling in the required information, the Coordinator sends the original to the computer room for processing. The copy is filed in the Docket Book behind the Docket Summary Report for the docket to which the case is being added (see figure 24).

Once the information has been processed by HCCJIS, the Coordinator receives an updated copy of the Docket Summary Report and a Case Summary Report is quite similar to the Case-to-be-Calendared Report in that it contains all known information about the case and defendant.

The Coordinator visually verifies the two reports by comparing them with the copy of the Case-to-be-Calendared Report stored in the Docket Book. If the new reports are correct, they are filed in the Docket Book also.



DOCKET SUMMARY

PRI	CASE NUMBER	CON	NAME	REASON	EDU	ADV	DISP	FDN	FUT-DAT	COMMENTS
10	75-00293-01-01	DEF	DOE, JOHN J JR	TRIA	3.5					
		AKA	DOE, JONATHAN JAMES JR							
		AKA	SMITH, GEORGE ALLEN							
		ATD	GRAYSON, WILLIAM							

COURT: 177 DNC: TC DOCKET NAME: TRIAL DOCKET RUN DATE: 15MAR75

DATE: 29APR75 TIME: 0900 LIMIT: 999 MAXIMUM: 999 ACTUAL: 001 PAGE: 01 of 01

Fig. 24. Docket Summary Report

Cases-to-be-Calendared Terminal Display

The alternate method for achieving objective one--to aid the Coordinator to schedule all settable cases--is the Cases-to-be-Calendared Terminal Display (see figure 25). The on-line program displays all cases for a particular court which are settable but not yet scheduled for court and provides a method for easily scheduling the cases. This method if easier, faster, and allows instant verification. It eliminates the need for the Docket Book. Unfortunately, this method cannot be used exclusively initially due to a shortage of terminals.

Docket Modifications

Once a case has been set, it sometimes becomes necessary to change the setting or delete it all together. HCCJIS provides both batch and on-line methods to modify docket settings. There is a setting delete form and a setting change form. In addition, there is an on-line delete transaction and an on-line change transaction. The forms, when used, are filed in the Docket Book and used for verification in the same manner as the Case-to-be-Calendared Report.

These docket modification functions provided by

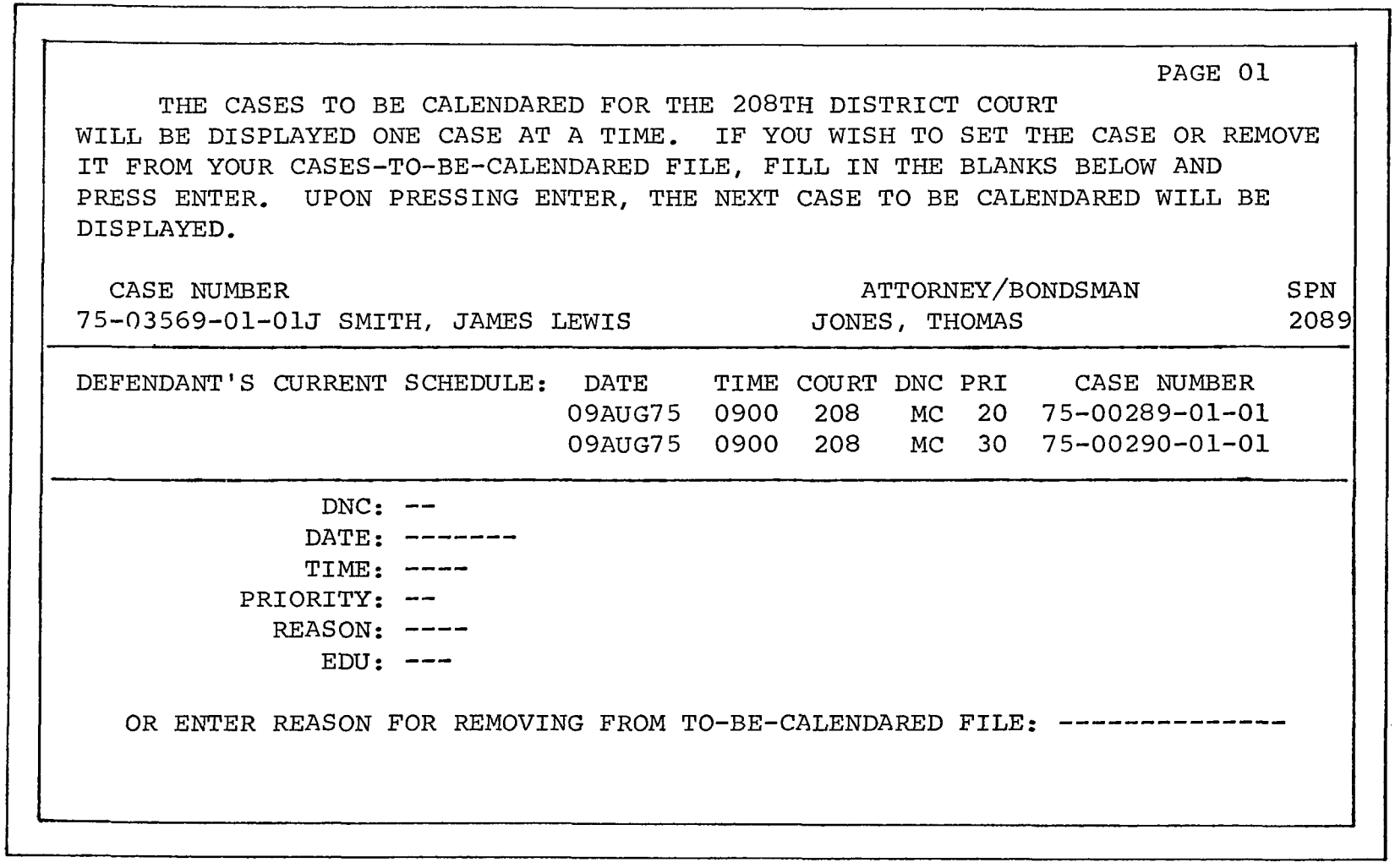


Fig. 25. Cases-to-be-Calendared Display

HCCJIS help achieve objective number two--to aid the Coordinator in maintaining an efficient, up-to-date record of settings and results of settings. Another way in which objective number two is achieved is with the docket definition capability provided by HCCJIS.

Docket Definition Capability

Docket Definition is optional. It can be used, however, to produce a more effective docket. What it means is that a docket can be predefined with limit and maximum counts established for each day. The limit count is used to warn the Coordinator that the docket is getting close to the maximum. The maximum count is a three-digit number beyond which the number of cases set cannot exceed. If not specified, both the limit and maximum are set to "999".

One way in which the limit and maximum can benefit the Coordinator is to preassign all Saturdays, Sundays, holidays, and vacation periods to zero, so that a case will not accidentally be set at that time. Another use is to limit the number of cases set so that all can be heard and not have to be reset due to time.

To define a docket, the Coordinator may fill out

the Docket Definition Form (see figure 26) or use the on-line function (see figure 27). Once a docket has been defined, the limit and maximum counts may be changed at any time.

Setting Results

Objective number two is also achieved by providing a method of entering the results of settings. These results may be entered with a Setting Results Report or with an on-line function.

In addition to entering the results of the setting, the Coordinator may optionally enter the actual duration time and/or comments about the setting.

Agreed Setting/Turnaround Report

For each case set, a combination Agreed Setting/ Turnaround Report is produced. If used as an Agreed Setting form, the setting results, new setting, and attorney information is entered into the system by the District Clerk. If not, the Coordinator is responsible for completing the form and submitting it to the computer room for processing.

DOCKET DEFINITION FORM

INSTRUCTIONS:

1. FILL IN THE BLANKS IN THE BOX BELOW

   DNC.....DOCKET NAME CODE. THE AUTHORIZED CODES ARE:

CODE	DOCKET NAME	CODE	DOCKET NAME
MC	MASTER CALENDAR	SC	SENTENCING CALENDAR
TC	TRIAL CALENDAR	MJ	MASTER JURY CALENDAR
AC	ARRAIGNMENT CALENDAR	MN	MASTER NON-JURY CALENDAR
MO	MOTIONS CALENDAR	NA	NO ARREST CALENDAR

   DATE.....DATE OF SETTING WRITTEN AS DDMMMYY. EXAMPLE: 23APR75 FOR APRIL 23, 1975.

   TIME.....TIME OF SETTING WRITTEN AS HHMM. EXAMPLE: 0900 FOR 9:00 O'CLOCK.

   LIMIT.....A NUMBER BETWEEN 000 AND 999 TO TELL THE SYSTEM WHEN YOU WOULD LIKE TO BE WARNED ABOUT THE SIZE OF THIS DOCKET.

   MAXIMUM...A NUMBER BETWEEN 000 AND 999 TO TELL THE SYSTEM WHEN YOU WOULD LIKE TO PREVENT ANY ADDITIONAL CASES TO BE ADDED TO THIS DOCKET.

   CHANGE....ENTER 'Y' IF YOU ARE CHANGING THE LIMIT AND/OR MAXIMUM OF AN EXISTING DOCKET. ENTER 'N' OR LEAVE BLANK IF YOU ARE DEFINING A NEW DOCKET.

2. SEND FORM TO HCCJIS FOR PROCESSING OR ENTER INTO SYSTEM VIA 'LDCC' TRANSACTION.

3. FILE COPY OF FORM IN YOUR DOCKET BOOK.

COURT: 177 DNC: TC

DATE: 29APR75 TIME: 0900 LIMIT: 15 MAXIMUM: 17 CHANGE: _____

Fig. 26. Docket Definition Form

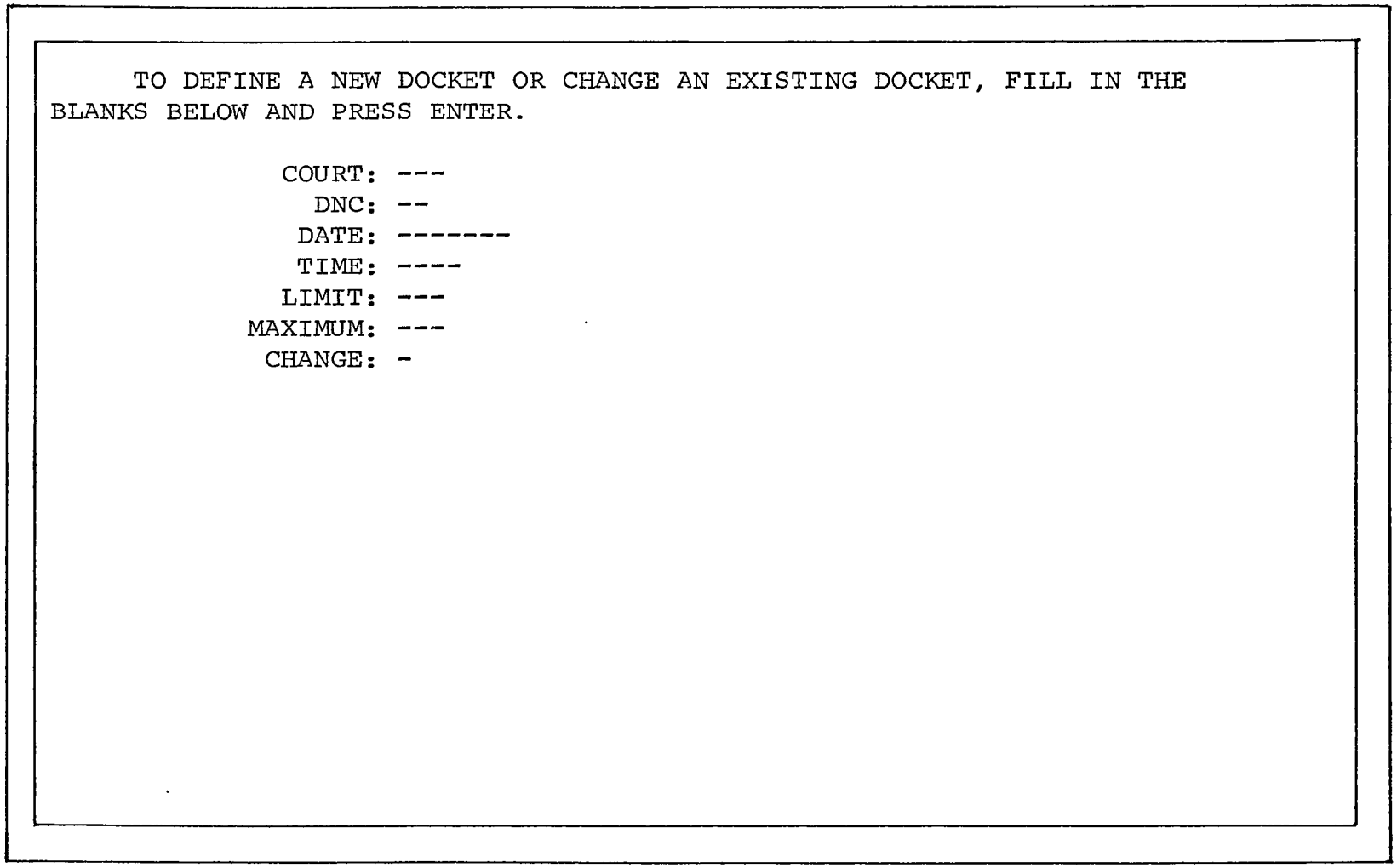


Fig. 27. On-Line Docket Definition

Alphabetic and Numeric Indexes

To aid the Coordinator in keeping track of those cases assigned to his court, two additional reports are provided: an alphabetical and a numerical (by case number) list of all cases.

The Docket

The docket which is produced in response to objective number three contains a list of all cases set for a particular day in a particular court. It is used by the judge for trying cases.

The determination as to whether or not a case should be set is based on information entered by the Sheriff's Office as part of the Booking and Persons Subsystems.

8.5 The Booking and Persons Subsystem

By statute, the Harris County Sheriff is responsible for maintaining custody of people who are:

1. Awaiting trial
2. Serving jail sentences
3. Ordered to jail by a judge
4. Pending appeal for sentences less than fifteen years

5. Awaiting transfer to the Texas Department of Corrections

6. Awaiting transfer to a state mental hospital

7. Being held for other jurisdictions

8. Prisoners from other jurisdictions in Harris County as witnesses

There are approximately 2400 prisoners in custody at all times. Some are housed in the downtown jail which adjoins the courthouse. Others are housed in the Rehabilitation Center in Humble--about 25 miles away. At any one time, there are about a dozen more in various hospital jail wards.

The primary objective of the Booking Subsystem is to assist the Sheriff in keeping track of the people in custody.

With over a thousand cases set per day, on the average, it is an extremely difficult job to maintain timely information about who is in jail and who needs to be in which court each day. The Booking Subsystem was designed to simplify this problem. The Booking Subsystem consists of special records in the Person File and General Purpose File and the programs and procedures to create, update, and retrieve these records. The booking information is stored in the Person File and the General Purpose File is

used for index purposes to provide easy access to information about people currently in jail.

Figure 28 illustrates how the booking information is integrated into the Person File.

Although some Person File records are created and updated by agencies other than the Sheriff's office, only sheriff deputies are allowed to create or update booking-related records.

Booking information is initiated when a person is booked into the jail. Prior to entering the booking information, however, the booking officer must determine if the person to be booked has a System Person Number (SPN) and, if not, one must be obtained. An SPN is obtained by creating a master name record for the person. The next available SPN, maintained by the system, is then issued to the person to be booked. Figure 29 shows the CRT display used to create a master name record. The booking officer can use the same screen to enter alias names, if any are known, or he can link to other screens to enter additional person-related information. Figure 30 is an example of how the person's address, phone, and occupation is entered and figure 31 shows the screen used to enter the main identification numbers.

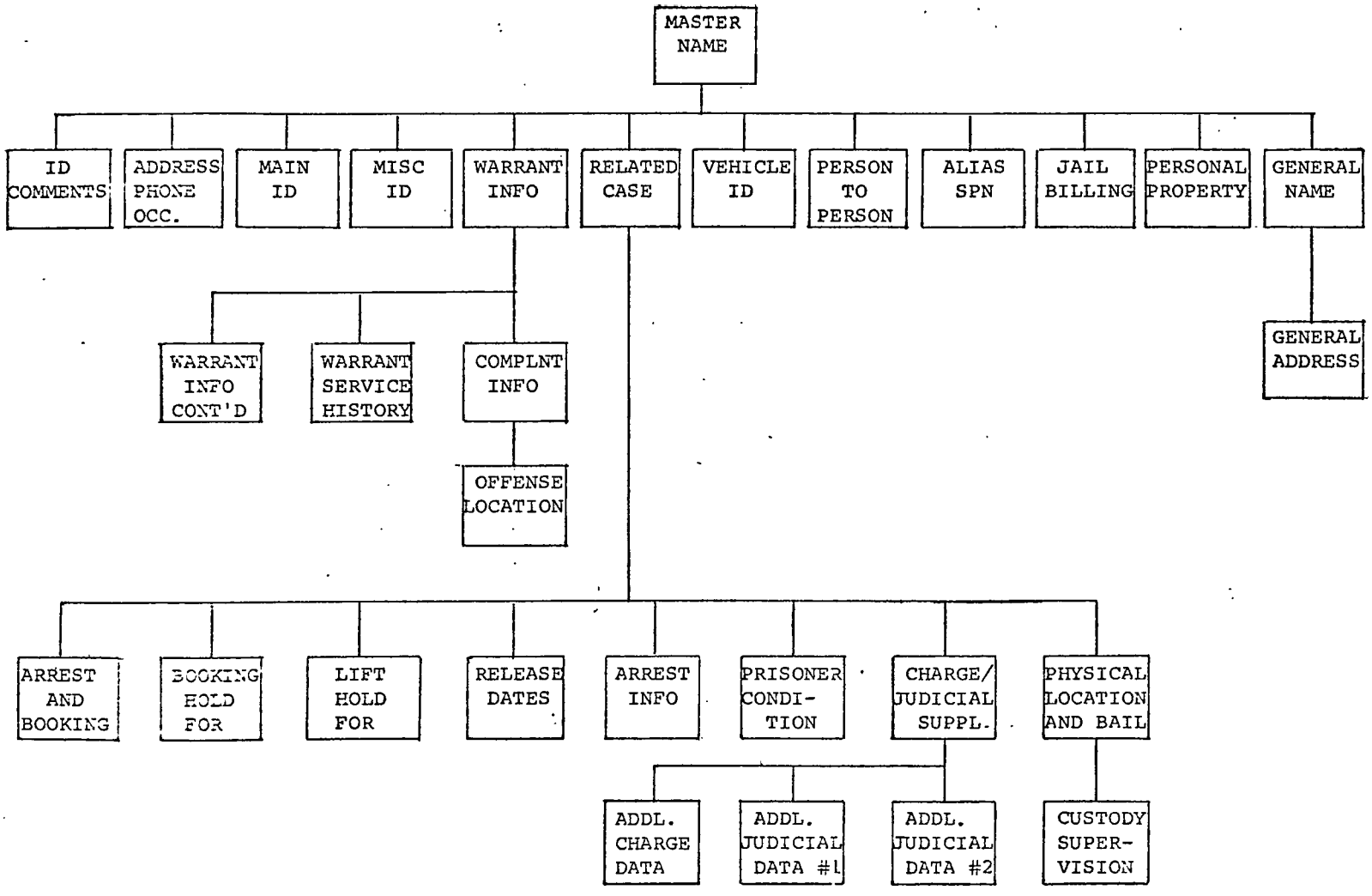


Fig. 28. HCCJIS Person File Organization

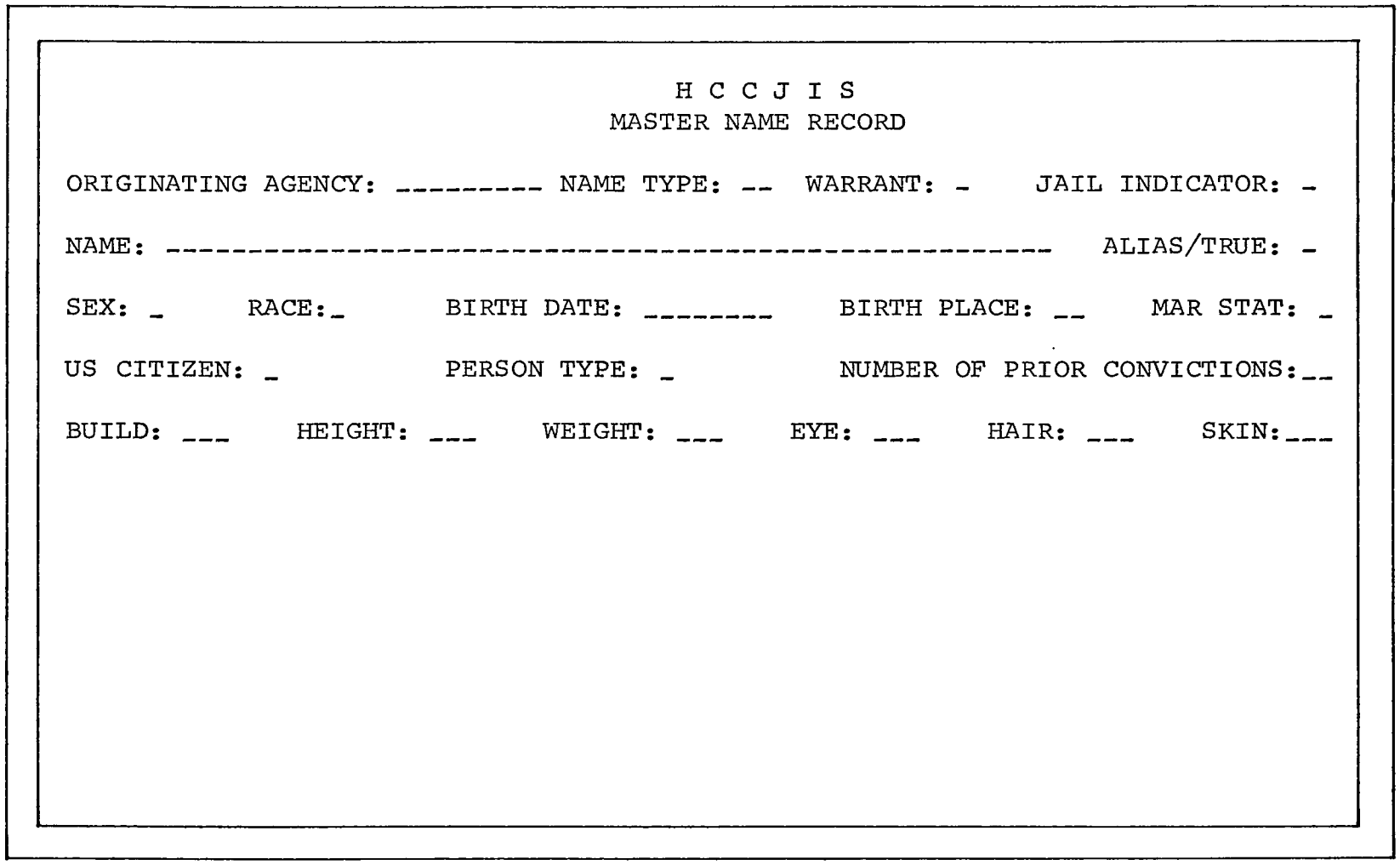


Fig. 29. Master Name Record Screen Format

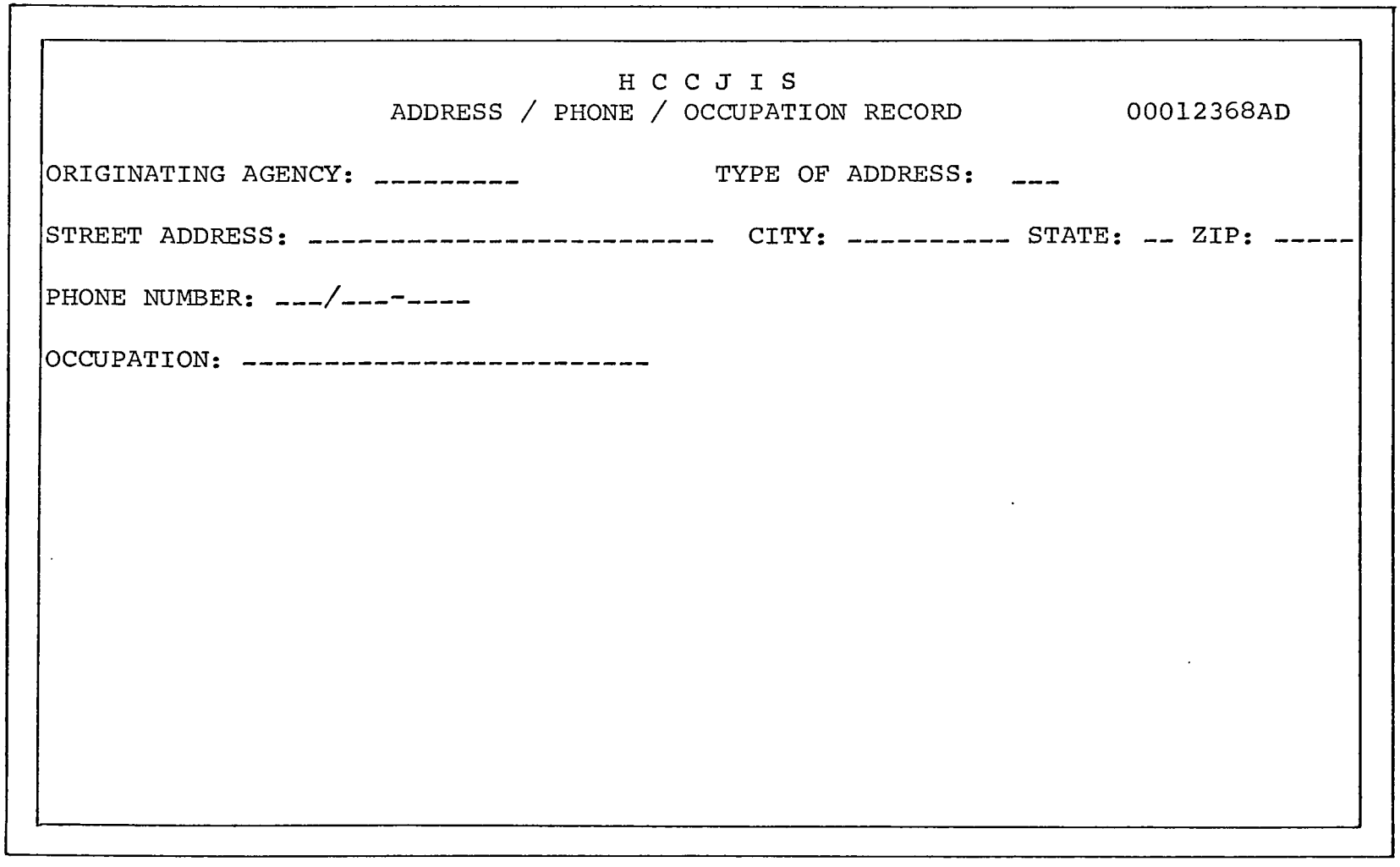


Fig. 30. Address/Phone/Occupation Record Screen Format

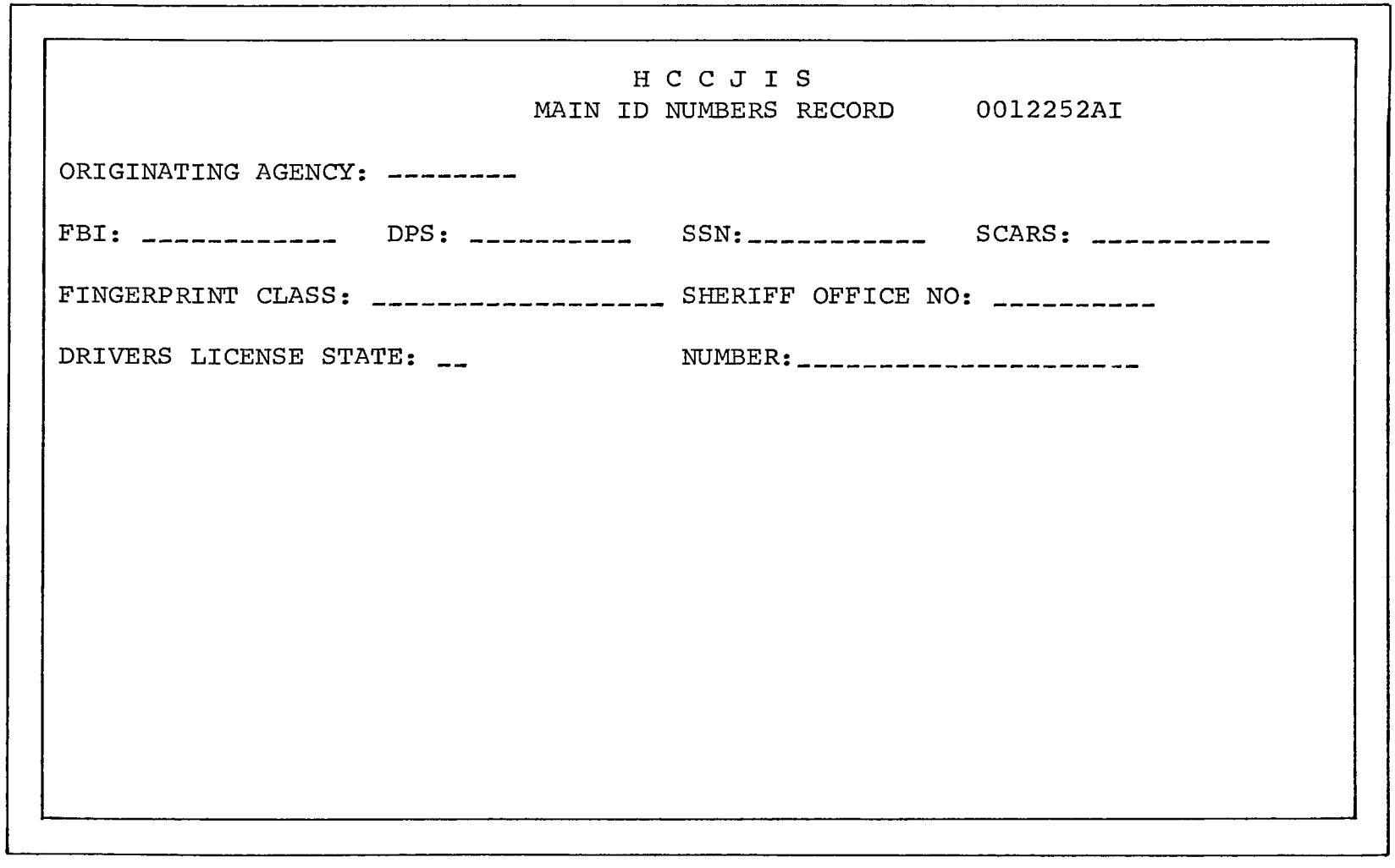


Fig. 31. Main Identification Number Record Screen Format

In addition to obtaining an SPN when required, the booking officer must see that the person being booked has a case in the system. If not, the booking officer obtains a case number and court and creates the basic case records.

It should be noted that in the large majority of situations, the person being booked has both an SPN and a case record. Since outlying Justice Courts may issue warrants of arrest without going through the central intake facility, it was necessary to provide procedures for the booking officer to initiate both person and case records.

During the booking process, the booking officer also checks to see if the person being booked has any other outstanding Harris County warrants and whether the person is wanted by any other jurisdiction. The Warrant Subsystem is automatically initiated when a warrant is issued and it, also, uses the Person File for storage. Therefore, warrant information is instantly available to the booking officer.

The actual entry of booking information is accomplished with screens such as the one shown in figure 32. Additional screens are provided for the entry

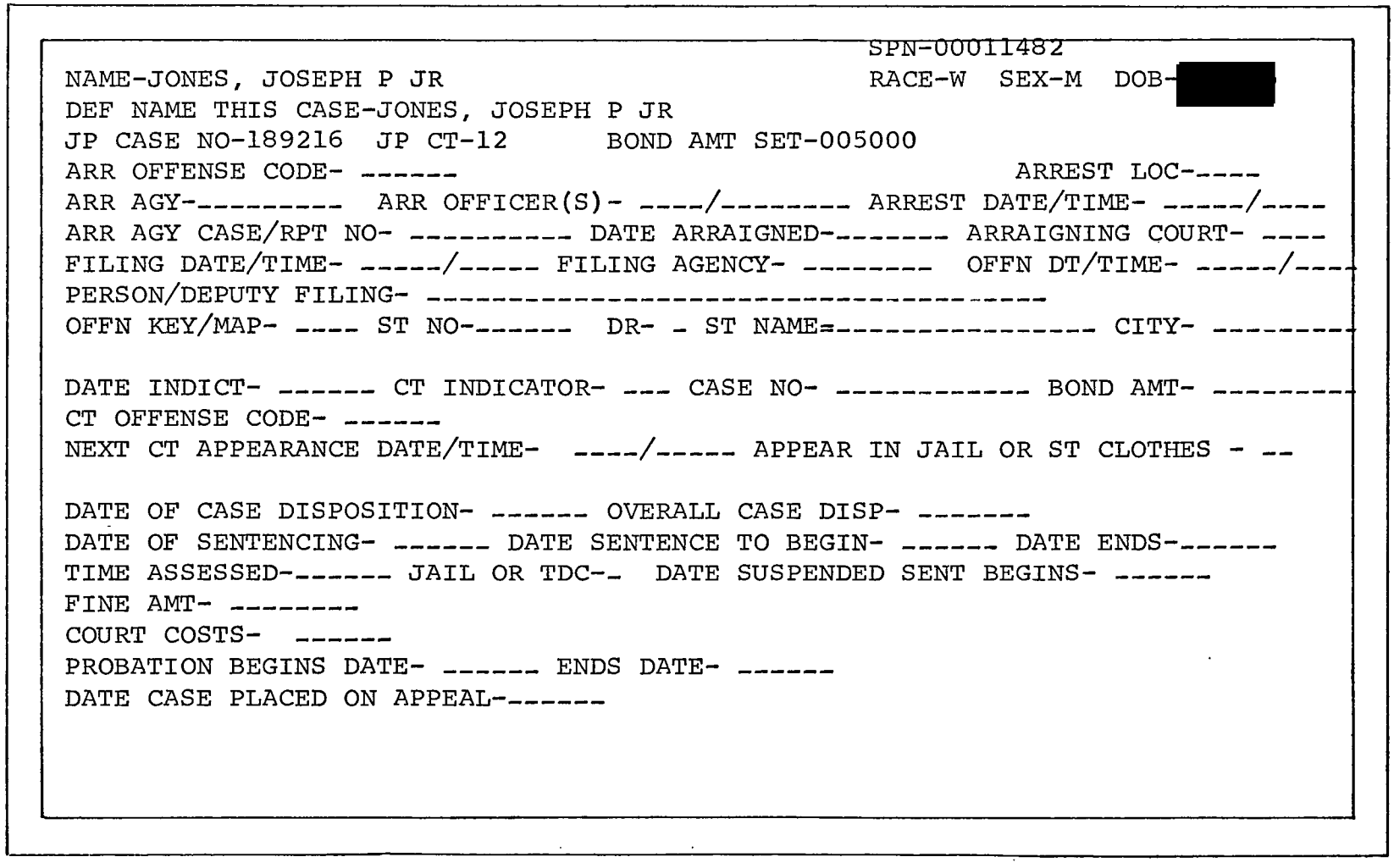


Fig. 32. Booking Record Screen Format

of other information. A booking form, shown in figure 33, is then printed on a terminal printer and used as the permanent record of the booking.

Throughout the time a person is in jail, additional information about the person may be entered by jail personnel. For example, the names of authorized visitors may change from time to time. Visitor's names and addresses are entered into the system, but are only accessible via the prisoner's SPN. Another example of information entered about a prisoner, is the entry of additional charges. Often, defendants are already in jail on other charges when a new charge is filed. Information is also entered into the system when a person in jail is sentenced to jail time.

Finally, information is entered when a person is released from jail. All information about people in jail is entered on line and the files are immediately updated so that all users of the system know if a particular person in jail.

In addition to the jail index in the General Purpose File, a jail indicator field is included in the master name record in the Person File as well as the phonetically-coded name record in the Name Index. There-

NAME- RACE- HGT- EYE- PAGE OF
AKA- SEX- WGT- HAIR- POB- SPN-
AKA- USC- BLD- COMPLX- TYPE- BNO-
ADDR- MS- DOB- NPC- HSO-
PHONE- SMT- CLASS- DPS-
OCCUP- FPC- FED- FBI-
CIN- SSN-
COMM- LOCATION- DLS- DLN-
CELL/TANK-

HARRIS COUNTY CHARGES

DATE	ARREST OFFENSE	COURT	CASE NO	BOND	DATE	COURT	CASE NO	BOND	DISP	BEGINS	TIME	COSTS	FINE

ARRESTING AGENCY- ARRESTING OFFICER(S)- / ARRESTING AGENCY CASE/RPT NO-
ARREST DATE/TIME- / ARREST LOCATION- TRANSPORTING OFFICER/DEPUTY-
ARR PARTIC-
DEF CONDIT-

DETAINERS/HOLDS

AGENCY PLACING HOLD	PERSON PLACING HOLD	DATE	TIME	OFFENSE	WARR/CASE NO	BOND	LIFTED	TIME

PROPERTY DEPUTY- LOCKER NO- PROPERTY RECEIPT NO.- SIGNATURE OF PROPERTY DEPUTY

ITEM1-
ITEM2-
ITEM3-
ITEM4- SIGNATURE OF DEFENDANT
ITEM5-
ITEM6-
ITEM7-
ITEM8-
ITEM9-

VEH MAKE- MODEL- TYPE- YEAR- COLOR- / LIC NO- STATE- TYPE- YR EXPIRES-

BOOKING DATE/TIME- COMMIT PRINT | RELEASE PRINT | RELEASE DATE/TIME- /
BOOKING JAILER- RELEASE REASON-
JAILER SIGNATURE RELEASING AUTHORITY-
UPDATE- OUTDATE- GOOD TIME-
DEFENDANT SIGNATURE DATE GOOD TIME STARTS-
SIGNATURE REL-JAILER-

Fig. 33. Booking Form

fore, it is possible to specify in a name inquiry that only persons in jail be displayed. This inquiry, as well as others, is the subject of the next chapter entitled User Procedures.

CHAPTER NINE

USER PROCEDURES

> In general, criminal justice agencies require information on the events that initiate and terminate criminal justice processes; on people (suspects, victims, offenders, etc.) who are relevant to the operation of the criminal justice system; on property (particularly when stolen or associated with a criminal event;) and on the operation of the agencies themselves.
>
> National Advisory Commission on Criminal Justice Standards and Goals

The Harris County Criminal Justice Information System was designed to achieve certain goals which the HCCJIS Executive Board identified as desirable. The goals of the HCCJIS Executive Board are:

1. Provide prompt access to data concerning felony and misdemeanor cases and the persons associated with such cases to all criminal justice agencies in Harris County from the time of the charge until no further criminal justice transactions can be expected within Harris County concerning that charge.

2. Avoid the duplication of data collection and dissemination for data needed by more than one agency.

3. Provide detail information about individual cases in process to assist the courts and the prosecution in the decision-making process.

4. Provide the necessary information to permit efficient docket management.

5. Provide sufficient data and statistics to determine case flow and judicial workload patterns, to assist in case handling, and to prepare required statutory statistical reports.

6. Provide the necessary data for continued research and evaluation of the criminal justice process.

7. Provide a method of interface with the state and national criminal justice information systems.

Chapter eight, Data Input/Verification Procedures, included a discussion of the HCCJIS data base as well as how the data base is created and updated. Although not explicitly identified in the discussion, many of the goals listed above were achieved by the way the data base was designed and by the way data input and verification procedures were implemented.

The purpose of this chapter is to further examine how well the system achieves the goals of the users. Although chapter eight included descriptions of some of the system output when necessary to the understanding of the input process, this chapter will be limited to a description of output alone. Before describing some of the specific on-line inquiries and printed reports, it will be beneficial to summarize the overall system capabilities.

9.1 System Capabilities

The Harris County Criminal Justice Information System provides the criminal justice agencies in Harris County with a number of services designed to aid the agencies in achieving individual agency goals.

One of the key functions of the system is to provide each agency with accurate and timely status information about criminal cases and the people associated with each case. HCCJIS was designed to provide this type of information to all users immediately via on-line terminals. Due to a shortage of terminals, however, batch reports are also prepared and distributed to those users without terminals. It is hoped that additional terminals can be obtained in the near future. If so, the supplementary reports will no longer be produced.

For example, the alphabetical list of all pending cases would be of little value if everyone had access to a terminal. A name inquiry capability is available which provides information that is more up to date and detailed than the printed report. This on-line program, which is explained in detail in section 9.2, allows the operator to enter a person's name, then searches the data base for all persons with names that sound like the one entered.

The resulting display is a list of names and identifiers, from which the operator can select a specific person for more information.

Another inquiry which is of general interest is the case number inquiry. This inquiry provides for the operator to enter the court division and a case number and all known information about the case will be displayed. This display can also be linked to by the name inquiry.

On-line and batch report programs are also available to serve specific interests such as the Sheriff, Adult Probation, and Criminal Court Coordinators. As keeper of the court's records, the District Clerk's use of the system is mainly to enter information. The specific functions required by the District Attorney have not yet been implemented. The sections which follow describe the on-line inquiry capabilities and the batch report capabilities which are currently in operation.

9.2 Inquiries

In addition to the on-line functions described in chapter eight used primarily for input, the following on-line inquiries have been implemented:

1. Name inquiry
2. Case number inquiry

3. Docket summary inquiry
4. Docket load inquiry
5. Attorney schedule inquiry

Name Inquiry

There are three ways to access information about a case and the people associated with a case: by name, System Person Number (SPN), or by case number. Of the three, inquiry by name is used most frequently since numbers are difficult to remember.

There are two formats which can be used by the terminal operator to make name inquiries. The first is a fill-in-the-blank type of display, called a map, which results from entering LNAM. The display is shown in figure 34. If the SPN is entered, the other fields are ignored. If the SPN is not entered, the last name must be entered. The other fields, which are explained below, are optional and are used to more clearly define the desired person.

If any of the information entered on the map is not valid, the input map will be redisplayed with the fields in error displayed brighter than normal and the user is instructed to correct the errors and press the enter key.

The second way a name inquiry may be made is by

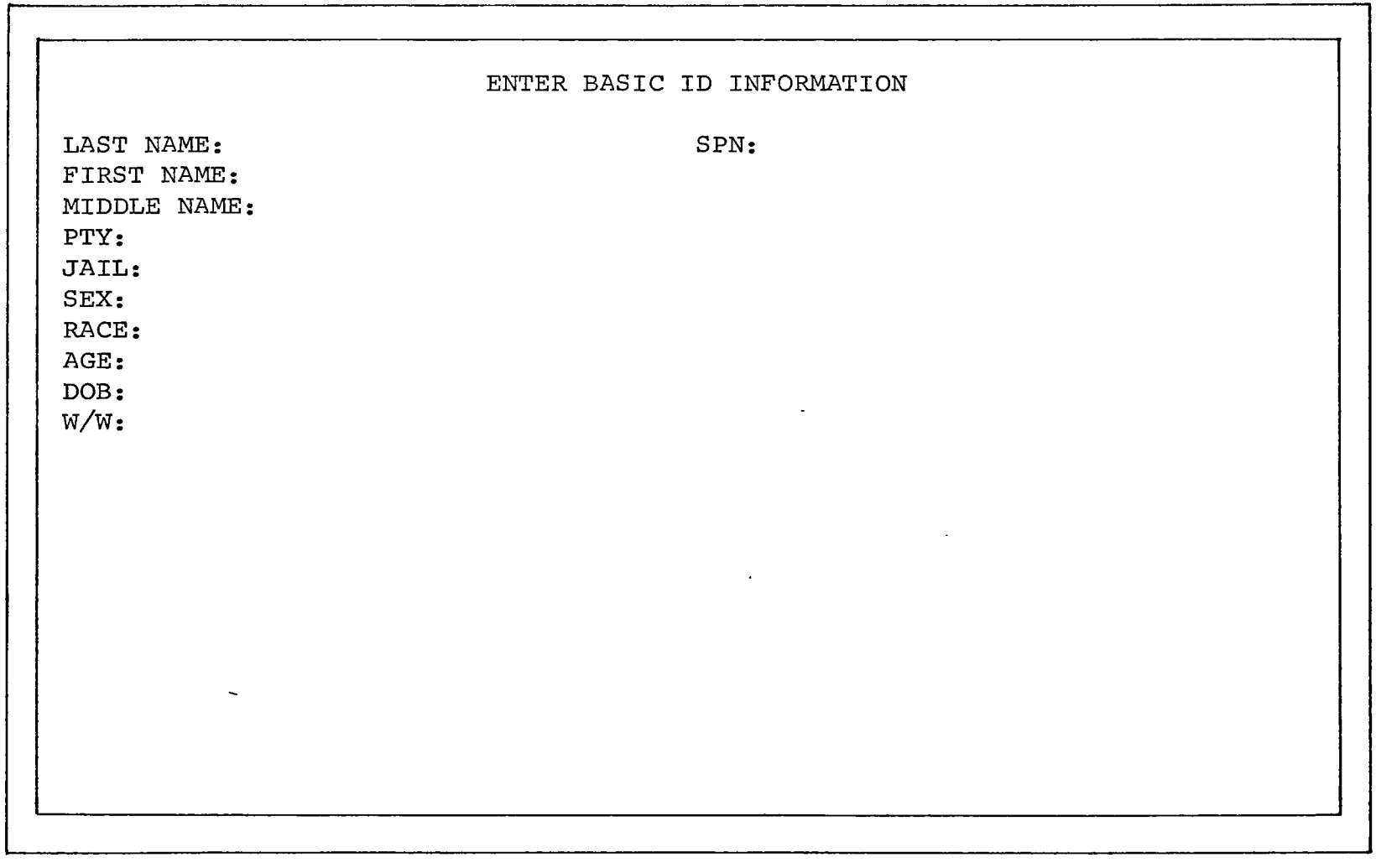


Fig. 34. Name Inquiry Map

entering the request in the following format:

LNQY/LAST/FIRST/MIDDLE/PTY/JAIL/
SEX/RACE/AGE/DOB/W&W

where:

LAST is the last name of the person. If unknown, LNU must be entered. LNU stands for "last name unknown".

FIRST is the first name or initial of the person.

MIDDLE is the middle name or initial of the person.

PTY is the person type and is used to specify which records are to be selected:

Ø - all
A - active defendants only
I - inactive defendants only
N - non-defendants only

JAIL is the jail indicator and is used to specify which records are to be selected:

Ø - all
Y - jail prisoners only
N - people not in jail only

SEX is used to further refine the request:

Ø - all
M - males only
F - females only

RACE is also used to further refine the request:

Ø - all
W - white only

I - Indian only
C - Chinese only
J - Japanese only
N - black only
O - Oriental only

AGE is used to limit the hits to persons within two years of the specified age.

DOB is date of birth. It should not be used if age is used.

W&W is used to limit the selection to persons with outstanding warrants or who are wanted for questioning.

All of the above, except last name, may be left blank. If any field is not specified, its absence is specified by two slashes. For example:

LNQY/LAST NAME/FIRST NAME//PTY

is used if the middle name is unknown. Note, however, that when a series of fields at the end of the inquiry are not specified, it is unnecessary to enter slashes for each of the missing fields.

Examples:

1. LNQY/SMITH/JOHN/ J//Y

   will result in a display of John J. Smiths currently in jail

2. LNQY/JONES///A/M/W/25

   will result in a display of all white males

between 23 and 27 with last names that sound like Jones and who have cases pending.

An alternate method of using LNQY is possible if the SPN is known:

LNQY/SPN

The output resulting from filling in the map or using the LNQY format will be one of three depending on the information found:

1. No record found

   If no records are found to satisfy the input parameters, the message "no record found" is displayed.

2. More than one person found

   If more than one person is found to satisfy the input parameters, all are displayed in the format shown in figure 35.

3. One person found

   If only one person is found to match the input parameters the screen format shown in figure 36 is displayed.

The display shown in figure 36 is also the result if the SPN is entered via the LNAM or LNQY inquiries. It also is displayed upon entering a line number on the display shown in figure 35.

Case Inquiry

From figure 36, a line number may be entered to

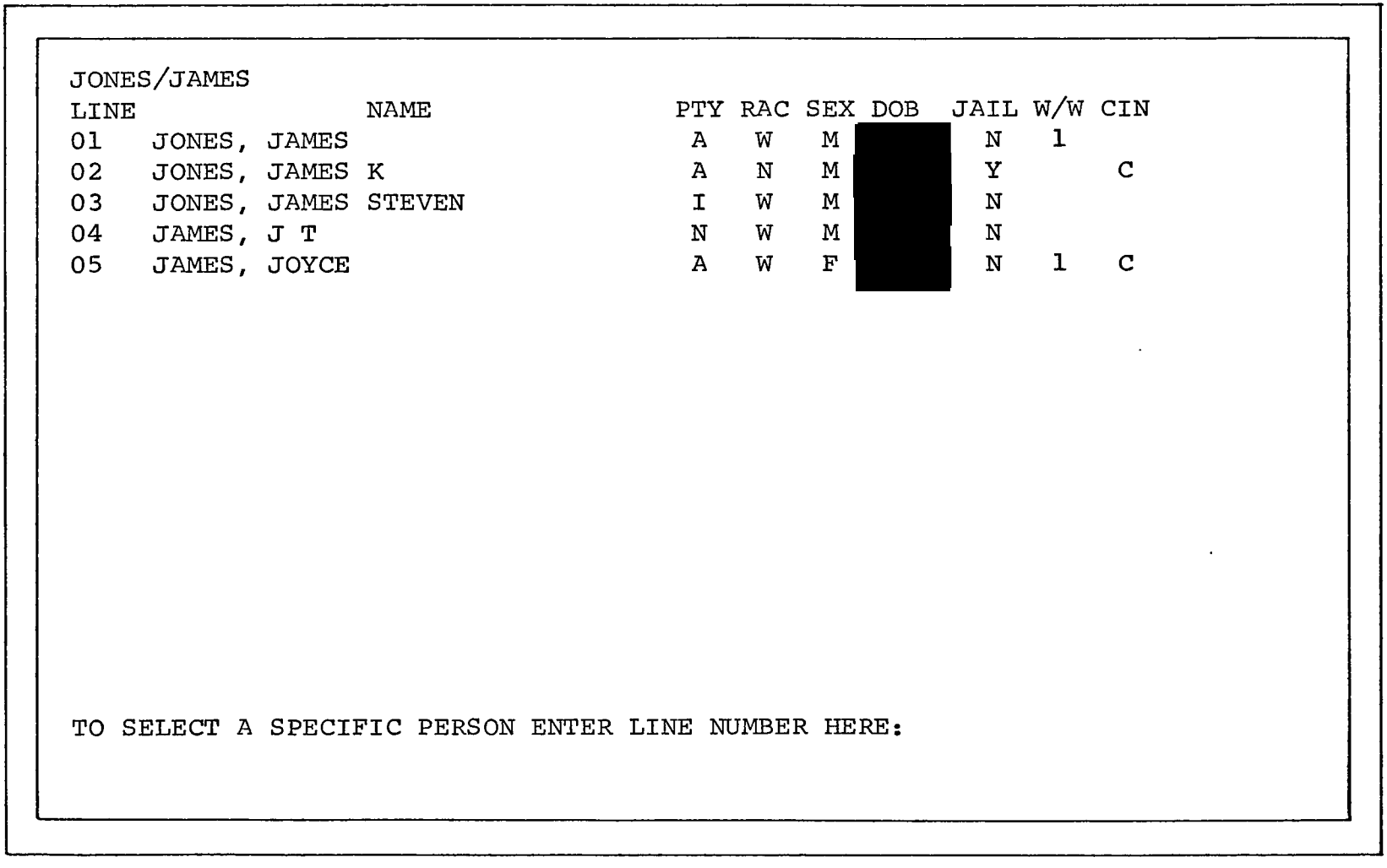


Fig. 35. Name Display - Multiple Hits

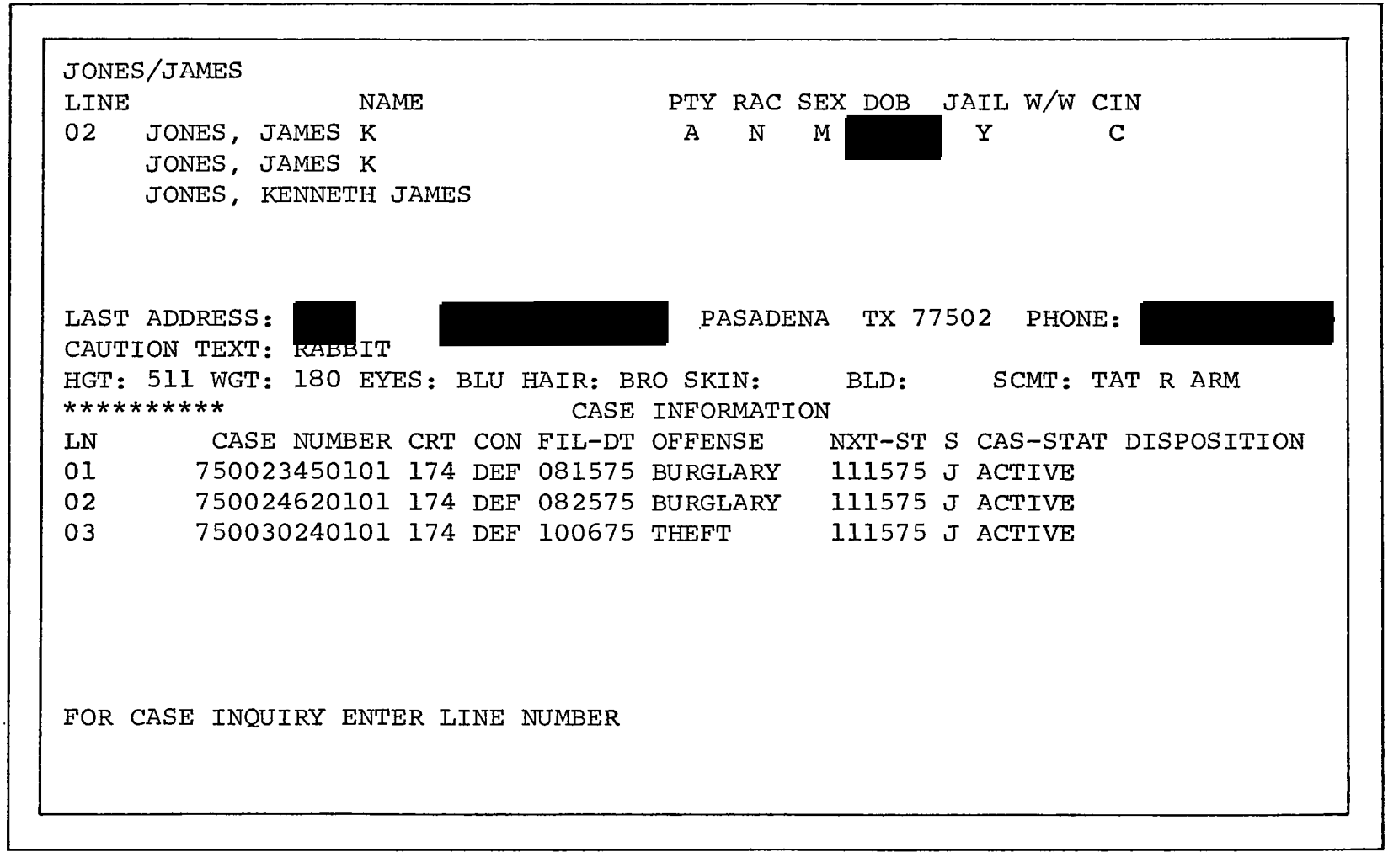


Fig. 36. Name Display - Single Hit

request a case display or the case inquiry may be used. If either method if used, the result will be a display which shows a summary of the current status of the case.

Docket Summary Inquiry

All docketing inquiries are made from the docketing functions menu shown in figure 37 which results from entering LDOC. The docket summary inquiry, therefore, is initiated by entering 9 on the menu.

Upon selecting the docket summary function, the screen format shown in figure 38 will be displayed to allow the terminal operator to specify which docket summary should be displayed.

The operator then fills in the court, date, time, and DNC or docket name code to specify a particular docket. The information entered is edited for errors and, if none are found, the docket summary is displayed as shown in figure 39.

Attorney Schedule Inquiry

The attorney schedule inquiry has been implemented as a docketing function since the schedule of attorneys must be considered when setting cases. As a docketing function the attorney schedule inquiry is

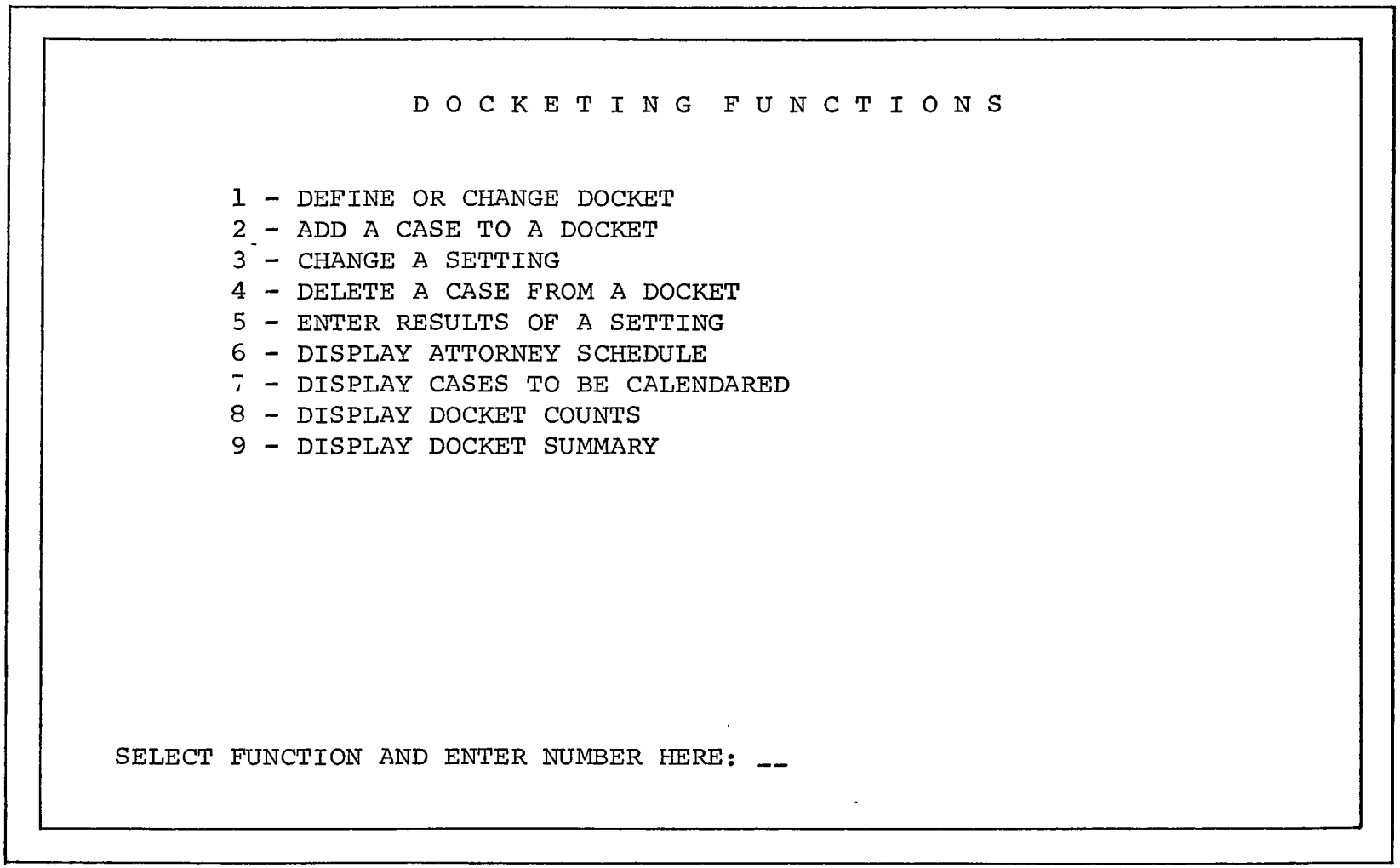


Fig. 37. Docketing Functions Menu

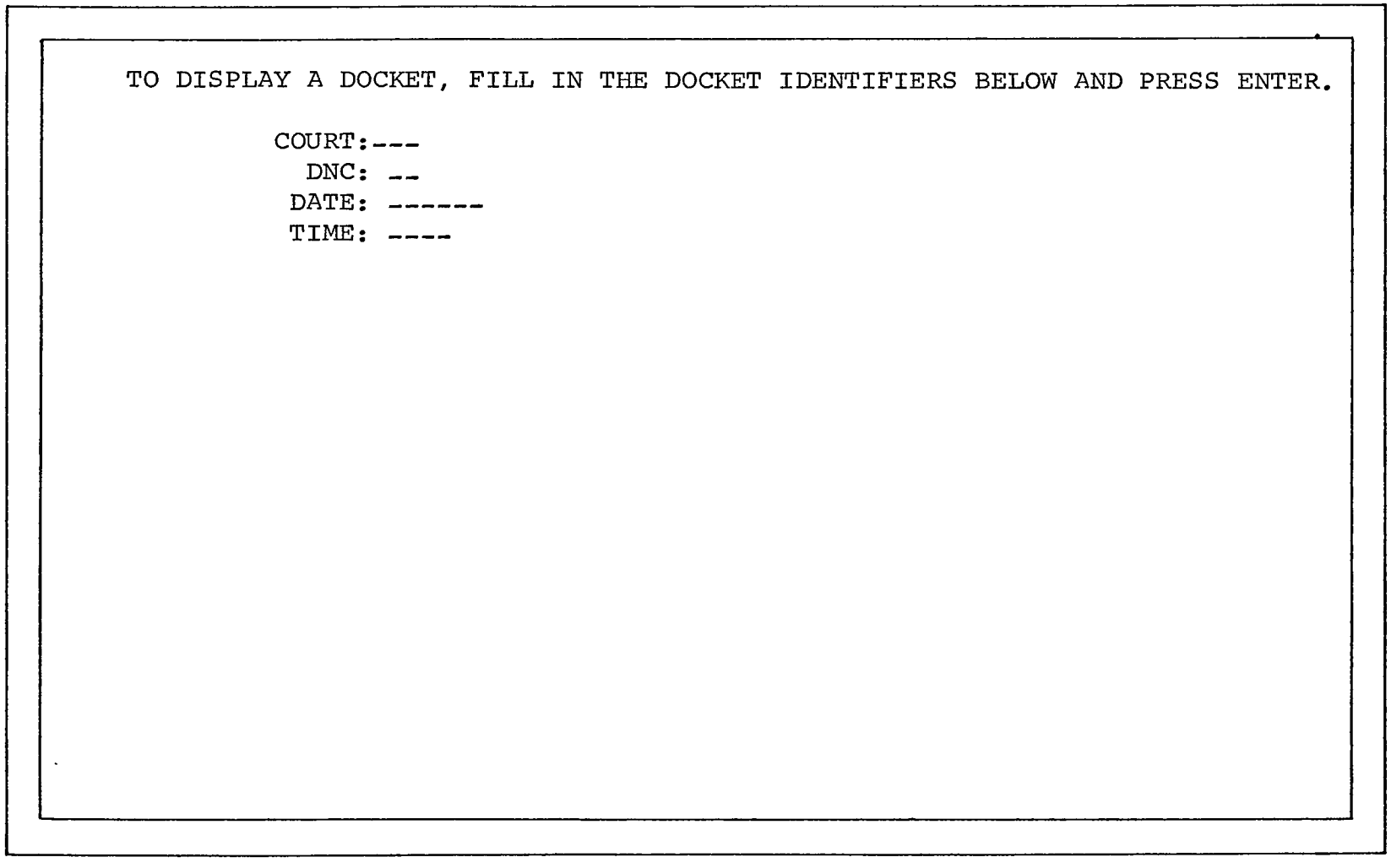


Fig. 38. Docket Summary Map

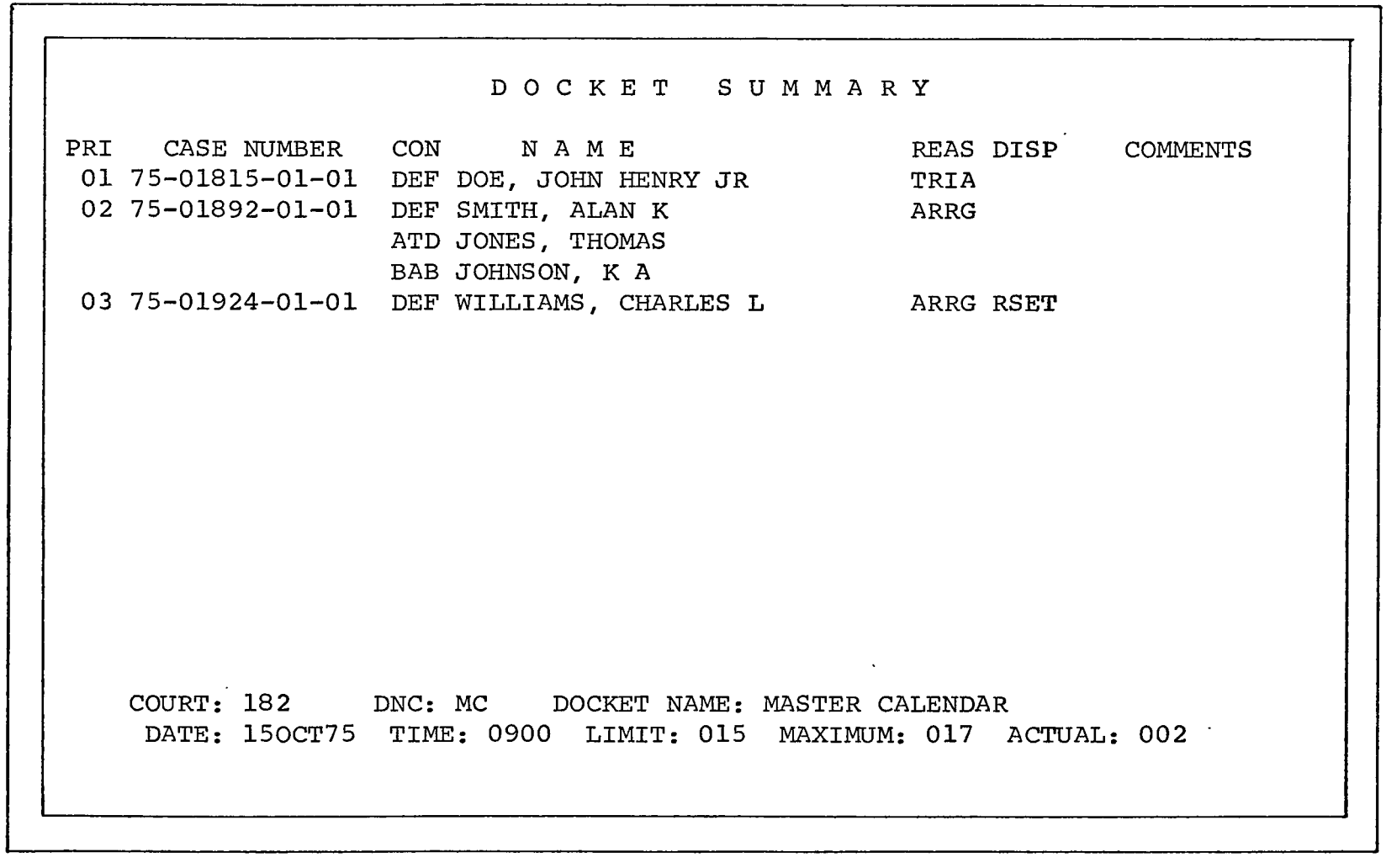


Fig. 39. Docket Summary Display

initiated from the docketing functions menu shown in figure 37.

Upon requesting the attorney schedule function, a map will be displayed giving the operator the choice of entering a date or an SPN. If a date is entered, the resulting display will contain the name, case number and court of all attorneys scheduled to be in court on that day. If an SPN is entered, the resulting display will show the attorney's name followed by a list of all future settings giving the date, court, and case number of each.

Docket Load Inquiry

The docket load inquiry is also a docketing function. When initiated by entering a court number, it results in a display of the limit, maximum, and actual counts for all future dockets in a particular court.

Many additional inquiries had been planned for the initial system. However, due to a shortage of available terminals, it was necessary to assign programmers to batch report development--batch reports which would have been unnecessary with sufficient terminals. A need for over 120 terminals was identified and cost justified. Only forty-five were ordered, however, due to budget cuts.

The majority of the terminals were assigned to areas with large amounts of input such as the District Clerk's Office and the Sheriff's Office. A minimum number of terminals were installed in output-only areas mainly to demonstrate the capabilities in order to justify additional terminals in the future. Table 6 shows where the forty-five terminals were installed.

9.3 Printed Reports

As noted above, additional printed reports were required due to the lack of sufficient terminals. However, most of the printed reports described below are required to supplement the information available via terminals.

Printed reports are necessary to identify problems or potential problems. These reports are called exception reports. Printed reports are also used for statistical purposes. When it is necessary to make a full-file search to compute certain summary or statistical information, it is undesirable to use on-line programs for this purpose due to the time constraints.

The printed reports initially provided by the Harris County Criminal Justice Information System are:

TABLE 6

TERMINAL INSTALLATIONS

DEPARTMENT	DIVISION/ SECTION	VIDEO SCREENS	PRINTERS	TOTAL
Sheriff	Warrant/Bonds	5	2	7
	Booking	4	2	6
	Identification	2	1	3
	Rehab Center	2	2	4
District Clerk	Microfilm	4		4
	Filing Section	6		6
	Control	1		1
	Administrative	1		1
Central Intake	HPD, DA, Clerk	4		4
District Attorney	Central Office	1		1
	Misdemeanor	1		1
	Grand Jury	1		1
Court Coord.	Central Office	1	1	2
	177th Court	1		1
	174th Court	1		1
Adult Probation	Felony	1		1
	Misdemeanor	1		1
	T O T A L	37	8	45

1. Felony Cases Pending
2. Misdemeanor Cases Pending
3. Prisoner Index
4. Prisoners Scheduled for Release Report
5. Prisoners Scheduled for Court Report
6. Alphabetical Index
7. Numerical Index
8. Transfer Exception Report
9. Probation Exception Report

Felony Cases Pending and Misdemeanor Cases Pending

The Felony Cases Pending Report and the Misdemeanor Cases Pending Report are nearly identical in format. Each report consists of a one-line summary of each case that has not reached final disposition. The one-line case summaries are printed in alphabetical order according to the defendant's name. The sole purpose of the reports is to provide a name-inquiry capability for users without terminals.

Prisoner Index

The Prisoner Index Report is prepared daily by the Sheriff's office and consists of a list, in alphabetical order, of all current prisoners. The report contains the prisoner's name and personal descriptors as well as the authority for retaining the person in jail.

This report is also produced to provide those without terminals a method of determining whether or not a

particular person is in jail.

Additional jail-related reports have been requested, but not yet programmed. For example, one judge who takes a personal interest in prisoners with cases in his court, requested a list of such prisoners ordered by date jailed. Therefore, those in jail the longest will be at the top of the list for him to periodically check. Judges, in general, are concerned about prisoners since they alone can determine whether a person should be jailed.

Although these additional reports have not yet been provided, they will be soon. The new system, as a whole, provides much more capability to monitor the status of prisoners. For example, two of the major problems with the previous system were keeping track of prisoners scheduled for release and keeping track of those scheduled to appear in court.

Prisoners Scheduled for Release Report

The Prisoners Scheduled for Release Report is printed daily and consists of a list of all person who have completed serving sentences and those who are to be transferred to the Texas Department of Corrections.

Prisoners Scheduled for Court Report

Previously, the jail used the court dockets to determine which prisoners should be delivered to which court. Often, the name on the docket did not correspond with the name used by the defendant in jail. Therefore, the jail would not be able to bring the person to court. This caused problems between the court, who had ordered the person be placed in jail in the first place, and the Sheriff who said the person was not in jail.

The Prisoners Scheduled for Court Report was designed to prevent similar problems. This report, which is produced daily, consists of a list of prisoners scheduled for a court appearance the following day. The report contains the prisoners name--the one used by jail personnel--along with the court in which the prisoner is scheduled and the way in which the prisoner should be dressed--in prisoner attire or street clothes. By law, defendants appearing before juries cannot be dressed in prison uniforms.

Alphabetical Index Reports

The Alphabetical Index Reports are produced weekly and supplemented daily. One report is produced

for each individual court containing only those cases assigned to the court. The reports are ordered by defendant name and include case status information and a history of all court appearances. The reports are used by the court coordinators for scheduling purposes.

Numeric Index Reports

The Numeric Index Reports are also produced for the court coordinators. They consist of a one-line summary of all cases pending in each court and those disposed of within sixty days. The reports are segmented by court and ordered by case number. They are used primarily as an index to the Alphabetic Index Reports when only the case number is known. However, each report ends with a summary page describing the number and status of all cases assigned to the court. The report also contains exception comments to flag problem or possible problems such as settable cases not set and past settings without results.

Transfer Exception Report

Although every effort is made to assign each case in the proper court at the time the case is filed, it is still necessary, occasionally, to transfer cases from one

court to another. Such transfers are usually initiated by a court coordinator. However, the District Clerk is responsible for entering transfer order information into the system which causes the court designator in the files to be changed. Since the court coordinators are responsible for initiating the transfers, but have no control over whether or not the system is updated, they requested a report to identify any requests for transfers that have not been completed. This report is then used to make sure that all requests for transfers are properly completed.

Many other reports were requested during the planning and design phase. Due to manpower shortages, however, the reports could not be developed in the initial phase.

General Print Program

One of the problems with the previous information systems was the inability to rapidly respond to requests for new reports. The System/370 Justice System, in anticipation of this need, provided a program which is similar to a specialized RPG compiler. Called the General Print program, or GENR, it allows a person who has an understand-

ing of the file structure to easily and quickly write programs to produce batch reports with very little training.

GENR consists of control cards which are used for headings and control cards which specify the data elements to be extracted and the print format desired. It is also possible to do table look ups and simple editing.

During conversion, GENR proved to be extremely valuable as an aid in testing the data base. GENR is also being used to develop some of the new batch reports.

Summary

This chapter began by listing the goals of the HCCJIS Executive Board.

Unfortunately, not all of the goals have been fully achieved. The goals are still valid, however, and new capabilities are being added daily toward fulfillment of these goals. Steps have been taken toward the achievement of goal seven--the interface with state and national criminal justice information system--but, the county is faced with a new Justice Department regulation which became effective June 19, 1975. This executive order prevents systems which are not under the direct control of crimi-

nal justice agencies from accessing information in the national system. In addition, efforts to link to the state system have been hampered due to budget cuts.

Most of the other goals have either been achieved in full or in part. The acquisition and installation of additional terminals is necessary to fully achieve all goals.

Goals change, however, especially in county government. Therefore, it is important to continue to evaluate both the information system and the criminal justice system to determine exactly what the current goals are and how well they are being achieved.

CHAPTER TEN

CONCLUSIONS

> The organization isn't a free agent. Even if it sets clear goals, obstacles in the outside world won't always let it move directly toward them. In fact, goals are partly determined by constraints--by the do-not-enter signs that surround the organization.
>
> Leavitt, Dill, and Eyring

The purpose of this thesis, as started in chapter 1, is to recommend a method for developing a computer-based criminal justice information system based on the experiences of Harris County, Texas. It was also stated in chapter 1 that the methods used by the private sector to develop information systems--methods which are well documented--do not work when applied to criminal justice. Hopefully, the purpose of the thesis has been achieved.

It should prove beneficial, however, to review the steps required to design and implement a criminal justice information system and to summarize the problems associated with government organizations.

The steps necessary to design and implement a criminal justice information system can be stated quite

simply as follows:

1. Form a workable organization.
2. Develop and document goals.
3. Plan a system that will achieve the goals of the organization.
4. Design the system.
5. Implement the system.
6. Continually evaluate the system to insure that it is achieving the goals of the organization.

10.1 Organization

The formal organizational structure of most government agencies hinders the development of effective interdepartmental applications. As pointed out previously, this is especially true with organizations like Harris County where most of the heads of the criminal justice agencies are elected officials answerable only to the voters. We have seen, however, that this need not be fatal to the development of an effective system. It is possible, we learned, for a voluntary association of users to be organized for the benefit of all. It took several years to achieve this step in Harris County, but once achieved, progress began.

Several authors of books and articles in the

field of organizational behavior have noted that governmental organizations are, of necessity, faced with drastic change.

> Expansion of boundaries of organizational activities in the public sector is also inevitable. Many of the problems facing society--urban redevelopment, pollution control, and transportation systems--will require new and different organizational approaches. Traditionally these problems have been faced on a piecemeal basis with various government agencies each responsible for a single function. It is becoming apparent that these problems cannot be solved on a fractional basis but will have to be approached on a total system basis. Many of the current federal, state, and local governmental agencies will undergo dramatic transformation, and new organizational forms will be developed which will encompass broader activities within their boundaries. (Kast and Rosenzweig).

Although not specifically stated, crime is one of the major problems facing society today. In a special twelve-page report in the June 30, 1975 issue of Time magazine, it was very dramatically emphasized that crime is worse now than ever before.

Kast and Rosenzweig also mention ways to improve communications between organizations.

> Advancements in information technology aided by developments in the electronic computer will help improve communication systems across organizational boundaries. Traditionally, the concern has been with developing intraorganizational communication systems. In the future, development of systems of information flow between organizations will be emphasized. (Kast and Rosenzweig).

Harris County has learned that the first step toward developing a viable criminal justice information system is to form an organization consisting of representatives of each criminal justice agency. To be successful, however, this organization must have the full support and backing of each agency head.

Creating the organization is the first step and, perhaps, the most difficult. The purpose of the organization, however, is to establish direction.

10.2 Goal Setting

After establishing a workable organization, the next most difficult task was to encourage the users to think in terms of long-range goals--goals that could be specified explicitly and documented. Most users wanted something out of the system right away. They wanted results, but they didn't want to talk about it--much less commit it to paper. One book explains the problem as follows:

> Most of us aren't terribly concerned with the long-term fate of the organization we work for. But we are likely to be vitally interested in the growth of our own department--and even more interested in the growth of ourselves. People in organizations, like people anywhere else, tend to take "local" things more seriously than distant ones.(Leavitt, Dill, and Eyring) .

The authors go on to say, "organizations, like individuals, usually have a clearer picture of their tasks (what they do) than of their goals (what they want)."

Early attempts to document goals were relatively unsuccessful. Such terms as "reduce crime" and "speed up the processing of cases" were used as legitimate goals of computer-based systems. Not only were these goals difficult to achieve, they were not all desirable.

> The disposition of most court cases results from a process, not a decision. Instant justice is not advocated. The facts must be discovered. Lawyers must serve more than one client if they are to serve any client economically. Efficiency and effectiveness would be impaired if the courts heard and determined all cases within a few weeks after they were filed. (Friesen, Gallas, and Gallas) .

The goals as finally approved by the HCCJIS Executive Board are more explicit, more realistic. Still, they are only goals. They do not specify how they are to be achieved. This is included in the planning phase.

10.3 Planning

Planning, as well as goal setting, must be accomplished by the user--not by the technician. It is tempting for the systems analyst to plan a way to solve all of the user's problems. Unless the user recognizes that a problem exists, however, and participates in the

plans to solve the problem, then there really is no problem to solve. Many of the capabilities of early criminal justice information systems designed by systems specialists were never fully appreciated by the users and most faded out from lack of use. No matter how well designed or how potentially beneficial, such capabilities are worthless if not understood by the user.

There are many effective ways to plan a criminal justice information system. The methods used by Harris County are described in chapter 6. The most important element of planning, however, is to keep the user involved.

Another point to remember is that the plan must be written. Plans should include a summary of the goals, costs, manpower requirements, major challenges and problems, priorities, project identification, and hardware requirements (McFarlan). In addition, implementation schedules should correspond with budget approval cycles and alternate approaches should be included.

Planning should not stop when implementation begins. Goals should be constantly reviewed and new plans developed as goals change. Also, environmental changes can cause plans to require modification.

Every effort should be made to employ a full time planner.

The next step toward developing a criminal justice information system, the design phase, overlaps somewhat with the planning phase.

10.4 Designing

The design phase includes restudying the goals, refining the plans, and developing specific programs and data base definitions to achieve the organizational goals.

This phase is done almost entirely by the technician, but with constant interface with the user regarding user requirements. The systems designer must be knowledgable about the following subjects (Burch and Strater) :

1. Organizational resources
2. User information requirements
3. Other system requirements
4. Methods of data processing
5. Data operations
6. Design tools

In Harris County, project personnel also found it desirable to develop a project management organization for

the design phase. Kast and Rosenzweig, using the term program management which is synonomous with project management, note that:

> The program management approach is geared to changing managerial requirements in the research development, procurement, and utilization of large-scale military, space, and civilian projects. With the advent of newer, more complex programs, the military services as well as other government agencies and private companies have had to adapt their organizational structures away from traditional functional arrangements. The pressures of accelerating technology and short lead times have made it necessary to establish some formalized managerial agency to provide overall integration of the many diverse functional activities.

This approach worked quite well for Harris County as far as managing the technical development of the system. However, it may have been the cause of one major problem experienced during this phase. Harris County made the mistake of not keeping the users informed about the development of the system during the technical design phase. They then felt left out, feared the system was no longer theirs, and began to detach themselves from the project.

This problem was caused by the fact that the same people responsible for keeping the users organized and informed were also responsible for managing the technical development of the system. The users, who were accustomed

to participating in weekly planning sessions, suddenly found themselves no longer needed. Fortunately, this error was discovered and corrected before too much damage was done.

System designers should keep in mind that there are many non-technical tasks involved in the design of a criminal justice information system. Utilizing users for such tasks as designing reports and procedures, developing training programs, establishing evaluation procedures, and setting up security and privacy guidelines will not only aid the project but will keep the user intimately involved in the system development and lead to a more successful implementation.

10.5 Implementation

For Harris County, the implementation phase included the conversion of data from existing systems, user training, and the actual initiation of the new system.

One of the most difficult tasks was the conversion task. Whether converting from one computer-based system to another or collecting information from manual records to initiate the data base, conversion is a lengthy process. The mistake made by Harris County was that not

enough time was allowed between the time the input format was finalized to the time of actual conversion. In addition, there were an insufficient number of input clerks to allow for parallel conversion.

The best approach would be to allow plenty of time to develop conversion programs and procedures after all design is finalized. It is near impossible to overlap this task with the design phase. In addition, if at all possible, budget for temporary additional clerical personnel to assist in the conversion process.

Insufficient time was also allowed for training. It is extremely difficult to develop training programs without good system documentation--documentation that often cannot be completed until the system is completely developed.

Harris County scheduled training to be completed within one month. Two to three months would be more realistic.

Initial system testing was accomplished quite successfully with help from the users. Fortunately, the users were familiar with the expected results and could easily identify problems.

From previous experience, Harris County has learned

the necessity for continuously testing or evaluating the system.

10.6 Evaluation

One of the most difficult tasks of the project personnel was getting the users to understand the need for continuous evaluation. Many users felt that once a system was implemented, there would be no need to periodically check the results or modify the system to any great extent. They were more familiar with static applications like payroll systems and did not fully understand the impact relatively minor changes in the criminal justice process could have on the system.

Due to the size of the system and the number of people and departments involved, it is somewhat difficult to maintain complete control over every aspect of the criminal justice process. Contributing to the problem is the high employee turnover rate in the lower paying clerical jobs as well as professional positions such as assistant district attorneys. Likewise, job rotation in the Sheriff's office contributes to the problem.

Many controls have been designed into the system to insure data accuracy. The most effective evaluation

procedure, however, is the establishment of a special team of evaluators who constantly check the system for errors. They do so in two ways: in response to complaints from users and by randomly checking the system against the actual case file folder. They look for more than errors. They look for patterns and, if any are found, they recommend procedural changes to eliminate the source of errors.

Following the steps described above and keeping in mind the potential problems which are unique to the criminal justice field, other agencies should be able to design and implement a criminal justice information system such as described in this thesis. Keep in mind, however, that the Harris County system is not an ideal system. Our goals were modified many times due to political and budgetary constraints. It is a workable system, however, and it is designed for growth.

10.7 Summary

One of the major differences between criminal justice organizations and private organizations is the way in which each is structured. Understanding this difference is a prerequisite to the development of a successful information

system. The private organization's structure is characterized by the chain of command or pyramid of authority which narrows at the top. The structure of each criminal justice agency is quite similar. However, the structure of the total criminal justice organization is entirely different.

Leavitt, Dill, and Eyring describe some of the purposes for the formal organizational structure prevalent in private businesses:

> The formal hierarchy of authority, then, serves several purposes, however imperfectly: (1) it supplements the informal power of individuals, helping even little men to perform big jobs. (2) It provides control, order, and predictability. (3) It helps to institutionalize the organization. (4) It helps to control and limit conflict.

Designing and implementing a criminal justice information system is comparable to designing and implementing a computer-based information system for and under the direction of five separate private companies. There is no hierarchy of authority. There is no simple way to control and limit conflict.

Another difference between criminal justice organizations is in the organizational goals.

> While various components of a private enterprise system share common objectives -- production, sales, profit -- the objectives of the criminal justice agencies often differ. Where the police may take

> a hard-line approach to crime prevention, the probation department may suggest therapeutic methods of crime control. Also, while private enterprise systems seek to achieve operating efficiency, the criminal justice system establishes policies based on constitutional guarantees and individual's rights to due process which can restrict efficiency. These difficulties limit close coordination and cooperation between agencies, resulting in what may be more aptly described as a "non-system" of criminal justice (Senna).

The criminal justice agencies do make an effort to work together, however. It is not that they don't understand the need for cooperation. There is simply nothing to tie them together in a formal way. Those agencies that have learned to work together more closely realize that the other agencies are not interested in telling them how to run their office. They have learned that more inter-agency cooperation and communication is beneficial for all.

Another difference between private organizations and criminal justice organizations is related to project funding. In private business the manager who approves the design and implementation of an information system can usually approve the funding required also. In the criminal justice organization this is not the case. Budgets are usually approved by a separate organization with little knowledge of the needs of the criminal justice agencies. In addition, the system designer is often unaware of the

actual budgetary resources and must be prepared with several alternative approaches depending on the outcome of elections and the public's current feelings about spending.

This lack of firm budgetary information also affects planning -- which also must be handled differently than by private businesses. Private companies -- especially those with large computer-based information systems -- usually employ professional planners whose sole responsibilities are to develop long-range plans for the organization. In the area of data processing, these planners keep a watchful eye on new developments in hardware and software in hopes of increasing the organization's profits in future years.

Criminal justice agencies, on the other hand, usually cannot plan beyond the next election. They are also hampered in attempts to plan for the use of new hardware and software by their purchasing restrictions requiring all large purchases to be based upon competitive bids.

Once past the problems associated with organizational structure and goals, funding considerations, and planning, the technical aspects of designing and implementing a computer-based information system for a criminal jus-

tice organization are quite similar to those of a private organization.

BIBLIOGRAPHY

Arthur Young and Company. Conceptual Planning Statement for the City of Houston Criminal Justice Information System. Houston: Arthur Young and Co., 1973.

Baca, Ronald L.; Chambers, Michael G.; Pringle, Walter L.; and Roehm, Stayton. "Automated Court Systems," AFIPS Conference Proceedings, Volume 39. Montvale, N.J.: AFIPS Press, 1971.

Bairstow, Jeffrey N. "Device-oriented Aerospace Specialists May Not Make Very Good Urban Systems Analysts," Computer Decisions, October 1970, p.60.

Blaine, Gerald S. "Computer-Based Information Systems Can Help Solve Urban Court Problems," Judicature, November 1970, pp. 149-153.

Blake, Edward J. and Polansky, Larry. "Computer Streamlines Caseload at Philadelphia Common Pleas Court," Judicature, December 1969, pp. 205-209.

Burch, John G., Jr. and Strater, Felix R. Information Systems: Theory and Practice. Santa Barbara, Calif.: Hamilton Publishing, 1974.

Butcher, Allan K.; Stevens, James W.; and Eyres, Gloria W. The Impact of the Texas Constitution on the Criminal Justice System. Houston: University of Houston, 1973.

Caso, Ralph. "Making Data Processing Work for Nassau County," The American County, July 1973, pp.12-14.

Clark, Ramsey. Crime in America. New York: Simon & Schuster, 1970.

Coffey, Alan R. Administration of Criminal Justice Englewood Cliffs, N.J.: Prentice-Hall, 1974.

Computer Sciences Corporation. A Report On Automated Criminal Justice Systems. Falls Church, Va.: Computer Sciences Corp., 1974.

Cordiner, Ralph J. New Frontiers for Professional Managers. New York: McGraw-Hill, 1956.

"The Crime Wave." Time, 30 June 1975, pp. 10-24.

Dearden, John. "MIS is a Mirage," Harvard Business Review, January-February 1972, pp. 90-98.

Ewing, David W. The Human Side of Planning. New York: MacMillan Co., 1969.

French, Nancy. "Cobb County Holds 'Promis' for Public Prosecutors," Computerworld, 18 June 1975, p.12

_____. "Fla. On-line System Tracks Complaints to Convictions," Computerworld, 18 June 1975, p.8.

_____. "LEAA Experiment Attacking Transferability Problem," Computerworld, 18 June 1975, p.15.

Friesen, Ernest C.; Gallas, Edward C.; and Gallas, Nesta M. Managing the Courts. Indianapolis: Bobbs-Merrill, 1971.

Frost, Sidney W.; Sibley, Robert A.; and Wyatt, Joe B. A Jury Selection System. Houston: Harris County, 1969.

Hamilton, William A. and Work, Charles R. "The Prosecutor's Role in the Urban Court System: The Case for Management Consciousness," Journal of Criminal Law and Criminology. (June 1973).

Houston-Galveston Area Council. H-GAC Comprehensive Criminal Justice Plan 1975. Houston: Houston-Galveston Area Council, 1975.

_____. H-GAC Regional Data Book, Vol. 1. Houston: Houston-Galveston Area Council, 1972.

International Business Machines Corporation. Criminal Justice Information Control in Santa Clara County. New York: International Business Machines Corp., 1973.

_____. Data Processing in the Courts of Philadelphia. New York: International Business Machines Corp., (undated).

_____. Harris County Criminal Justice Information System Project Task 1 Report. Gaithersburg, Md.: Federal Systems Division, International Business Machines Corporation, 1974.

_____. System/370 Justice System Program Description/ Operations Manual. New York: International Business Machines Corp., 1975.

_____. System/370 Justice System Systems Guide. New York: International Business Machines Corp., 1974.

James, Robert B. "Courts in the Computer Age," The American County, April 1973, pp. 10-11.

Kast, Fremont E. and Rosenzweig, James E. Organization and Management A Systems Approach. New York: McGraw-Hill, 1970.

Kreindel, Burton and Moreschi, John P. "A Statewide Superior Court Criminal Case Management System for Massachusetts," Proceedings of the Second International Symposium on Criminal Justice and Statistics Systems. Sacramento: SEARCH Group,Inc., 1974.

Law Enforcement Assistance Administration. 1972 Directory of Criminal Justice Information Systems. Washington, D.C.: U. S. Government Printing Office, 1972.

League of Women Voters of Houston. Know Your County Government. Houston: League of Women Voters of Houston, 1975.

Leavitt, Harold J.; Dill, William R.; and Eyring, Henry B. The Organizational World. New York: Harcourt Brace Jovanovich, 1973.

McDonell, Richard E. "Computer Program Cuts Paperwork, Handles Indexing, Scheduling, Docketing," Law and Computer Technology, July-August 1971, pp.106-111

McFarlan, F. Warren. "Problems in Planning the Information System," Harvard Business Review, March-April 1971, pp. 75-89.

McFarlan, F. Warren; Nolan, Richard L.; and Norton, David P. Information Systems Administration. New York: Holt, Rinehart & Winston, 1973.

Martin, Howard N., ed. 1970 Census Data for the Houston Area. Houston: Houston Chamber of Commerce, 1971.

Michael, Donald N. "Some Long-range Implications of Computer Technology for Human Behavior in Organizations," The American Behavioral Scientist, April 1966, pp. 31-32.

Mills, James. "I Have Nothing To Do With Justice," Life, 12 March 1971, pp. 56-68.

National Advisory Commission on Criminal Justice Standards and Goals. Report on the Criminal Justice System. Washington, D.C.: U.S. Government Printing Office, 1973.

_____. Report on the Courts. Washington, D.C.: U.S. Government Printing Office, 1973.

National Assoc. of Counties. From America's Counties Today 1973. Washington, D.C.: National Assoc. of Counties, 1973.

Nejelski, Paul. "Computer Simulation: An Aid to Court Study," Judicature, June-July 1971, pp. 17-20.

Nichols, John D. "Computers Don't Make Our Decisions Any More," Management Review V-2 (January 1971): 57-62.

"The Push to Streamline the Courts." Business Week, 4 December 1971, p.46.

Polansky, Larry. "Contemporary Automation in the Courts," Proceedings of the Second International Symposium on Criminal Justice and Statistics Systems. Sacramento: SEARCH Group, Inc., 1974.

Quinn, James Brian. "Technological Forecasting," Harvard Business Review, March-April 1967, p.89.

Reed, John H. The Application of Operations Research to Court Delay. New York: Praeger Publishers, 1973.

Rickover, Hyman G. "A Humanistic Technology," The American Behavioral Scientist, January 1965, p.3.

Rogers, Eugene R. "PROCES: An On-Line Case Management System for Prosecuting Attorneys," Proceedings of the Second International Symposium on Criminal Justice and Statistics Systems. Sacramento: SEARCH Group, Inc., 1974.

Salton, Gerard. Automatic Information Organization and Retrieval. New York: McGraw-Hill, 1968.

SEARCH. Name Search Techniques. Sacramento: SEARCH Group, Inc., 1971.

Senna, Joseph J. "Models in Criminal Justice: Building Blocks for Change," Judicature, June-July 1975, pp. 34-40.

Star, Jack. "Jam-Up: Crisis In Our Criminal Courts," Look, 23 March 1971, pp. 32-39.

Stovall, Thomas J., Jr. "Mr. Babbage and the Justice Machine," Proceedings of the Second International Symposium on Criminal Justice and Statistics Systems. Sacramento: SEARCH Group Inc., 1974.

Taylor, Jean G. and Navarro, Joseph A. "Simulation of a Court System for the Processing of Criminal Cases," Simulation, May 1968, pp. 235-240.

Toffler, Alvin. Future Shock. New York: Bantam Books, 1971.

Velde, Richard W. "Progress in Criminal Justice Information Systems," Proceedings of the Second International Symposium on Criminal Justice Information and Statistics Systems. Sacramento: SEARCH Group Inc., 1974.

Vorenberg, James. "The War on Crime: The First Five Years," Atlantic, May 1972, pp. 63-69.

Zani, William M. "Blueprint for MIS," Harvard Business Review 48, November-December 1970: 95-100.