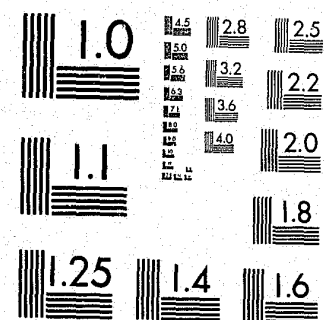


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Law Enforcement Assistance Administration
United States Department of Justice
Washington, D. C. 20531

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4-9-80

NATIONAL EVALUATION PROGRAM

Series A
Number 12

MICROFICHE

COURT INFORMATION SYSTEMS

FILED
30914

National Institute of Law Enforcement and Criminal Justice
Law Enforcement Assistance Administration
United States Department of Justice

Phase 1
Report

Criminal justice policymakers at all levels of government are hampered by a lack of sound information on the effectiveness of various programs and approaches. To help remedy the problem, the National Institute sponsors a National Evaluation Program to provide practical information on the costs, benefits and limitations of selected criminal justice programs now in use throughout the country.

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- . Citizen Patrol
- . Traditional Patrol
- . Security Survey Projects
- . Halfway Houses
- . Court Information Systems

**NATIONAL EVALUATION PROGRAM
PHASE I SUMMARY REPORT**

COURT INFORMATION SYSTEMS

By

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This project was supported by Grant Number 76 NI-99-0018, awarded to The Mitre Corporation by the National Institute of Law Enforcement and Criminal Justice, Law Enforcement Assistance Administration, U. S. Department of Justice, under the Omnibus Crime Control and Safe Streets Act of 1968, as amended. Points of view or opinions stated in this document are those of the authors and do not necessarily represent the official position or policies of the U. S. Department of Justice.

March 1977

**National Institute of Law Enforcement and Criminal Justice
Law Enforcement Assistance Administration
United States Department of Justice**

**NATIONAL INSTITUTE OF LAW ENFORCEMENT
AND CRIMINAL JUSTICE**

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ABSTRACT

This report presents a judgmental assessment of court information systems and the development projects which produced them. Sponsored by the National Institute of Law Enforcement and Criminal Justice and conducted by The MITRE Corporation as a part of the National Evaluation Program, this assessment reports on the existing state of knowledge of such systems from literature research, discussions with practitioners, an extensive nationwide telephone survey, and in-depth field site visits.

There is a new and growing awareness that information handling within the courts is significantly important in the processing of cases. This realization, together with increased caseloads, has produced considerable interest in information systems among those concerned with judicial administration. Some thirty jurisdictions have already developed, and are operating, comprehensive court information systems, thirteen of which were visited during the course of this study. Those court information systems provide not only day-to-day court operational information processing but data useful for court management as well.

The site visits revealed that little formal transfer of knowledge among jurisdictions concerning information systems is occurring because little authoritative information is available, although there is a considerable need. Courts are being influenced in system development decisions by conferences, peer groups, vendors, and other government agencies (primarily county data processing centers).

While recent literature alludes to the separation of judicial and executive powers as a possible barrier to system operation, 70% of the courts visited shared county data processing center equipment with county or municipal executive agencies.

For a variety of reasons system development projects were not carried out in accordance with the best management practices. For instance, specific statements of system goals and objectives have not been prepared; generally little comprehensive requirements analysis has been performed before system development; and the involvement of court operational or managerial personnel in the development process has been generally minimal. Yet, ninety percent of the resulting court information systems were on-line and were operating, processing data and yielding reports, although many contained notable design deficiencies. Management reports which were produced by the systems were seldom used in court administration or caseload management.

No formal quantitative evaluations of such systems were uncovered, although system development project costs ranged from less than half a million to over four million dollars. Annual system operating expenditures require from one hundred thousand to over one million dollars.

The assessment concludes that court information systems are operating, but are still evolving into a useful, integral part of normal court operations. While their potential for reducing the average time to disposition, improving the quality of justice and improving the court's public image appears to be

substantial, there has been insufficient evaluation to conclusively determine their effect. Such systems are, however, increasing in both numbers and complexity and play a significant role in those jurisdictions where they have been introduced.

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FOREWORD

Although courts have been slow to adopt modern information systems, the pace is now accelerating. This survey found that approximately 100 trial courts now have such systems or are developing them.

While the growing use of information technology in the courts is encouraging, the study uncovered weaknesses in planning and implementation that need correction if the courts are to realize the potential of computer-based information systems. Many jurisdictions operating comprehensive information systems use them to process large amounts of information; unfortunately, the data is seldom used to improve caseflow management and court administration.

The researchers found a need for much greater involvement of judges and other court personnel in planning information systems. Although actual system design is a technical task, judges and court administrators are capable of articulating precisely what they want the system to do. They must assume this responsibility.

Information systems require a substantial investment of time and money. Many cost over \$1 million to develop and equally large sums are required annually to maintain them. Given the expense, judges need to make sure a system's capabilities are being exploited. This study can help the courts understand the important issues involved in planning and using information systems.

Gerald M. Caplan
Director
National Institute of Law Enforcement
and Criminal Justice

PREFACE

This report summarizes the results of a Phase I investigation of court information system projects performed under the National Evaluation Program conducted by the National Institute of Law Enforcement and Criminal Justice. The investigation focused on current knowledge of system effectiveness, the feasibility of learning more about such systems and the planning for further evaluation.

The assessment of court information system performance presented in this report is concerned with the equipment, programs, procedures and personnel which provide information support to court management in operating and administering medium to large trial courts. The systems considered include only those which directly support the operational and management activities of court personnel in conducting the day-to-day business of a trial court. Individual information systems supporting only court-related agencies such as district attorney, probation, or defender organizations have not been included with the court information systems under consideration, nor have such systems which support only juvenile court activities.

The Phase I investigation is concerned with court information systems which have been designed to support trial (civil and/or criminal) courts, support caseflow management as well as other court operations, and which are currently operational.

This summary report incorporates the findings and conclusions of the four previously prepared Phase I investigation reports: a discussion of significant court information system issues, descriptions and flow diagrams of current system operations, a description of the development of the assessment framework and a judgmental assessment utilizing the framework and the critical court information system issues.

The assistance, support and guidance in the conduct of this investigation by Dr. Richard Barnes, Mr. Michael Mulkey, Ms. Cheryl Martorana, Ms. Carla Kane, and Ms. Jan Trueworthy of the National Institute of Law Enforcement and Criminal Justice is acknowledged with thanks. The availability of the interpretive insight of Mr. Joseph Nay and Ms. Lucille Graham of The Urban Institute was of considerable value and assistance to the project team throughout the study. The authors would also particularly like to thank the many judges, court administrators, clerks of court, data processing and the other court, county, state and municipal personnel who contributed to this investigation of court information systems.

I. INTRODUCTION

A. Court Information System Assessment

The National Advisory Commission on Criminal Justice Standards and Goals in its volume, Report on Courts, proposed the following standard* in the area of court administration:

"There should be available...computer services adequate to perform functions such as multiple indexing, jury selection, and case scheduling. Provision should be made for input and access by all participants in the court process, including the prosecutor and public defender, as well as the court itself. Costs should be minimized by joint use of centrally located computer systems. Courts with a sufficiently large workload should utilize the computer for additional services. The system should be designed with flexibility to be modified as necessary to reflect the requirements of each court...."

This judgmental assessment of the existing state of knowledge concerning court information systems is based on the information available concerning the efforts made by trial courts, in response to such a standard, to design, develop and implement information systems which improve caseload management as well as supporting other court operations and management. Included in this assessment is an examination of the approaches taken by the courts in meeting the following types of significant issues which have arisen:

- Issues concerning the Organization and Conduct of Court Information System Development Projects;
- Issues concerning Factors in the Design and Use of Court Information Systems; and
- Issues concerning the Impact of Court Information Systems on the Justice System.

Following an extensive literature search to identify both issues and sites of operating systems, structured telephone interviews were used in a nationwide survey of 65 trial courts, as well as of 10 regional LEAA court and system specialists and 24 state court administrators or justice planning officials. Later, thirteen field site visits were made to a representative group of courts with operating court information systems. This assessment presents the resulting findings, conclusions and observations concerning the usefulness of such systems to the courts and to the justice system.

*Standard 11.1, Court Administration, p. 217, Report on Courts, National Advisory Commission on Criminal Justice Standards and Goals, Washington, D.C., 1973.

Utilizing the general framework developed as a part of the Phase I Evaluation of Court Information Systems, this assessment examines each of the framework elements with respect to the assumptions for the achievement of overall system goals, the measures which can be used to evaluate performance and the availability of data to perform such measurement.

B. Assessment Bounds

This examination of court information systems performance is concerned with the equipment, programs, procedures and personnel which provide information support to both court management and to routine operations in medium to large trial courts.

The relationships between the court information system, its data base, and the court's management and operational functions are depicted in Figure 1. It should be noted that the information system supports both the routine day-to-day information handling required to process cases, as well as using that data to build a data base which also supports court management activities. The information system operates, of course, within the larger context of overall court activities. This assessment, however, is limited specifically to the court information system itself and not to the broader capability of courts to utilize the information supplied by the information system in performing such critical court activities as caseflow management.

The information systems considered include only those which directly supported both operational and management activities of the court. Individual information systems supporting only district attorney or other prosecutorial office (e.g., PROMIS), probation or parole offices, defender organizations or other such court-related agencies have not been included. Nor have juvenile court information systems, which are currently being evaluated by the National Council for Juvenile Court Judges, been included.

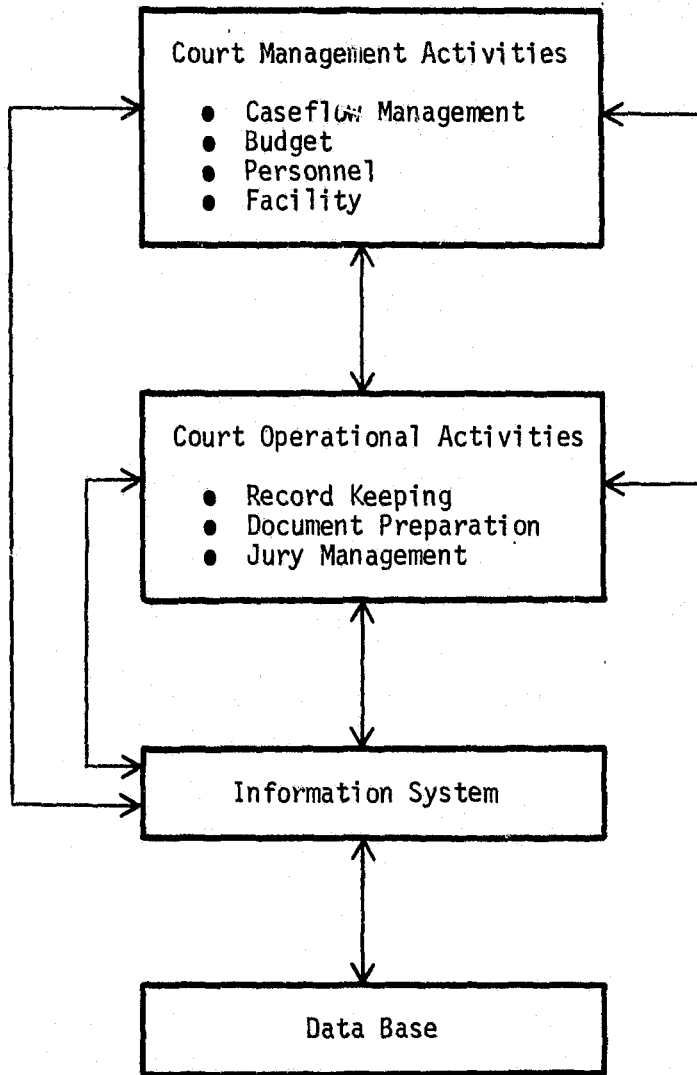
The Phase I investigation of court information systems is directly concerned with those systems, whether funded directly or indirectly by LEAA, state, county, or local governments, which have the following functional characteristics and overall goals:

- support trial (civil and/or criminal) courts;
- support routine court operations;
- provide the capability to directly support caseflow management;
and
- are currently operational in their jurisdictions.

II. DESCRIPTION OF COURT INFORMATION SYSTEMS

A. Background

To improve their administration and management, many courts have developed or attempted to develop "court information systems". The justification for such development is often based on the potential value of such a system in



Relationship of Court Information System to Court Operations and Management Activities

Figure 1

helping a court reach such goals as reducing or avoiding costs, reducing time to disposition, improving the court's public image and in improving the quality of justice. The specific information processing functions which have been undertaken in the attempt to achieve these general goals vary extensively from one jurisdiction to another; the degree to which the systems have assisted the courts in successfully reaching those goals varies even more greatly.

The term "court information system" is freely used in the literature to describe a variety of the information processing tasks performed in response to the needs of court operations and/or management. Some of these tasks or applications which have been suggested for such systems are listed in Table 1.

Regardless of the tasks performed, a court information system is composed of personnel, hardware, and software (programs or procedures for system use). While much attention is generally focused on the equipment (usually including a computer) when court information systems are discussed, of equal or perhaps greater importance are the people who use it, the procedures and computer programs which guide the system's operations, and the court management functions which the system supports.

Taken together, these three elements can enable such systems to support the accomplishment of some of the tasks listed in Table 1, and serve the courts in achieving some of their overall goals. For example, by receiving timely and accurate information, a judge may be able to effectively schedule cases and thereby reduce the time to disposition of the caseload. Prompt, accurate response to inquiries, timely notices to witnesses, and fewer case continuances may improve the public's image of the court. Making better use of available resources by having accurate data directly available, reducing the number of times the same data is handled, and reducing the number of required appearances of witnesses and jurors, can save significant amounts of money. By evaluating statistics and taking action on the basis of management reports, caseflow can be improved. The quality of justice itself can be enhanced through management review of reports covering bail or sentencing patterns, more effective allocation of resources among the rehabilitative agencies, and through improved communications among court agencies and case participants.

B. Court Information Systems Definition

The term "system" as applied to a court information system implies a certain organization or relationship among its composite elements. In contrast, a "data processing application" may have been independently developed and implemented to accomplish a single task such as jury selection. A court information system as used in this assessment would meet the following three tests:

First, it should be designed to satisfy information needs at several levels of the court and court-related organizations. At the operational level, documents, reports and information necessary for day-to-day activities should be provided. For court management and administration, both exception reports and statistical summaries should be produced.

Secondly, a common data base should be developed and used by all system applications within the court. Case data should be captured and stored only once, and all reports of court activity and all inquiries of court data should then utilize the same data source. This does not necessarily mean that all

TABLE 1

POTENTIAL COURT INFORMATION SYSTEM APPLICATIONS

A. Management

Case Flow Management (cases overdue, cases behind schedule,
cases listed by age)
Attorney, Prosecutor, Judge, etc. Assignment
Statistics on Court Activity and Status of Cases
Personnel Management
Court Room Assignment
Planning, Research and Evaluation
Resource Allocation and Utilization

B. Administration

Accounting and Budgeting
Payroll; Other Financial Functions
Personnel Data Processing and Records
Inventory and Property Control
Purchasing Goods and Services
Jury Selection and Administration
Bond, Fine, Alimony and Child Support Payment Accounting

C. Operational Functions

Case Scheduling
Docketing
Register of Actions Maintenance
Calendars Preparation
Indices Preparation
Notices, Summons, Subpoena, and Other Operational Document
Preparation
Warrant and Summons Control
Probation Support
Parking Ticket Processing
Traffic Citation Processing
Prisoner Inventory
Interface with Criminal History System, including Disposition
Reporting
Case Transfer between Courts

data must reside in one large file, but that all pertinent data is captured, stored only once (except for reasons of security), and logically related.

Thirdly, the data base should be built up directly from routine recording of operational transactions. Thus, no special effort would be required to gather the data for the system since data entry becomes a routine part of normal operations.

In contrast, court data processing applications may spring up to serve a particular and relatively narrow need (e.g., printing traffic citations or summonses) without consideration of the requirement for management reports, the need for answering inquiries, or the advantages of integration with other court activities. Separate and unrelated applications may be used to process small claims or to list criminal cases with no comprehensive management reports spanning the different case types. Under these circumstances, records are typically maintained by separate court offices, in incompatible formats, covering different time periods, and lacking elements of data which could be useful to other agencies.

A data processing application which focuses exclusively on a single activity such as gathering statistics is not, therefore, a court information system, since it usually involves special data collection, is not based upon routine case transactions and does not use a common data base.

In undertaking this assessment of court information systems, it was necessary to define and bound the universe of such systems to be considered. The following paragraphs briefly describe a number of facets of "court information systems" and then specify the characteristics which constituted those systems of assessment significance. The resultant universe thus provided a basis for consideration of the court information systems which, it is believed, are of greatest interest to the justice community and to system development decision-makers within the courts.

1. Support to Caseflow Management. The universe of information systems serving courts is quite broad, encompassing such applications as the production of statistics, accounting, budgeting, jury selection and management, as well as individual case processing including generation of court calendars, preparation of notices to case participants, maintenance of dockets, preparing reports of overdue cases, and other operational functions. While support to a number of useful court services can be provided by solely administrative information systems, this assessment is concerned only with those systems which are intended to support caseflow and caseflow management in addition to any administrative functions. This set of operational and management activities is significant not only because movement of cases is the heart of trial court operations, but also because the caseflow function can be greatly aided by the availability of accurate and timely information. The basic elements of caseflow management activity, which can be supported by a court information system, include: scheduling of cases; record keeping, monitoring caseflow; assigning judicial and other court resources; maintaining a central source of information; and developing statistics.

It should be noted, however, that "information" alone cannot perform case-flow management. The accomplishment of that activity is a judicial responsibility and requires a commitment on the part of court management to take action on the basis of the available information as a part of a continuing program of management and administration.

2. Court Levels Supported. Information systems have been devised to support all types and levels of state, county and municipal courts. Significant differences in operational activity, of course, exist between the trial courts, those courts which actually hear evidence and try cases, and the appeals courts which perform the function of judicial review. While an information system can be of benefit to both levels of courts, its contribution to caseflow management would be far greater in trial courts. For that reason only trial court information systems are included within the court information system universe considered in this assessment. However, information systems serving any level of trial court are included. Thus, systems assisting courts of general jurisdiction or inferior courts of limited jurisdiction have been considered. Such courts may hear civil and/or criminal cases and where computerized information systems are involved, usually serve a medium to large-sized community.

3. Court-Sponsored Information Systems. Within a jurisdiction there are often individual information systems which operate to serve a specific agency or organization such as those systems serving only the District Attorney or other prosecutorial offices, defender organizations, probation, or other non-court (but court-related) agencies. While such systems may provide some elements of caseflow management activity, the assessment deals only with systems designed to serve the court directly.

4. Scope of Court Information Systems. Information systems which serve the courts have been developed by individual courts as well as counties (to serve all courts within the jurisdiction); by states (to serve all or a selected subset of its courts); and also developed as part of a comprehensive criminal justice information system (CJIS) serving the criminal justice community (including law enforcement, probation and correction agencies). All such court information systems were considered in the assessment; however, where a CJIS had been developed for a jurisdiction, only the performance of those system elements directly involving the court has been studied.

5. Extent of Automation. Support for the different aspects of a court's operation does not, of course, necessarily require a computer or other electronic data processing equipment. Equipment used in an information system can range from the non-computer utilization of index cards, desk calculators, magnetic display boards, and memory typewriters _____ to the use of microfilm storage and retrieval devices, powered files and other manual or semi-automatic data processing equipment. Although many information systems are, indeed, operated using such techniques, the amount of data to be manipulated and constantly repeated, combined with the ever-decreasing price of data processing equipment, make computer-based systems potentially very cost effective for utilization in the courts. This is particularly true of those trial courts with heavier caseloads. For these reasons the assessment has been limited to court information systems employing some form of electronic data processing whether with or without an "on-line" capability.

C. Field Site Visit and Information System Features

Site visits were made to the following jurisdictions selected from those which met the criteria previously described. These courts represent approximately one-third of all the jurisdictions with currently operating court information systems in the United States.

- Cuyahoga County, Ohio (Cleveland)
- Dallas County, Texas (Dallas)
- Tarrant County, Texas (Ft. Worth)
- Philadelphia, Pennsylvania
- Allegheny County, Pennsylvania (Pittsburgh)
- Beaver County, Pennsylvania
- Santa Clara County, California (San Jose)
- Alameda County, California (Oakland)
- San Francisco, California
- Union County, New Jersey (Elizabeth)
- State of Colorado (Denver)
- Broward County, Florida (Ft. Lauderdale)
- District of Columbia (U. S. District Court)

While these courts were not selected randomly, they were picked to provide a representative cross-section of the court information systems now operating in the United States. The following paragraphs briefly describe both the operating systems as they were observed and some characteristics of the projects which produced them.

1. Court Information Systems Features - General Characteristics. From the description of the criteria for court information systems it would appear that the selected systems would represent a fairly homogeneous set. However, this was not the case. For example, of the thirteen jurisdictions visited, nine served multiple courts while four served only an individual court. Superior or upper courts were served by twelve of the thirteen systems, four of which also served lower court levels, while one system served municipal or lower level courts only.

Seven systems provided information on criminal cases only, while six processed data for both civil and criminal cases. This is not surprising in view of the fact that funding for system development was almost universally obtained through LEAA via the state planning agencies.

In addition, five of the court information systems visited were part of a more comprehensive criminal justice information system (CJIS) serving other criminal justice agencies as well.

Twelve of the systems provided some on-line capability, either for data entry or data retrieval, with only one system being entirely batch oriented. However, several of the "on-line" systems depended upon batch inputs and provided only on-line inquiry capability.

2. Court Information System Development Projects. Projects to produce these systems were undertaken by the court in seven jurisdictions (four by court administrators, one by the clerk, one by a judge, and one by the state court administrator), by a CJIS committee (four), by a bar association (one), and by the Federal Judicial Center (one). The majority (nine) of the courts utilized county data processing facilities; only two courts had their own computer (one of which was a minicomputer); one state court administrator provided the computing facility and the Federal Judicial Center provided the data processing equipment in one instance.

The time required for the analysis of system requirements and conceptual design of the information systems ranged from three years to zero. In the latter case a "turnkey" system was procured and installed without any significant analysis. However, eight of the thirteen systems required approximately one year for the analysis phase of system development. The time for system implementation ranged from one year to four years, with the average time less than two years. However, several of these implementation times covered an entire CJIS project. Only two of the systems were using "packaged software" while another has recently stopped using such a package.

Costs for court information system development ranged even more widely, from a high of four million dollars to less than half a million. Development costs in excess of a million dollars were not uncommon. With the exception of one court system funded by the Federal Judicial Center and the two systems funded to a significant extent by their counties, funding for the remaining ten systems came almost entirely from LEAA via the state planning agencies. (It should be noted that one of the criteria for selecting sites to be visited was to observe some systems which had been funded by county rather than LEAA money. Thus, the proportion of LEAA-funded court information systems may be even higher.)

Annual operating costs for the systems varied as extensively as did the development costs. Although two systems expended about a hundred thousand dollars per year for operations, many spent well over a million dollars per year. (The reader is cautioned that these cost figures may contain significant inaccuracies because of the different budgeting and accounting methods used by the various jurisdictions. While there was an attempt to obtain a comparable set of figures, such items as court personnel costs, allocation of computer time, etc. were seldom treated in the same manner in each jurisdiction. Nonetheless, it appears that the wide range of annual operating costs on the order of ten-to-one does exist among the systems.)

These general characteristics indicate the variety of information system development projects and types of courts which they serve. Specific features of the thirteen court information systems visited are summarized below.

3. System Features Supporting Routine Court Operations.

- Two systems (15%) produce court dockets (where a docket is a synopsis of significant events in a case).
- Three systems (23%) produce notices for case participants.
- Ten systems (77%) produce court calendars (where a court calendar is a list of cases scheduled for a particular date. In some jurisdictions this was termed a "docket").
- All thirteen (100%) systems provide rapid response to queries. One system was, in fact, able to accomplish rapid response with a batch computer system which provided revised microfilm case records prepared overnight.
- Nine of the systems (69%) provide printed indexes of cases and participants.
- Six of the systems (46%) provide jail lists or indications that defendants and/or witnesses were incarcerated. (However, it should be noted that four of these were elements of a CJIS.)
- Nine of the systems (69%) provide one or more operational reports used by other (i.e., non-court) agencies.

4. Features Supporting Court Management.

- Nine of the systems (69%) produce some form of aged-case or overdue case report, which could be used to monitor caseload.
- Eight of the systems (62%) provide information on an individual's caseload, most often for judges operating under an individual calendaring system.
- Reports on sentencing patterns are produced in only two (15%) of the thirteen systems.
- Eleven systems (85%) yield statistics of various types including a number of different reports summarizing various court activities over time.
- In six of the systems (46%) statistical reports for other agencies are produced.
- In none (0%) of the systems visited was there any attempt to automatically schedule cases.
- Only one (8%) of the thirteen systems has been the subject of a relatively comprehensive evaluation. In another, a limited cost comparison before and after the system installation was made by an outside agency.

III. COURT INFORMATION SYSTEMS (CIS): AN ASSESSMENT FRAMEWORK

A. Background

In developing a framework as a basis for the judgmental assessment, the project team was guided by the Phase I Study Work Description*. That document describes the framework in terms of the assumptions that underlie the project design. Chains of such assumptions link the expenditure of funds to project activity (or intervention), the project activity to the immediate outcome, and the immediate outcome to the impact on the overall problem.

Although it was expected that the framework structure would directly result from the field site visits and from the structured telephone interviews, it was necessary for the project team to draw upon other resources. The site visits and telephone interviews revealed that in no jurisdiction was a formalized set of defined, consistent and measurable goals and objectives established prior to the development of the court information system. In fact, the system designs were, in general, based only on an implied assumption that the courts would operate more effectively if an information system, utilizing advanced technology, were installed and operating. Consequently, no detailed, quantitative project evaluations had been performed. In only one court had even a qualitative evaluation been attempted.

This section of the report summarizes the framework structure developed by the project team for use in the judgmental assessment of court information systems. It is believed that the framework will be of considerable assistance to system designers and decision makers in the courts, LEAA and the state planning agencies who are involved in planning, designing and implementing court information systems.

B. Approach to the Development of the Assessment Structure

Members of the project team were not, of course, dependent only on the site visits and interviews for information on court information projects and systems. Rather, there was a considerable background of past experience in various fields upon which the project was able to draw. Such experience included information system analysis, design and implementation in a number of diverse court, criminal justice and law enforcement areas. In addition, the project team made use of general information on project management and evaluation.

Combining this background with the information obtained earlier in the evaluation effort, the project team identified a small set of fundamental court problems which were then restated in the form of goals. Next, corresponding sets of information-based court actions that could help solve these problems were selected. A similar process was then used to identify generic goals for information system designs which would collect, process, store, retrieve and communicate the information required to support such court actions. Corresponding sets of information system actions that would help meet the goals were

* Work Description for a Phase I Study Under the National Evaluation Program, NILECJ/LEAA, April 30, 1974.

then identified. Finally, a tentative set of measures of accomplishment was developed for each of the identified goals.

C. General Assessment Framework Structure

1. Nature of Information Support Systems. Many actions can be taken that will have a direct impact on court operations. For example, increasing the number of judges assigned to trial work, together with making corresponding increases in other associated resources, can be expected to directly increase the rate of case dispositions. By contrast, establishing a new or improved information system to support court operations and management cannot have this kind of direct impact. Of itself, the information system will not improve the speed with which cases are handled, or the quality of the judicial process. It will not improve the image of the court, and will probably not reduce court operating costs. Indeed, it is only when the outputs of the new or improved information system are suitably utilized by court managers and operating personnel, and made the basis of their activities and decisions, that the information system will have a beneficial operational impact. Like other support functions, information activities have only an indirect influence on court production or court results.

To impact on court operations, one first needs a person -- a staff worker or manager -- who is motivated and able to take action. If such a person is provided with better information, through a new or improved information support system, he can use this data to improve court activities.

The indirect nature of the support provided by an information system leads to more complex relationships within the assessment framework than would otherwise be the case. The framework, in fact, has been constructed using two largely separate areas, a court operations' area and an information system's area. Within each area a set of framework elements (i.e., broad goals or objectives) is defined, assumptions are made concerning what actions are needed to support the goals or objectives, and measures of achievement are established. This general framework structure is indicated in Figure 2.

2. Framework Elements. The assessment framework for court information systems contains three sets of elements relating to Court Operations, Court Management and Administration, and the Court Information System. The first group represents desirable attributes of court activities. The second reflects two general objectives of court management, and the last identifies information system objectives that will contribute indirectly to the realization of these attributes.

a. Four Policy Goals for Court Operations:

- (1) Reduced Time to Disposition
- (2) Improved Public Image
- (3) Improved Quality of Justice, and
- (4) Cost Reduction or Avoidance.

It can be seen that these goals reflect the following aspects of a sound judicial process:

- Provides a speedy trial -- i.e., does not involve undue delay.
- Interacts well with the involved members of the public, and commands their respect.
- Meets generally accepted criteria for the impartial administration of justice.
- Is carried out in a cost-effective manner.

It is believed that these four goals reasonably characterize the major objectives of an effective court, and also relate to the most frequently cited court problems.

b. Two general CIS goals of Court Management and Administration:

- (1) Utilization of CIS to more effectively manage the court.
- (2) Effective Management of the CIS Project.

c. Three Court Information System Objectives:

- (1) Improved Information System Outputs. (Greater usefulness of system outputs to the users of the information.)
- (2) More Effective Data Handling. (Availability of efficiently produced, timely, accurate and accessible information.)
- (3) CIS Cost Containment or Reduction. (Efficient use of material and personnel resources.)

In summary, then, there are nine elements in the main evaluation framework: four are elements applicable to Court Operations, three are applicable to the CIS and two are applicable to court management.

D. Overall Structure

The framework structure for assessment is depicted in Figure 2. Each element is comprised of a general goal or objective, such as Reduced Time to Disposition, and two or three subgoals or subobjectives, referred to only by abbreviated titles. Below the Framework Elements, the supporting Assumptions, the Information-Based Court Actions and the CIS Program Actions which, if undertaken, would contribute to the achievement of the goals, are indicated (but not defined). Below the Actions, the Measures of Achievement -- parameters, ratios or indices of the degree of success in achieving the goals -- are also referenced.

It should be noted that the "Assumptions" relevant to the Court Operations and Management elements are those that are information-based. The phrase "information-based" means that CIS outputs are required in order for the actions

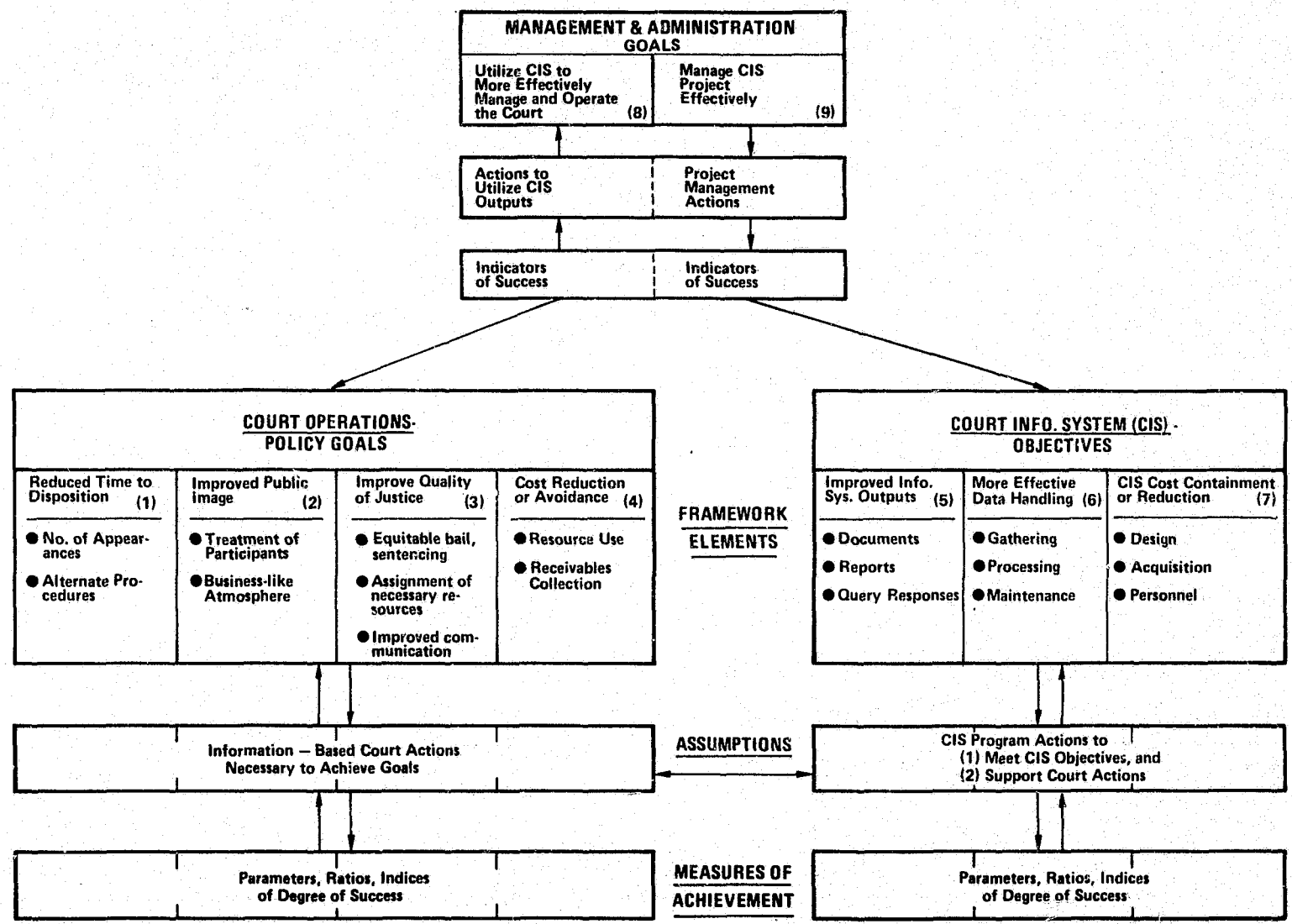
to be successfully carried out. While there may be many non-information-based actions that would be helpful in meeting the stated goals, these are not relevant to the information systems assessment. Such assumptions, therefore, have a dual aspect; they are designed (collectively) to meet CIS Objectives and individually to support the Court Operations.

E. Organization and Management -- A Necessary Pre-requisite

The assessment structure just discussed, and the nine goals that are included in it, are only part of the assessment picture. In order for the goals to be accomplished, a suitable management structure is required, both for the court operation itself, and also for the CIS project. This is portrayed in the upper part of Figure 2. Although the requirement for an effective management structure may seem obvious, studies of court operations and the site visits showed that lack of effective management is commonly the greatest problem.

Courts by their nature involve several different types of professional personnel and corresponding functions -- judges, prosecutors and clerks, for example -- which though inter-related are often relatively autonomous. Frequently, there is no mechanism that manages the several functions, or that is concerned with the overall management of cases. The autonomy is to some extent necessary, since the judicial and prosecutorial functions, for example, cannot be merged without compromising the quality of justice. But the autonomy tends to extend beyond areas in which it is necessary to areas like caseflow management where it is not. Also, judges, who are recognized to be the most senior court personnel, are not usually "managers" by either training or experience and may be reluctant to assume that role. Even in those courts that have established the position of court manager or administrator, that position is often ineffective because of lack of real "clout" (managerial mandate), lack of resources or other factors. But, clearly, for a court information system program (or any improvement program) to be successful, requires mechanisms not only for planning the necessary changes, but also for implementing them. These mechanisms could be provided through a number of different organizational forms -- but the mechanisms must exist, and must be effective.

Similar considerations apply to the management of a CIS development project. Literature in the field of information system projects indicates that to have a high probability of success such a project must meet several conditions. There should be an orderly sequence of phases, including setting objectives, detailed design, acquisition of the necessary equipment and software, documentation, training, installation and test. There must be full participation by management and operating personnel who will use the system. There must also be suitable policy and decision mechanisms to resolve issues and make trade-offs between conflicting interests. Finally, there must be an identification of sources of both long and short-term system development and maintenance funds. Many information system projects have been conducted without adequate recognition of the importance of these conditions -- with results that have varied from mediocre to disastrous. These problems could have been avoided if good practices had been followed.



FRAMEWORK
FIGURE 2

IV. COURT INFORMATION SYSTEMS: AN ASSESSMENT

A. Introduction

This section presents a judgmental assessment concerning the design, implementation and operation of court information systems as related: (1) to the assessment framework developed for the Phase I Evaluation effort, and (2) to the significant court information system issues areas.

As a result of in-depth discussions held with court administrators, judges, court management consultants, LEAA regional court and systems development specialists, state planning agency representatives and other personnel involved in developing, implementing and operating court information systems, a wide range of significant issues concerning such systems were identified. These discussions were supplemented by an extensive literature search, which examined existing documentation dealing with the requirements, uses, and operation of court information systems. These primary issue areas were discussed in detail in an earlier product of the Phase I Evaluation effort.

Following the on-site field visits made by the project team to courts participating in court information system development and operation, it was possible to examine the actual approaches taken by those courts in meeting the significant issues involved in system implementation.

B. Findings concerning Court Information Systems Utilizing the Assessment Framework

Using the framework developed earlier in the Phase I Evaluation effort, this section presents some of the findings and conclusions resulting from the visits to jurisdictions with operating court information systems. The framework (shown as Figure 2) describes a structure which relates the organization, management, goals, assumptions and measures of achievement of court information systems.

On the following pages are presented nine tables (one for each of the four Policy Goals, the three Information System Objectives, and the two Management Goals) with the project team observations. On the left of each page one objective, several subobjectives, associated assumptions and measures are reproduced from the framework document. On the right side of each table are comments or observations concerning each assumption and measure.

With regard to the measures, in no court visited had well defined, measurable project goals been established. Therefore, baseline data concerning the state of affairs before the court information system became operational (pre-CIS) was virtually non-existent. In many courts intervening events will render pre- and post-CIS measures virtually meaningless (e.g., adoption of a court rule requiring disposition of a criminal case in 180 days or major changes in court procedures such as the change from the use of a master calendar to an individual calendar scheduling system). In addition, it appears that much of the pre-CIS data which was routinely gathered is of doubtful accuracy. While this renders comparisons of pre- and post-CIS activity difficult, such comparisons are not entirely precluded. Much basic data can be extracted from the individual case records.

FRAMEWORK ELEMENT NO. 1

COMMENTS BASED ON SITE VISITS

Policy Goal: Reduced Time to Disposition

- Subgoals:
- Reduced number of required court appearances
 - Greater use of procedures (e.g., master sessions, pretrial conferences) not requiring court appearances.

Assumptions: Information-based Court Actions that should Reduce Time to Disposition

- Avoid Scheduling cases when participants legitimately not available.
- Identify overdue cases at several points in the case-handling process.
- Identify in advance potential problems (e.g., attorney with excessive caseload).
- Ensure all participants get timely notice of scheduled events.
- No CIS observed attempted to do this. Generally, data on participants' activities was insufficient.
- Most CIS's provided aged listing or other report on age of case. A few also reported at intermediate points in the process.
- Only one court attempted to do this.
- Three courts prepared and sent notices of upcoming events. Some courts overcame the problem procedurally.

Measures of Achievement: Parameters, Ratios, Indices that are Associated with Reduced Time to Disposition

- Reduction in case backlog as fraction of annual workload
- Reduction in number of continuances per case.
- Reduction in average time to disposition.
- Reduction in number of dismissals for lack of speedy trial.
- Increase in number of cases disposed (per month, per judge, etc.),
- Some data available for post-CIS; baseline data may be difficult or impossible to assemble.
- Data probably available for post-CIS; baseline data might be gathered by sampling.
- Data probably available for post-CIS; baseline data might be gathered by sampling.
- Data available from sampling, both before and after CIS.
- Data available for post-CIS; some baseline data available, accuracy is questionable.

FRAMEWORK ELEMENT NO. 2

Policy Goal: Improved Public Image

COMMENTS BASED ON SITE VISITS

- Subgoals:
- Better treatment of case participants (e.g., victim, witness, defendant).
 - Tidy, efficient, orderly atmosphere, in keeping with good business practice.

Assumptions: Information-based Court Actions that should Improve Public Image

- Ensure all participants get timely notice of scheduled events*.
- Schedule events by hour as well as by day.
- Keep participants appraised of schedule changes and current status.
- Provide prompt accurate response to inquiries.
- Provide prompt remittances (child support, alimony; attorney, witness and juror fees).
- Three courts prepared and sent notices of upcoming events. Some courts overcame the problem procedurally.
- While a few courts produced separate morning and afternoon calendars, none attempted to schedule more precisely.
- Other than notices, no CIS action sought to inform participants of changes in schedule. Most changes were the result of an attorney's motion; therefore, renotification was unnecessary.
- Prompt query response was a characteristic of all CIS'. However, in some courts the capability was not used - the people receiving queries did not have access to the system.
- A few courts were doing this with considerable success; CIS's devoted primarily to criminal cases did not include this feature.

Measures of Achievement: Indices that are Associated with Improved Public Image

- Reduction in number of required appearances by witnesses and victims (per case).
- Reduction in average waiting time in courtroom for participants.
- Existence of notices, schedules throughout day.
- Adequacy of responses given to queries by participants.
- Timeliness of remittances.
- May be available through special studies, sampling. Not routinely kept.
- Not available for pre-CIS or post-CIS; can be observed and measured for current period.
- Can be observed; can be determined for earlier periods.
- Can be observed and recorded currently; pre- and post-CIS cannot be measured (other than by opinion survey).
- Can be observed and recorded currently; pre- and post-CIS cannot be measured (other than by opinion survey).

* Also an assumption for Framework Element #1.

FRAMEWORK ELEMENT NO. 3

Policy Goal: Improved Quality of Justice

COMMENTS BASED ON SITE VISITS

- Subgoals:
- Equitable bail setting and sentencing.
 - Greater assurance of assignment of necessary resources..
 - Improved communication with other criminal justice agencies.

Assumptions: Information-based Court Actions that should Improve Quality of Justice

- Review bail and sentence patterns.
- Assure counsel assigned to each indigent defendant before proceeding.
- Utilize management reports to allocate necessary resources.
- Transmit appropriate data to other criminal justice agencies.
- Very few courts reviewed sentencing patterns; none reviewed bail patterns.
- No CIS's checked on this.
- While several systems produced data suitable for such decisions, few acknowledged utilizing these reports.
- Many CIS's transmitted data (operational and management) to other quasi-court agencies (e.g., prosecution, public defender); in CIS's that were part of a CJIS, data was shared with entire criminal justice community.

Measures of Achievement: Indices that are Associated with Improved Quality of Justice

- Percent cases not reversed on appeal.
- Percent cases that go to trial.
- Percent bail bonds not defaulted.
- Complement of recidivism rate (i.e., one minus that rate).
- Extent of data sharing with other agencies.
- Percent defendants on personal recognizance not defaulting.
- Generally available with special study; data seldom routinely maintained.
- Data usually available from CIS; often maintained for pre-CIS.
- Data may be available from some CIS's; special study required for pre-CIS.
- Difficult to define; post-CIS data available from CJIS-type systems; for others extremely difficult to obtain (even by special studies).
- Can be observed for post-CIS; opinion survey for pre-CIS.
- Data may be available from some CIS's; special study required for pre-CIS.

FRAMEWORK ELEMENT NO. 4

COMMENTS BASED ON SITE VISITS

Policy Goal: Cost Reduction or Avoidance

- Subgoals:
- Use resources more effectively.
 - Improve collection of receivables.

Assumptions: Information-based Court Actions that should Reduce or Avoid Costs

- Assign and utilize personnel and other resources (including space).
- Reduce expenditures for equipment, services and supplies.
- Utilize operational and statistical reports to improve planning and management.
- Call jurors only when trial is certain, and witnesses only when required.
- Follow-up on overdue receivables (bail, fines, court costs).
- Better CIS's displayed marked increase in personnel productivity; little impact on space required, except as second order effect (i.e., fewer people); or as a result of microfilm records; little formal impact on resource allocation.
- Most CIS's resulted in increased expenditures for equipment and/or services (data processing).
- While such reports were available, there was little evidence of their being used to improve planning or resource allocation.
- Some improvements seemed apparent; from jury management subsystem (not studied) and from better scheduling and notification.
- Fine, bail bond, court costs, alimony, child support, and other receivables are clearly identified, accounted for, and, if overdue, acted upon in a number of CIS's.

Measures of Achievement: Indices that are Associated with Cost Reduction or Avoidance

- Unit cost per disposed cases.
- Disposed cases per judge, per other court employee.
- Reduction in average expense per case for witnesses and jurors.
- Increase in income from fines and other collections.
- Generally available both before and after CIS; however, definition (of costs or caseload) may have changed over time.
- Generally available, both before and after CIS.
- Should be available.
- Gross income should be available; however, specifics of fines levied or bails forfeited (as opposed to actual collection) may require special studies, especially pre-CIS.

FRAMEWORK ELEMENT NO. 5

General Objective: Improved Information System Outputs

COMMENTS BASED ON SITE VISITS

- Subobjectives:
- Working documents more useful in daily court activities.
 - Statistical and analytical reports of greater use to management.
 - Improved responses to participant queries.

Assumptions: CIS Program Actions that should Meet Program Objectives and also Support Court Actions

- Provide timely operating documents in support of stated court objectives: calendar, jail list, notices, file indexes.
- Provide exception reports useful for case and resource management; overdue actions, delayed cases, cases handled, workload dynamics, scheduling effectiveness.
- Provide means for effective response to participant queries.
- Solicit user comments on system outputs, and make system improvements as necessary.
- Provide statistical summary reports on cases handled; facility & resource utilization.
- Most CIS's provide some or all of these operating documents.
- Most CIS's provide some of these management documents.
- All CIS's provide a rapid query-response capability.
- Few CIS's had extensive or active system maintenance; poorly planned or implemented CIS features were difficult to change.
- Most CIS's provide some statistical reports.

Measures of Achievement:

Indices that are Associated with Improved Information System Outputs

- Extent of user knowledge of system and dependence on it, and integration into court operations.
- Degree to which decisions are influenced by system outputs; relevance of outputs to decision makers.
- Adequacy (timeliness, accuracy, completeness) of responses provided to queries.
- Available by observation and/or opinion survey.
- Available by observation and/or opinion survey.
- Available by observation and/or opinion survey.

General Objective: More Effective Data Handling

COMMENTS BASED ON SITE VISITS

- Subobjectives:
- More efficient data gathering processes.
 - Improved data processing.
 - More effective data and file maintenance.

Assumptions: CIS Program Actions that should Meet Program Objectives and also Provide Basis for CIS Outputs

- | | |
|--|--|
| <ul style="list-style-type: none"> ● Establish clear channels for data collection; single responsibility for each element of data; eliminate redundant data collection. ● Provide appropriate data collection forms, formats, training and procedures. ● Establish common data base, suitably structured for convenient access. ● Collect and process data with adequate frequency. ● Perform necessary input data quality checks, detect and (immediately) rectify all errors and omissions. | <ul style="list-style-type: none"> ● Observed in about half of the CIS's. ● Several CIS's had completely redesigned forms; others operated by photocopying existing documents, or by copying data from existing documents to a CIS form. ● Most CIS's utilized a single, central data base. ● While "adequate" must be defined, most CIS's were up-to-date within 24 hours of the event or sooner. ● Most CIS's for the first time imposed (even rudimentary) quality checks on data, resulting in fewer errors (after "bugs" were out of software); shared data base caused errors to be quickly detected and corrected. |
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Measures of Achievement: Indices that are Associated with More Effective Data Handling

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|---|--|
| <ul style="list-style-type: none"> ● Input data quality ● Adequacy of controls to assure data accuracy and completeness of data entry. ● Degree to which data base is maintained adequately current and accurate (avoiding data base deterioration). ● Suitability of access modes and query structures. ● System reliability and availability. ● Adequacy of operating manuals and procedures. | <ul style="list-style-type: none"> ● Difficult to measure undetected errors; could sample records before and after CIS. ● Review controls; survey users. ● Can be measured by opinion survey. ● Can be observed; can survey users. ● Can be measured; can survey users. ● Can be observed; can survey users. |
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FRAMEWORK ELEMENT NO. 7

General Objective: CIS Cost Containment or Reduction

COMMENTS BASED ON SITE VISITS

- Subobjectives:
- System design for efficient operation.
 - Cost effective acquisition.
 - Efficient personnel.

Assumptions: CIS Program Actions that should lead to Cost Containment or Reduction

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|--|---|
| <ul style="list-style-type: none"> ● Eliminate redundant and parallel processes wherever possible. ● Design efficient information gathering, storing, processing and reporting system. ● Use most effective combination of manual and automated techniques. ● Make cost-effective decisions re: equipment purchase or lease, or use of service bureau. ● Improve personnel selection, training, supervision and evaluation. ● Provide efficient system maintenance and improvement capabilities. | <ul style="list-style-type: none"> ● Often, but not always, the case. ● Attempted in several CIS's, not always achieved. ● Most effective role for man and machine was not always considered. ● Some CIS's were constrained to use county DP; most did not fully consider all options. ● Generally inadequate training; little change in selection, evaluation or promotion. Some difficulty in personnel adjusting to full-time terminal operations. ● Seldom did courts commit adequate resources to continued CIS maintenance. |
|--|---|

Measures of Achievement: Indices that are Associated with CIS Cost Containment or Reduction

- | | |
|---|---|
| <ul style="list-style-type: none"> ● Reduction in information handling. ● Reduction in cost per query handled. ● Adequacy of provisions for equipment and software maintenance and upgrading to extend effective life of system. ● Appropriateness of type and degree of mechanization. ● Adequacy of maintenance provisions and system documentation. | <ul style="list-style-type: none"> ● "System Cost" may be difficult to define or to gather, depending on accounting practices. ● Will be very difficult to obtain either the no. of queries (if not logged by computer) or the "cost". ● Can be observed; also, users can be surveyed. ● Can be observed and surveyed. ● Can be observed and surveyed. |
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FRAMEWORK ELEMENT NO. 8

General Objective: Utilize CIS to More Effectively Manage Court Operations

COMMENTS BASED ON SITE VISITS

Assumptions:

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| <ul style="list-style-type: none">● Use CIS-Generated Reports to Manage Caseflow● Use CIS-Generated Reports to Plan and to Allocate Resources● Managers adopt Information System to Improve Day-to-Day Operations | <ul style="list-style-type: none">● A few court managers (typically in court administrator's office) used reports from the information system to manage the caseflow.● No court was observed in which manager based resources allocation on information systems reports.● Most courts employed improved information system, when it was available. |
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Measures of Achievement:

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|---|--|
| <ul style="list-style-type: none">● Extent of User Knowledge of and Dependence on System● Integration into Court Operations● Degree to Which Management Decisions are Influenced by System Output | <ul style="list-style-type: none">● Can be observed; can survey key personnel.● Can be observed (e.g., existence of parallel manual system).● Can be observed; can survey key personnel. |
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FRAMEWORK ELEMENT NO. 9

General Objective: Manage CIS Project Effectively

COMMENTS BASED ON SITE VISITS

Assumptions:

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- | | |
|---|--|
| <ul style="list-style-type: none">● Integrate (Single Point) CIS Project Management● Involve Management and Operational Personnel in all Affected Agencies● Develop and Maintain Work Plan, Schedule and Budget● Perform all Required Project Steps, Including: Requirements Analysis, Conceptual and Detailed Design, Phased Implementation, Documentation, Training and Test | <ul style="list-style-type: none">● Sometimes done, but often lacked effective relationship with independently elected officials.● Usually not done well, attempted in several courts.● Usually done only to the extent required by funding agency.● Usually omitted one or more step(s); in some cases there were no requirements analysis, in others documentation, training, or test were deficient. |
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Measures of Achievement:

- Presence or Absence of Above Factors.
- Can be observed; can survey key personnel.

C. Assessment Observations of the Court Information Systems Area

During the in-depth on-site field visits the project team observed the various approaches taken by the courts in meeting the significant issues in the court information systems area. This section presents a discussion of each of the following primary issues followed by a related judgmental assessment:

1. To what extent have analyses of court information requirements been made prior to the design of court information systems?
2. To what extent should a court attempt to use its own personnel resources to develop and implement a court information system?
3. Is adequate funding available to support not only the design and implementation of court information systems, but also to permit continuing operation and maintenance of the systems after they become operational?
4. Has the information made available by court information systems been used effectively for caseflow management?
5. To what extent have courts which are developing court information systems transferred computer programs and/or systems currently operating in other jurisdictions?
6. Have courts, which are planning to develop court information systems, made use of objective, informed and technically competent consulting support assistance?
7. To what extent do courts establish a separate project organization to direct the implementation of the court information system and where in the court's organization is the responsibility for project management placed?
8. What role have the eventual users of the court information system played in the system design and development process?
9. In what way has the application of the "separation of powers" doctrine affected the development of court information systems?
10. How strong has been the support of judges and court administrators in court information system planning and development?

11. To what extent have court personnel been adequately trained and motivated to operate and use court information systems?
12. Are courts acquiring dedicated data processing equipment for use in operating court information systems?
13. Are court information system computer programs and procedures being adequately documented so that system improvements can be made and so that system transfers can be accomplished?
14. What limiting effect have long-standing court practices and rules had on the implementation of court information systems?
15. In what ways has the installation of an information system constrained or restricted traditional court activities or organization?
16. How effective are court information systems in collecting, processing, storing, and retrieving court data?
17. How has the quality of justice been effected by court information systems?
18. Is useful data available from past evaluations of court information system projects?

Many of these primary issues reflect the fact that the objectives of court information system projects can be achieved, not only through their direct intervention in the processes of the criminal justice system, but also through the second order effect of improved caseflow management and court administration on judicial operations. It became apparent during the data gathering activity that many of those concerned with the operation and utilization of court information systems feel that the success and effectiveness of a system project is dependent in large measure on the acceptance of the system by court personnel and its utilization in management and administration. The system design, itself, may be of secondary importance in accomplishing overall system objectives.

1. ISSUE: To what extent have analyses of court information requirements been made prior to the design of court information systems? One of the most critical issues facing a court in designing and implementing a court information system is the choice of functions to be accomplished and the services to be provided by the system to the court and its associated agencies. That choice should, ideally, be based on a thorough analysis of the information needs of the court, the identification of alternate means and the costs of meeting those needs in order to select cost-effective functions for implementation. It has been pointed out² that if a court wants a good system which will be of use to it and its operations, it must articulate, to the people who will design and implement it, as precisely as possible, what the court will want the system to produce.

Whether a formal requirements analysis approach is followed or a less structured path is taken in selecting functions and services to be undertaken by a court information system, it is important that the court seek to examine its needs and move into the future in limited discrete steps rather than in a giant leap.³

Whatever approach is taken to analyze the court's requirements and determine the specific functions and services to be provided, the court is faced with many choices among possible information system applications. The court should examine the ways that the operational information needs of the individual court, as well as the statistical information needs of court or governmental administration at the municipal, county and state levels, can be met through the court's information system. This consideration may include an analysis of whether non-operational administrative functions, such as: payroll, personnel, accounting, budgeting, purchasing, inventory and property control, be included in the functions planned for the court information system.⁴ The selection of specific functions for implementation should depend on a comparison of the costs of collecting, processing, retrieving and communicating the information against the overall benefits to be achieved by making available timely and accurate data to court managers, administrators and operational personnel. Although such a cost/benefit analysis is difficult to perform within the court environment, it may, if carried out successfully, lead to valuable insights into current court operations and, therefore, will be useful in structuring improved court management and administration.

The determination of the functions and services to be provided by a court information system should be performed within the boundaries established by the real world constraints which are found in the court environment.³ Such constraints include the economic factors which affect the acceptance and utilization of the system by the judges, clerks, attorneys and other participants in the judicial process; the environmental factors requiring the maintenance of high standards of justice even at the expense of efficiency or delay; the public policy as expressed through statutes at both the federal and state levels which may restrict the potential application of the system; the information needs of other criminal justice agencies; the organizational structure in which the system must operate; the organizational differences between the court and the municipality and among the counties; and the availability of the necessary technology to implement the functions and services selected by the system designers at a reasonable cost.

JUDGMENTAL ASSESSMENT: In the overwhelming majority of the courts visited during the Phase I effort, the step of requirements analysis was either completely ignored or was performed in a perfunctory manner. In most courts the information needs of the court for management and operations were assumed by the system designers and the information system was developed to meet those assumed needs. The broad objectives of the court, to be achieved through the assistance of the court information system, were never critically examined in most jurisdictions, nor were the daily operational or administrative tasks analyzed in depth. Where an attempt at needs analysis had been made (sometimes by the eventual equipment vendor) the effort was generally not adequately documented and made available to the system designers. In Allegheny County an analysis was performed and documented, but in other jurisdictions (District of Columbia, Cuyahoga County, Tarrant County and Philadelphia) where some requirements analysis was performed, the system designers had not, for a variety of reasons (including lack of cooperation), examined in detail the information needs of the court and each of its associated agencies (clerks, judges, probation, prosecutors, public defenders, and court administrators).

The selection of functions to be performed by a court information system may result as a direct response to the need to deal with an extremely pressing problem caused by a shortage of personnel or by a significant overload of the existing case processing system, such as the need to clear the civil backlog rather than from a careful analysis. Some courts⁵, indeed, have initiated system design by choosing those functions that could be most readily programmed for a computer. One jurisdiction installed a computer package with no analysis of its information needs or of the package's capability.

The choice of functions to be accomplished by court information systems has for the most part, therefore, appeared to result not from a comprehensive examination and requirements analysis, but from a less than complete understanding of those requirements and the objectives of the court. As a result, the systems which were developed are of only limited value to the courts in accomplishing management and operational objectives.

2. ISSUE: To what extent should a court attempt to use its own personnel resources to develop and implement a court information system? It has been suggested that one of the key ingredients of success in the development of a court information system is the use of "in-house" court staff for the development of such a system, not only to conceptualize the structure and purpose of the system, but also to perform the more technical analysis and design activities which are pre-requisite to system implementation.

Qualified technical personnel familiar with court procedures are, however, particularly difficult to hire within the budgetary constraints of the court environment.⁴ A significant question, therefore, is to what extent a court should attempt to use its own personnel resources in developing and implementing a court information system and to what degree a court should rely on systems design, programming and data processing support from the county, municipal, or state data processing staff.⁶ There has been recognition⁷ that since there may not be a continuing need for large numbers of computer specialists and senior analysts after system development, _____ the courts may wish to utilize outside resources such as consultants or service bureau organizations

to supplement the in-house resources. Even where a court has chosen to maintain its own staff of technical personnel, it may be faced with the dilemma of either bringing into the court system qualified persons generally unfamiliar with court procedures and processes and providing them with on-the-job training, or selecting from the existing court staff personnel who may benefit from instruction in information system technology through their attendance at specific training courses.⁸

JUDGMENTAL ASSESSMENT: Few courts have the technically trained personnel required to accomplish system design. In the overwhelming number of jurisdictions surveyed, courts have relied on a non-court agency to perform such activities as operations studies, forms and reports design, system design, computer programming, equipment specification and system implementation. In most of the courts visited, the county data processing center played the major role in system development. This occurred because many county governments have already established such centers to perform a variety of tasks such as tax billing, county payroll administration, property control and other data handling applications which can be effectively accomplished through the use of modern data processing equipment and programs. County government has also made such data processing centers available to the courts for assistance in system development. Typically, the centers have the capability to operate and maintain complex on-line computer systems, using its facility, equipment and staff to serve a number of county operations. The staff of county data processing centers generally include computer system analysts and programmers as well as equipment operational personnel. Such a staff, however, is generally unfamiliar with court procedures and processes and consequently may be ineffective in determining the information requirements of court personnel for court operations and management.

In several of the jurisdictions visited (San Francisco, Santa Clara County, Alameda County, Tarrant County) the county data processing center is playing a major role in developing and maintaining an integrated information system designed to serve a number of criminal justice agencies. These systems, called "criminal justice information systems" (CJIS), are primarily planned to meet the needs of the law enforcement community rather than the management and operational needs of the courts. Therefore, the interest of the county data processing center staff is often focused on the broader requirements of the police, sheriff and prosecutor's organizations, than on developing a system to assist the court in performing its functions. Because of the limited resources otherwise available to the courts, however, many of the courts have been dependent on the county data processing center for analytic, programming and operational support and have, themselves, played only a passive role in the system project.

Non-trial court technical personnel have also been responsible for the design, implementation and maintenance of the court information systems supporting the Colorado courts and the District of Columbia United States District Court. In Colorado, under a newly unified court system, the state judicial department developed the information system and in Washington, D.C., the Federal Judicial Center was responsible. In both cases, funding was made available to the "outside" organization to accomplish system development and "in-house" court personnel played only a minimal role in the process.

Consultants from industry successfully performed the basic court information system design activity in two of the courts visited; however, in each

case (Broward County and Beaver County) the county data processing center now maintains and operates the system.

In only one jurisdiction (Philadelphia) were court personnel used exclusively in the design, development and implementation of the court information system. There the development program was the responsibility of the court administrator, who established a staff of technically qualified personnel as well as a court data processing facility.

It is, perhaps, unrealistic to expect a court to have the resources necessary to employ a staff of technically competent system design specialists in order to develop a court information system. This is particularly true with respect to the considerable number of analytical and design personnel needed in the early stages of information system development. Most courts are supported by county government and it is not surprising that the courts have either turned to the county data processing center for court information system development support or have been urged by the county to participate in the development of a county level criminal justice information system.

The failure of the courts to employ their own "in-house" personnel can, however, have an adverse effect on maintaining and improving court information systems to satisfy the court's changing needs. Competition for scarce county resources to perform the necessary system modifications was a continuing problem in many jurisdictions.

3. ISSUE: Is adequate funding available to support not only the design and implementation of court information systems, but also to permit continuing operation and maintenance of the systems after they become operational? Adequate funding to accomplish the design, implementation and continuing operation of a court information system is critical to the achievement of the court's objectives.⁹ This quest for funds intensifies a basic fear among some court personnel of a potential loss of control over the administration of justice whether to the federal government or to the Governor's Office and legislature. Although many courts appear to feel that funding from state or county sources is more acceptable than federal funding, to implement an information system the courts must face the problems of trying to successfully compete for the generally large amount of funding support required.¹⁰ Against the more politically glamorous funding uses, such as those in revenue-producing areas, the court information system may not fare well in the current era of retrenchment in governmental expenditures.

Many courts do not recognize the need for a long-term funding commitment to operate and maintain a court information system following its initial development and implementation using LEAA or other non-court budget funds.

The continued operation of a court information system requires the availability of funding to maintain a variety of resources which include: the personnel who operate the data processing equipment, the personnel who prepare and enter data, and the analysts and applications programmers who maintain the system; the physical facility required to house and protect the system's equipment, the equipment itself, the forms, and support personnel to maintain the equipment and to modify the manufacturer-supplied operating softwares; and the

communications facilities needed in some systems to connect the data processing equipment to remote terminal devices. Funding to provide these resources is critical if a court is to successfully plan for the effective ongoing operations of its information system. There may, of course, be cost savings resulting from system operation; however, budgetary coverage for the additional resources is a key issue. While some courts may find it possible to use their own court budgets as the mechanism to provide system funding, it is likely that because of the difficulties in achieving direct increases in court budgets the financial resources required may be more easily obtained through the state, county or municipal government data processing unit budgets. From whatever source such resources may be acquired, however, there is a need for making the funding source aware¹⁴ of the project and its goals and of the long-term commitment required to insure both a successful implementation and continued operation at an effective level.

The financial contributions to support for system development and installation are often made to the court information system program by federal funds through the Law Enforcement Assistance Administration and the state criminal justice planning agency. It is generally understood that since _____ federal funding is not meant to substitute for local funding for any extended period, _____ funding from municipal, county or state sources must become available to maintain and operate the information system over the long run. This fact further emphasizes the need for a comprehensive examination of the continuing requirement for system funding support as early in the system development process as possible.

JUDGMENTAL ASSESSMENT: The design and implementation of a court information system requires a substantial investment in both time and money. In the majority of the jurisdictions visited more than 500,000 dollars was expended before the system was operational and in a number of jurisdictions over one million dollars was, in fact, required. In one jurisdiction, reportedly, over four million dollars was spent in development and operation. In addition, such development may require several years before the analysis, design, and implementation of the court information system is completed.

Federal funds have played a significant role in enabling courts to proceed with the development of court information systems. Of the courts visited, only in Broward County and in Philadelphia did county and municipal funds play the dominant role in supporting system implementation. Except for the U.S. District Court where Federal Judicial Center funding was used for system development, LEAA provided development funds through block grants awarded by the state or local criminal justice planning agencies. In some cases, particularly where an inter-agency criminal justice information system was contemplated, it appears that the availability of funding to the county provided the impetus for the court's participation in the project rather than from recognition by the court of a need for improved court operations and management.

In most cases there have been annual applications to the state planning agency for a grant of funds to support the continuation of development of the individual court information system. It appears that, because of a commitment by the state planning agency to support the system development through to completion, such applications were generally received favorably without any evaluation of progress or performance. The projects were repeatedly funded so that implementation could be completed.

There has not been, however, a general recognition of the need for a long-term funding commitment for the continued operation and maintenance of court information systems following their initial development. This lack of commitment to provide support to the system has created difficulties particularly in jurisdictions which must rely on county budgets for such funding. The funding required for system maintenance and operation is considerable; in several of the jurisdictions visited the annual budget for the operation of the system, including equipment, personnel and facility exceeded one million dollars. Such sums can be a considerable drain on the already strained budgets of governmental units. Adequate planning, including projections of future funding requirements of system operation, was generally not performed in the jurisdictions under consideration. The project team found that current costs of system operation, in most cases, were not identified in sufficient detail to allow analysis during the site visits. This was particularly true where the county data processing center served the court as one of its "users". Without such financial data a cost-effectiveness analysis of a court information system becomes virtually impossible to perform. It was, in addition, not clear to the project team that all of the jurisdictions, themselves, understood the financial impact of the court information system on the supporting governmental unit, particularly with respect to the longer term requirements. This lack of understanding may make the court information systems very vulnerable to adverse budgetary actions by governmental authorities.

4. ISSUE: Has the information made available by court information systems been used effectively for casflow management? The impact of a court information system on the administration of justice is not a direct impact. It is only through the effective use of the information that the system makes available, that there can be a positive effect on court administration.

It has been pointed out³ that "experience indicates that computer systems provide data for the judges, but that it is their decisions that cut the backlog. Computers do not themselves reduce backlogs - they do nothing without human beings, and even a computing staff and their machine will not reduce the backlog except as advisors to the judge. Computers are not a panacea, but an aid." Rarely do the judges, clerks, administrators and others who use the outputs of the system - the information - ever see the equipment which processes, stores, and makes available the information. The outputs of the information system - electronic terminal displays, as well as printed summaries, indexes and listings - that court personnel use in managing, administering and operating the court provide only the information foundation for casflow management.

The recognition of casflow management¹ as a separate and distinct court function requiring both procedures and management support²² should be a necessary initial step in setting requirements for the information system. Although fundamental to a systematic approach to system development, such analysis requires a detailed examination of the court's operational processes which effectuate the basic court function, the dispensation of justice.²³

One function of casflow management, court scheduling, has been suggested as particularly appropriate for a computerized information system.⁴ The National Science Foundation has sponsored research into court scheduling. That study has revealed that courts are not using such programs because, among other reasons, system designers have a penchant to automate court operations as they are rather than attempt to improve upon those operations. There are

apparently, no jurisdictions that have been able to successfully implement a fully automated schedule.²⁵ To include court scheduling⁵ or, in fact, any other complex court function as part of a court information system, a careful analysis is required not only of the requirement (i.e., the need to effectively perform the activity), but also of the technical capabilities available to achieve the intended results (especially the man/machine interface).

A court information system can be effective in collecting, processing, and retrieving data and yet not be of significant assistance to court personnel in managing caseload. This may occur, not because of the system design, but because the system is not fully accepted or utilized (i.e., statements of requirements reviewed and approved by court leaders, effective project organization, participation by all court agencies, adequate documentation and training, and strong support of the judiciary and court administrators). Nonetheless, a poorly conceived or designed court information system may consume an extraordinary amount of the scarce resources available to the court.

There is a general feeling among knowledgeable observers that a well-managed court is a better court and therefore, if better information is provided to judges and to court administrators who will use it, such intermediate goals as reduction in case delay can be achieved almost as a secondary effect. This can be accomplished through management attention to overdue cases and excessive continuances, improved participant notifications, caseload analysis, efficient scheduling, judge assignment, and the other aspects of case flow management. It can be seen, therefore, that the issue of court information system effectiveness is not independent of the commitment to utilize the system's outputs for management, both by judges and court administrators.

JUDGMENTAL ASSESSMENT: Caseload management has generally not been recognized by the courts operating court information systems as a separate and distinct court function. In the few jurisdictions where there has been some such recognition, the function is generally performed without use of the outputs of the court information system. The basic responsibility for caseload management rests with the judiciary. Caseload management activities may include assignment and reassignment of judges, monitoring of cases whose time to disposition may exceed predetermined standards, and changing court operating hours to accommodate the caseload. However, it is the rare court where the judiciary is using such administrative techniques in a program of caseload management. In some jurisdictions, the judiciary has either explicitly delegated to the court administrator the management duties associated with the movement of cases through the courts, or implicitly allowed the clerk, administrator, or other court personnel to perform the function. One of the reasons for the apparent lack of interest by some judges in case movement may be the fact that the backlog of cases awaiting trial in their courts is minimal or non-existent. Consequently, in some courts visited there is little pressure for improved caseload.

In many of the jurisdictions visited, the court information system did function effectively as a processor of large quantities of data. In effect, in those courts the system functioned as an electronic equivalent of a large volume manual filing system. Records, in such courts, are maintained in a computer and made available for inspection through the use of video terminal devices; answers to queries about cases and indexes of cases are easily and quickly accessible; and the repeated manual entry of duplicate information

found in most traditional court systems is reduced or eliminated entirely. Although a wide variety of informational tools for caseflow management are potentially available from a court information system, in only a very few jurisdictions has the system been designed to supply such information. In only a few of the operating court information systems were data actually available from such systems for caseflow or other court management. Often, the systems produced numerous periodic printed reports concerning caseload, workload of court departments, a variety of statistical summaries, and other system outputs which could, in the opinion of the project team, be useful to court management. Where such information has been made available, it has largely been ignored except for use in producing mandatory statistical reports for other government agencies.

It is believed that in most courts such a failure to use information system output is caused by the absence of any individual charged with the specific responsibility for caseflow management. Many of the essential elements of caseflow management (i.e., the scheduling of cases, record keeping, assigning court resources, maintaining a central source of information, and developing statistics) are the responsibilities of independent organizations which are related to the court but are responsible only to the electorate for their performance (i.e., elected district attorneys, clerks of courts, sheriffs). Any concentrated attempt to perform caseflow management in a court thus requires the active participation and cooperation of those independent organizations in coordination with a caseflow manager. Although the court administrators have attempted to improve caseflow, in most jurisdictions the administrator has neither the responsibility nor the authority for taking the actions necessary for accomplishing significant improvement. This is particularly true in those courts where the cases are assigned to judges under the "individual calendar" system (where each judge is responsible for the movement and disposition of all cases assigned to him). Such steps as the reassignment of judge workload, promulgation of strict continuance policies, examination of prosecutor and attorney caseloads, changing court operating hours, close scrutiny of case scheduling, monitoring of delayed or overdue case court appearances, review of bail practices, and other similar caseflow management actions are rarely seen in those courts because of the lack of a central authority responsible for conducting a caseflow management activity.

In jurisdictions which had a strict speedy trial rule (i.e., the required dismissal of the charges against any defendant whose trial and disposition had been unreasonably delayed beyond a fixed time period, such as 90, 120, or 270 days) and where there was public pressure on the judiciary to avoid any such dismissals, the various court organizations worked together to expedite the flow of cases. The incentives in such courts apparently was not the goal of general improvement in the administration of justice, but the avoidance of the very visible public outcry seen in jurisdictions where a defendant is released and his case dismissed, not because he was found not guilty, but because of delays in the processing of his case through the court. This incentive is particularly effective in those jurisdictions where the judiciary faces periodic elections. In some of those courts, the court information system provided very useful data concerning the number of days remaining before the mandatory dismissal of charges for each defendant. As indicated, however, such use of the output of the court information system was the exception rather than the rule.

Where the court information system was developed as a portion of a larger information system serving a number of criminal justice agencies (CJIS), its usefulness in court management was minimal in the jurisdictions visited. Court personnel were often responsible for entering considerable amounts of court appearance-related information into the system, yet the court itself received little information from the system which was useful for court operations or management. (Nonetheless, the CJIS did often provide a useful service for police, sheriffs and other criminal justice agencies.)

The resources used to operate and maintain a court information system, if applied to other aspects of court operations such as facility improvement, salaries, judicial supporting staffs, or for additional judges or simply improved manual information processing might have made it possible for the court to conduct its business more effectively. The allocation of those resources to the support of ineffective information systems may thus have had an effect on the justice system which is contrary to the expectations of improved court administration.

5. ISSUE: To what extent have courts which are developing court information systems transferred computer programs and/or systems currently operating in other jurisdictions? Many courts, contemplating the development of a court information system, may explore the use of an existing "package" of computer instructions (software) for their system rather than paying for the programming of a unique set of programs to meet the individual needs of the court. Since the cost of computer programming is generally a very large portion of a court information system development budget, the potential savings to be achieved through the use of existing software are often very attractive to system planners. However, expert opinion on this matter differs, and consequently, on one hand courts are being told¹ that one such packaged program is a viable tool, well tested by the industry, for accomplishing the general goals of a court system, while on the other hand experienced court administrative personnel² have warned that "systems planners for the courts should be wary of packaged systems that claim to handle all court operations. Courts have unique requirements that too often are not included in standard packages." This same issue, in another form, may be seen in courts' attempts to transfer or "borrow" an existing court information system design for direct installation in the implementing court. Although the contextual elements which would make such a transfer feasible are not completely understood, it has been pointed out³ that there is a natural tendency to emphasize the computer in such contemplated transfers rather than the information needs of the implementing court. For this reason the proposed transfer of information systems in toto (i.e., without careful analysis and adaptation) can pose a significant risk.

JUDGMENTAL ASSESSMENT: Although several of the jurisdictions reported that during the information system design activity visits had been made to other courts to view information systems in current operation, there has been apparently little transfer of systems from one jurisdiction to another jurisdiction. As a result of such visits, which were usually limited to only one or two other jurisdictions, design suggestions and ideas were acquired, but the eventual system design was never a complete replication of a system operating in another court. This individualistic approach is, perhaps, a result of the different procedures, processes and organizations which are found

in courts in different jurisdictions but it also reflects the inherent conservatism of the courts and skepticism concerning techniques in "foreign" jurisdictions.

In Alameda County and in Union County, however, there are currently active attempts to transfer and utilize systems developed in other jurisdictions. These attempts are meeting with not entirely satisfactory results. One of the difficulties which surfaced during the transfer of the Criminal Justice Information Control (CJIS) system from the jurisdiction in which it was developed (Santa Clara County) to another County (Alameda) resulted from the dissimilarity of the two counties. The differences are now particularly noticeable in the type and extent of crime, the mobility of criminal offenders and the workload of the courts, which were not recognized as significant before the transfer was planned. These differences result in system requirements which vary in the two jurisdictions and consequently the court information system which is adequate to meet the requirements of the one jurisdiction may not meet the needs of the other.

In the other case, difficulties arose in the transfer of the court information system developed for Hudson County, New Jersey to adjacent Union County, not because of the dissimilarities of the counties, but because of the failure of the court personnel to fully accept the system as it was designed, and to fully integrate the use of the system into the court's day-to-day operations. The failure of acceptance may be attributable in part to the "not invented here" syndrome because users did not participate in the design activity and in part to the apparent difficulty of accomplishing some modifications to the system because of the inflexibility of the program design.

In both of these cases the project team believes that a successful system transfer can eventually be accomplished. However, the lack of careful examination of the transferee's system requirements and the preparation of adequate groundwork before transfer has increased the time and expense of completing a transfer, although the potential reduction of time and expense is often offered as the rationale for such system transfer.

In addition, the dearth of information in the literature concerning court information systems has made it difficult for court and other criminal justice system personnel to acquire sufficient information to weigh the consequences of transferring a currently operating system, which reasonably meets its needs, to their jurisdiction.

6. ISSUE: Have courts, which are planning to develop court information systems, made use of objective, informed and technically competent consulting support assistance? Most court personnel are unfamiliar with modern management practices and with the capabilities of the technology which is available to support their information needs. A number of competent organizations and independent consultants have the necessary background and experience to provide support assistance. Those include publicly-sponsored or supported technical assistance or educational institutions, public accounting and management firms, and the data processing industry.

There have, however, been warnings that as industry recognizes the courts as a new marketplace that there may be "gross ignorance of the problems, haste

and overoptimism, oversell and boondogling".¹⁰ The experience of courts with consultants of all types varies¹⁶ from complete satisfaction to general unhappiness. There are presently only a few consultants who can make available the type of service which an insider in the court community, familiar with the language and the requirements of the court, and a background in data processing can provide.⁹ The issue facing the courts in this area is one of finding assistance that is objective, informed, and technically competent.

JUDGMENTAL ASSESSMENT: For the most part, where courts have sought assistance, they have turned to either the data processing industry or to small private consulting firms for assistance in the development of court information systems. The experience with such organizations, among the courts visited, has generally been one of moderate unhappiness. In almost all cases where such support was provided, it was used during the initial design stages of system development and was dropped thereafter. In addition, the initial analysis and design provided to the courts by equipment vendors resulted, not unexpectedly, in a system design which was based on the use of the vendor's equipment. Such designs have been effective in some jurisdictions but less so in others.

For a number of reasons, but most importantly because of the lack of any easily available central source of information concerning the development of court information systems, the courts have generally remained dependent either upon the talents of the personnel of the county data processing centers or upon locally available private consultants for support.

Since available sources are in addition, often "big systems"-oriented, courts may overlook opportunities to achieve their information requirements through less expensive and less glamorous methods. Such alternatives as procedural improvements, reorganization and others may offer considerable savings of the limited resources available to courts.

In Cuyahoga County, an outside group of knowledgeable and objective information system personnel were employed to serve as an "evaluation panel" to review the progress of the court management project and prepare recommendations. However, in the other jurisdictions the development, implementation and operation of the court information system has, for the most part, been performed without qualified consulting support. Consequently, these courts have generally been denied the benefits of the experiences of other jurisdictions that have faced many of the same system development problems.

Although court personnel have evidenced an interest in drawing upon the backgrounds of other courts in information system development, for the most part they have not been able to find and utilize potential sources of technical information from other jurisdictions.

7. ISSUE: To what extent do courts establish a separate project organization to direct the implementation of the court information system and where in the court's organization is the responsibility for project management placed? The management of the development and implementation of a court information system is a complex task requiring extensive coordination among the various court organizations involved such as the clerks, judges, other system users, the bar, prosecutor and defense attorneys. To successfully develop and install a court information system which improves caseflow management and makes court administration more effective there should be a single office or individual charged

with the decision-making responsibility for system implementation. Particularly in courts where administration has either not been centralized, or has not been a major concern of the presiding justice, there is a need for the establishment of such a focal point to assume the project management role. Three elements have been found to be essential if an information system is to be successfully introduced into such a court.¹⁴ These elements are: an agreement among those agencies involved in system development on the specific goals and objectives of the information system; a working relationship among _____ court organizations so that there can be continuing participation by personnel who can understand each other's points of views and work together in devising mutually satisfactory solutions to common system problems; and a designated arbitrator of unreconciled problems and questions of policy, who can function as the project's ultimate decision maker.

JUDGMENTAL ASSESSMENT: Although it is generally felt that to successfully manage the development and installation of any large information system there must be a single source of direction, coordination and planning among the various organizations and agencies involved, few of the courts visited have established separate project organizations to accomplish project objectives. In several of the jurisdictions where a formalized project structure was used, the project organization was not specifically within the court but was established to manage the development of a larger information system (CORPUS in Alameda County, CABLE in San Francisco County, CJIC in Santa Clara County). Although a structured project organization for system development was established in at least one jurisdiction (Tarrant County), for the most part project management for the development of court information systems has not been formally centralized in a court organization charged with responsibility for the project's success. Where such organizations do exist they have been usually set up at the county, or in the case of Colorado, at the state level.

In the overwhelming number of courts visited the project management focal point has been the office of the court administrator. Typically, receiving little guidance from the judges of the court, the court administrator has performed the various management tasks involved in project direction such as coordinating, staffing, budgetary planning, scheduling, grant application preparation and reporting. Where the court administrator has staff support, he may draw upon that staff for assistance in guiding the project, but particularly in the smaller courts, the court administrator has performed the project management role by himself. In some courts the role was fulfilled by the Clerk of Courts (Broward County), by the District Attorney (Tarrant County), or by a judge (Dallas County). Where an external county organization was responsible for implementing the court information system as a part of a larger system (Alameda County and Santa Clara County), the project director or coordinator of the overall system became the management focal point for the court's information system.

A unique non-governmental project management organization was established in Cuyahoga County to manage several court improvement projects, among them the information system project. In each of the instances of an external project organization, however, there was minimal involvement of court personnel and response to the real needs of the courts.

In general, individual project management organizations were not established and the court administrator's office became the focal point for project

decision making, often with little judicial input. Without the necessary authority, and lacking the deference usually given to the judiciary by court agency personnel, the court administrators usually do not command sufficient leverage to accomplish the project management tasks.

8. ISSUE: What role have the eventual users of the court information system played in the system design and development process? The issue of extensive user participation in the design of the court information system is, in the eyes of many observers, a critical factor¹⁴ in the potential effectiveness of the system itself. However, it has been pointed out¹² that to participate actively in the design process court administrators, judges and clerical personnel must familiarize themselves with data processing concepts and the benefits of technologically-advanced information systems. Such familiarization requires not only an interest in the information system design process by the individuals concerned, but also the encouragement of the presiding justice and other court managers for additional court personnel participation. (User involvement should involve both the court executive/administrator level as well as the operating personnel level.)

For court officials such participation can take the form of membership on advisory committees or boards, which set policy for guiding the design and implementation of a system, or through active user support in the planning, scheduling, budgeting and technical activities required for project design and implementation. Through such participation agency officials can provide a unique source of information and support to the court information system project management. Whether or not non-judicial elected officials, such as clerks of court, district attorneys, sheriffs and county commissioners can be effective members of such committees may depend upon the personal and political relationships among the individuals concerned as well as their interest in improvement in the management and administration of the courts.

User committees may include representatives from each of the using agencies, may be made up of members of an existing judge's administrative committee, may include non-court personnel (i.e., representatives of funding sources) and in other cases, may represent "all significant actors in the criminal justice system".⁸ Whatever their membership, committees may play a purely review or advisory role or may more actively participate in the planning, scheduling, budgeting and technical decisions required to manage a court information system project.

JUDGMENTAL ASSESSMENT: In the majority of the courts visited committees had been established to advise the designers of the court information system. In those jurisdictions where a multi-agency criminal justice information system had been developed, the advisory committee was generally comprised of representatives from the various law enforcement and other criminal justice organizations involved in court proceedings. In Santa Clara County, two levels of committees were established, a higher or CIJC policy committee and a lower management committee, while in Tarrant County a separate user committee and a law enforcement committee were organized. In general, the committees, however, although many times broadly based, appeared to meet infrequently and, on the basis of the jurisdictions visited, seemed to contribute little to the development of the court information system.

One jurisdiction decided not to form such a committee (Dallas County), feeling that the only outcome of committee participation would be a series of design compromises which would lower the quality of the court information system design. On the other hand, in Tarrant County, a strong active role was established for an advisory committee and it made significant contributions to both the system design and implementation efforts.

Except for such limited committee participation, however, the court agencies which will eventually use the court information system have played only a minimal role in information system design. In many jurisdictions, regardless of funding source, there was virtually no court agency participation in the design activity while in others, the participation was extremely limited. The exceptions among the jurisdictions visited included Broward County where the Clerk of Courts and the users played a major role and in Tarrant County where the users participated fully in the design effort.

This general lack of user participation in most jurisdictions is reflected in both the lack of acceptance of the system by the users and its lack of usefulness to the court in accomplishing improvements in court operations and management.

9. ISSUE: In what way has the application of the "separation of powers" doctrine affected the development of court information systems? Of concern to some courts is the application of the "separation of powers" doctrine to the development of court information systems. Although in most jurisdictions the court's budget is controlled by the executive or legislative branches of government⁷, it is becoming apparent to some judicial personnel that to control the data or information which becomes necessary for the courts to operate, and which becomes available from a court information system, is to exercise a degree of control over the courts themselves. For that reason, as well as the sensitivity of judges, particularly, about the potential misuse of certain court data (e.g., judge workload and criminal sentencing data) in the hands of non-judicial organizations, some courts have resisted participation by non-court personnel in the organization charged with the development and implementation of court information systems.

Some conflict has also recently been noted¹⁷ between the principles of judicial independence and judicial accountability with respect to the operation of court information systems. In particular, the debate centers on the rights of courts which attempt to restrict the release to executive agencies of "sensitive" court information.

JUDGMENTAL ASSESSMENT: A restrictive application of the "separation of powers doctrine" was not apparent in the jurisdictions with operational court information systems which were visited during the Phase I effort. Rather, a general spirit of cooperation between the judiciary and the executive agencies was prevalent.

In several jurisdictions court representatives were members of committees along with representatives of executive agencies and jointly participated in system management. In addition, there appeared to be no restrictions placed by the judiciary on the access of such agencies as police, prosecutor or sheriff's organizations to data which had been entered initially into the information system by the court. In fact, in several jurisdictions on-line

terminal devices, providing unrestricted direct access to the system's data base, were installed in non-court agency offices. On the basis of the on-site field visits it appears that the separation of powers doctrine is not now of significance in either the project organization or implementation of court information systems.

10. ISSUE: How strong has been the support of judges and court administrators in court information system planning and development? The generally ambiguous roles of the various court organizations and the overlap of responsibilities in the operating environment of most courts contribute to the difficulty of implementing an information system designed to make overall court management and operations more effective. Strong support of, and involvement in, system implementation by court management is, therefore, a significant factor in the potential success of the program.

The success of several system projects has been attributed to the strong support by court administrators¹² and judges¹⁴ to the project organization and to the goals and objectives of the project itself. Where judges or administrators are neither directly involved in project planning and operations nor strongly supportive of the goal of better court management¹⁸ (including greater participation by the judges themselves in management and administration)², it is unlikely that any resulting information system will be fully utilized or successful.

JUDGMENTAL ASSESSMENT: The responsibility for the management of a court is often shared by the presiding judge and the court administrator and they often look upon court administration differently.

In the majority of the courts visited the judges appeared to shun the responsibility for active court management. Whether this neglect of the administrative role has resulted from judicial temperament, the lack of time because of the other burdens of the bench, or some combination of factors cannot be easily determined. In addition, those judges who must face periodic election campaigns often were more concerned with the public image of the court than with the need for internal planning and management and consequently did not involve themselves in the management process.

In some jurisdictions, on the other hand, judges have been active in the membership of system user committees and have thereby contributed to the information system development. Where there was such judge support, it has often led also to strong judicial backing for the project through the judge's relationship with project funding decision makers. In general, however, the support of judges in the management of court information system development has been largely passive in nature. Only in one jurisdiction among those visited (Dallas County) was the court information system development led by a judge who played the major role in concept and design of the system and who provided the needed management support for system implementation.

Where a strong court administrator assumed an active role in court management, usually with strong judge support (if not participation), he also played an active part in the design, development and implementation of the court information system. This situation was found in several jurisdictions (Beaver County, Allegheny County, Philadelphia) and led to considerable court "input" to the design of the court information system.

In other jurisdictions, where the court administrator was able to play only a small part in the court information system design, he often found himself later to be responsible for system operation within the court. In those cases, the resulting system was not easily accepted and integrated into the court's operations.

In only a few jurisdictions was there strong judicial backing in the development of the court information system. The court administrators, on the other hand, have had the most involvement in system planning and development and appear to have been the key court spokesmen in such activities. The strength of such involvement varied among jurisdictions, however, and appeared directly related to the success of the program. Management involvement appears to be the key factor in achieving such success. Such involvement seems to be most effective when both a presiding judge, who can set overall policy and a court administrator, who has the authority to carry out that policy, play significant roles. Active participation by the court administrator can, however, often counter a lesser level of judicial involvement.

11. ISSUE: To what extent have court personnel been adequately trained and motivated to operate and use court information systems? Although trained data processing personnel at county data processing centers are generally responsible for the programming and equipment operation associated with a court information system, the day-to-day entry of data into the system as well as the periodic retrieval of information from the system are generally the responsibility of court personnel. Where such personnel are both adequately trained and motivated to fully utilize and maintain the system's features, the system can reach its potential level of effectiveness. On the other hand, where court personnel refuse to accept the information system as an integral part of court operations its benefits may be extremely limited.

It has been pointed out¹⁹ that the advent of a computer and its applications in the court environment will often elicit negative reactions in the judges, lawyers and others involved in the court operations. The causes of the reactions will differ but it generally appears that the basis of the reaction is related to a personal fear, or at least a personal concern, with the unknown consequences flowing from the introduction of a complex technological mechanism in the traditionally static court milieu.

"Much of the negative reaction toward computerization in the courts also is inspired by personal concerns over the disruption of familiar patterns of behavior. For example, judges customarily have felt that they enjoy substantial independence in the way in which they function. Some fear that computerization will provide a means for reviewing their activities and performance and for forcing them to work harder, faster, or longer."¹⁹ In addition, the fear of personnel displacement, or "being replaced by a computer", is a strong deterrent to full acceptance of, and cooperation with, the implementation of a court information system. These reactions can be minimized through adequate communication and involvement of those affected by the system. A common understanding of the purposes of the system, an appreciation of its nature and benefits to all, and of their roles in system operation will greatly enhance system acceptance. For instance, although manual clerical processing may be reduced through the assistance provided by the computer, there should be more time to exercise functions requiring independent judgment³ and, therefore, the resulting system can result in a more intelligent use of human beings.

JUDGMENTAL ASSESSMENT: In general, court operational personnel at the clerical level are responsible for the routine entry of data into court information systems. Such entry is made, in many jurisdictions, through the use of terminal display device keyboards requiring primarily typing skills. Training for such personnel appeared to be adequate in the overwhelming number of jurisdictions visited. Some jurisdictions have established training coordinators to conduct scheduled training programs in system operation. Operators in those courts underwent a training course and were supplied with a "user's manual" or "operator's handbook" which contained detailed instructions for using the system's data entry and query capabilities. Motivation for such court employees was not a significant factor in system effectiveness because either the personnel were specifically employed to perform the entry/query functions, or had been entering similar data in the past using typewriters and were able to adapt to the new procedures fairly easily.

Training and motivation of more senior court personnel in the use and potential benefits of court information systems, however, was in many jurisdictions, only minimally accomplished. In those courts there was a general lack of interest in the use of the outputs of the system and little management incentive or pressure from court management for the improvement of court operations through the use of the court information system. In the few jurisdictions, however, where court personnel were dependent on the system to accomplish specific court functions, there generally was not only greater use of the system but also more general interest in participating in an effective operation.

The general lack of interest by the judiciary and by some Clerks of Court in the court information system and its operation is reflected in the motivational attitude of those court personnel who appear to tolerate the system but do not play active roles in system expansion within the court.

The key to successful motivation for the effective use of a court information system seems to be found in jurisdictions where the system is so integrated into court operations that the court is dependent upon it to conduct its business, and where there is a demonstrated interest shown by court management in the system and its outputs.

12. ISSUE: Are courts acquiring dedicated data processing equipment for use in operating court information systems? The design of a court information system should proceed⁵ from the determination of information requirements, to the development of a system concept, and then to a detailed system performance description and only lastly to the selection of computer programs and equipment appropriate to meet the performance requirements. However, many times the initial issue arising in the development of a system is that of equipment selection. The court or other development agency may find that existing computers, such as those located at county or municipal offices are available for the processing of court information. Courts have, on the other hand, been warned⁶ about the problems of using a county or municipal data processing center which may be heavily engaged in many high priority tasks unrelated to court information and which could result in severely limiting the speed with which the center could respond to court information system job requests. One court was told²¹ that if either a county payroll or a civil litigant index had to be run at a critical moment, the choice would clearly be to run the payroll. This

issue of whether or not the court should have its own "dedicated" data processing support has been seen by one presiding judge in a large city as being one of control. He believes that "he who controls the information system, controls the operation" and he strongly advocates the use of dedicated systems in the courts to prevent the potential misuse of court information by non-court individuals and interests. Studies⁸ have, on the other hand, shown that the success of a given system does not depend on "ownership" of the computer.

Courts are often approached by computer salesmen³ who stress the latest advances in the data processing technology. Such advances include the application of electronic devices such as minicomputers, microprocessors, distributed data processors, intelligent terminals, and other complex equipment which reflect the industry emphasis on greater processing capability at reduced cost. Most courts are unprepared to deal with the technical information concerning these devices which is supplied by the data processing equipment industry and may respond by selection of equipment which is actually inappropriate for the system needs of the court. One statewide court system in a large southern state had gone ahead with planning for the development of a court information system which was to include the deployment of five independent data processing centers¹⁰ where a single center would have been preferred. This very costly plan apparently resulted from the overly optimistic proposals made to the court by the equipment manufacturer's representatives.

The determination of whether a court's information needs will be better satisfied through the operation of its own data processing equipment, through a state judicial data processing center, through sharing equipment with other government agencies at the county or municipal levels, or through the use of industry-operated service bureaus can best be determined only after a comprehensive analysis of the court's needs, the consideration of alternative means for meeting those needs, and the selection of equipment or services which is the most cost-effective.

The issues concerning equipment selection should not obscure the fact that an information system which provides necessary information about the different aspects of a court's operations does not necessarily require a computer or other electronic data processing equipment.²³ Systems such as California's Integrated Court/Automation Information System² were designed with the goal of maximizing the economical and effective use of both manual and automated techniques in court operations.

JUDGMENTAL ASSESSMENT: The operation of court information systems for the larger trial courts has required the use of electronic data processing equipment. In the jurisdictions visited the equipment utilized was, in the overwhelming number of cases, a large computer with associated data display terminals, printers and communications devices. Because of the availability of existing government computing systems, the courts have generally utilized capabilities which already process data for a number of other government agencies. Most use computers located at county facilities, while others share municipal (San Francisco, Philadelphia) or state judicial (Colorado)¹² equipment, for the processing of their trial court information. These "non-dedicated" data processing services are many times provided to the courts as a service without direct charge to the court. In addition, the computing systems are generally located in a "county data processing center" where a

trained staff of analysts, programmers and operational personnel are available to generate, maintain and modify court information systems. Although there have been complaints about the quality of such service (slow response time, low priority for court tasks, lack of appreciation for the court's responsibilities), the courts appear to be well served by the "non-dedicated" data processing services provided by data processing centers. The quality of such services, is, of course, related to the quality of the management and personnel which made up the center's staff and not all courts have been satisfied with the service provided.

It is, however, extremely difficult for a court to seek other sources of data processing support for its information system after an initial commitment to the county data processing center. Although such alternatives exist (e.g., use of independent "service bureaus", a dedicated court computer or other government agency equipment), few courts have reached the conclusion (although the number is growing) that their needs can only be adequately satisfied through the operation of their own data processing equipment and that, therefore, they should purchase or lease such equipment. In one jurisdiction at least (Union County)⁸, a court-owned "minicomputer" was installed to operate the court information system after thoroughly unsatisfactory experience with the county data processing center. In most cases, however, although courts are not satisfied with the data processing service provided, they are unable, because of budgetary restrictions and the lack of technically trained personnel to effectuate a change from a non-dedicated service to one dedicated solely to the court's needs.

13. ISSUE: Are court information system computer programs and procedures being adequately documented so that system improvements can be made and so that system transfers can be accomplished? The development of the computer programs necessary for the accomplishment of data processing necessary for a court information system is a complex technical effort. Once developed and installed, the computer programs like the other elements of the information system require maintenance, both so that they remain current with the information needs of the court and in order to incorporate improvements and other changes into the system design. Computer program maintenance, however, can be achieved effectively only if the initial programs have been adequately documented during the development effort.

In addition, if a court information system is to be transferred to another jurisdiction where it will be operated and maintained by personnel different from those who were involved in its original design and implementation, it is essential that the computer programs and system procedures be adequately documented.

Documentation of an information system may include⁴ descriptions of the programs such as functional specifications, flow charts, data base structure, file structures, data links, edit criteria, program listings and data element descriptions. Additional system documentation may include module and component descriptions, user manuals, processing mode descriptions and procedures for system recovery in case of system failure.¹¹

The utilization of "package" computer programs is of some interest in the discussion of the issue of adequate computer program documentation. Several

observers¹² of the court information system field have indicated that such programs are generally not sufficiently documented to allow the court to make efficient use of the system when new or different applications are to be included in the system's capability. Without the necessary documentation the court must rely on the supplier of the computer program package to make changes and improvements in the system's operation. This reliance is costly to the court, both in terms of the expense for accomplishing program modifications and in the severe limitations it imposes on the development of needed improvements and new applications for the information system.

JUDGMENTAL ASSESSMENT: In few of the jurisdictions visited during the on-site field visits did the documentation of the computer programs appear adequate for either effective program maintenance or to allow an effective transfer of the system to another jurisdiction. The necessity for such documentation has often been overlooked by "in-house" data processing system designers and programmers because of their familiarity with the design and the resulting software. Such personnel are usually involved in all of the phases of system development and may, because of their close relationship with each other and with the details of the system, neglect to document the program and its modifications made after initial operation. It is only after key personnel leave the data processing operation and a new staff member attempts to learn the details of the system that the lack of adequate documentation may be felt.

System documentation was more than adequate in those jurisdictions where an experienced data processing manager was responsible for program implementation and where sufficient funding was made available (Santa Clara County, Colorado and Tarrant County).

Where "package" or commercially available computer programs supplied by equipment vendors were used initially for court information system operation, they were, reportedly, extremely difficult to change. The inadequacy was generally not discovered until the jurisdiction attempted to make improvements or modifications to the programs. More detailed work statements and specifications requiring sufficient documentation, if used in the procurement of such package systems, could provide the courts with the technical tools necessary to effectively expand or otherwise modify court information systems.

14. ISSUE: What limiting effect have long-standing court practices and rules had on the implementation of court information systems? The implementation of a court information system generally involves changes in the day-to-day flow of information within the court as well as in the operating procedures followed by court personnel. Often such processes are governed by court rules and long-standing court practices. If unchanged, such rules could limit the effectiveness of the court information system. This can occur through inefficient utilization of the court's resources, by redundant data entry, duplicate record maintenance, and poor personnel assignments.

JUDGMENTAL ASSESSMENT: In most of the jurisdictions visited during the Phase I effort, however, the official rules of court operation did not appear to create any difficulty in the effective implementation of the court information system. Where court rules required change to accommodate the system, the judiciary made the necessary changes (Allegheny County, Beaver County). In other jurisdictions, procedures were changed by the court administrator or the clerk and the new procedures were instituted without difficulty.

In those jurisdictions where the court information system was not accepted fully into court operations, some elements of the court (e.g., the clerk's office, the scheduling office, etc.) have continued to follow the traditional operational practices even though such practices are in many areas redundant with respect to the operation of the court information system. In such courts as Cuyahoga County, Union County, and Philadelphia, both the innovative procedures associated with the court information systems and the long-standing operational processes of the court have been continued in operation, side by side, even though much duplication is involved.

In general, it appears that the rules of the courts, particularly those requirements concerning the manner in which court records are kept, the way documents are prepared and other traditional court practices, which are governed by rules or customs, have not been a major hindrance to the implementation of court information systems. However, because of unchanging practices in many jurisdictions, the new system's operations have been added as a new layer to the court's administrative activity without disturbing the former practices, however inefficient. Only in two of the courts visited, for instance, have the written "dockets", providing a synopsis of case activity, been supplanted by the operation of the court information system.

15. ISSUE: In what ways has the installation of an information system constrained or restricted traditional court activities or organization? There can be an impact by a court information system on the court itself, aside from the production and use of its information product in performing court operations. The requirement for a rigorous adherence to procedural standards for data collection, entry and retrieval which, of necessity, is imposed by most court information systems might have a constraining effect upon traditional court activities or upon the court's organizational flexibility. Such an effect could limit the somewhat ambiguous use of language often employed in court record keeping or induce organizational rigidity in order to provide statistical and management information, particularly where the system only "automates" existing practices. Such effects have been found in industrial installations of information systems. The extent to which a court may find itself under constraints imposed by the procedural requirements of its own information system is one that may be easily overlooked in the first rush to improve the operating effectiveness.

JUDGMENTAL ASSESSMENT: In none of the courts visited did the court information system appear to have a constraining or limiting effect on traditional court activities or organization.

It is believed this has resulted because the court information systems were not so integrated into the routine court processing of cases that such processing revolved around the requirements of the system. There were, of course, procedures which were standardized but in general the systems tended to follow the traditional court process and there was little indication in any of the jurisdictions that a change in the current practice was contemplated.

Secondly, the courts have been traditionally conservative in their approach to organization and have exhibited little need for flexibility in that area. Except for perhaps the establishment of a court administrator's office, the hiring of court coordinators, and the inclusion of a data processing department

or section, most courts have retained their basic court structure for decades and generally expect no change in the foreseeable future.

The court information system has not generally been a burdensome constraint either on procedure or organization. In some courts the system has been a catalyst for change. In those jurisdictions, as in most courts, any change in procedure or organization, however beneficial, is difficult to accomplish. The implementation of the court information system and its requirement for changes in processing, forms, and procedures was used successfully as the rationale to make a number of improvements which could not otherwise have been installed.

16. ISSUE: How effective are court information systems in collecting, processing, storing, and retrieving court data? Court information system development projects have rarely formally established internal objectives for the effective handling of court data. An assessment of effectiveness must, therefore, be based on limited observations of system performance rather than on an in-depth quantitative analysis.

The effectiveness of any information system's internal operations in collecting, processing, storing, and retrieving data is generally dependent on the complex interaction of a number of factors. Those factors may include response time, throughput, storage capacity, programming techniques, operating systems, facilities, communications, equipment configuration, maintenance procedures, terminal capabilities, printer characteristics, and input-output procedures.

The resulting effectiveness of system processing operation is related to, but not the same as, the effectiveness of the total system in assisting the court in the achievement of such objectives as reduced time to disposition, improved public image, and improved quality of justice. If the systems are internally effective, they operate efficiently in their use of personnel, equipment, and other resources.

JUDGMENTAL ASSESSMENT: The large sums expended annually for the current operation of some of the court information systems in the jurisdictions visited do raise questions as to how efficiently such systems perform their designed functions. In one court system, over \$1,700,000 (5-10% of the total court budget) are expended each year for system operation and maintenance of a system which is basically still a "batch" processing operation.

In other jurisdictions, the entry of data into the court information system must be preceded by an oftentimes complex coding process. This procedure is typically required because the information system design did not include the use of precoded data collection forms or other available devices which can ease the burden on the data entry operators. In some jurisdictions, the system's output reports are printed in a format which requires considerable interpretation on the part of the user before the information can be effectively used. Often the reliability of the system's equipment and operating software appeared questionable in some courts, particularly when the system "was down" for extended periods during the court working day. A lack of quick response to queries made through on-line terminal devices was noted in several jurisdictions.

The data processing equipment used to operate court information systems initially was supplied by the International Business Machines Corporation in the overwhelming number of installations. In a number of such jurisdictions, however, more cost-effective equipment such as cathode ray tube terminals supplied by other data processing equipment manufacturers is now in use in place of the original IBM-supplied devices. These changes have taken place because of the growing sophistication of system facility operating personnel concerning comparative cost and performance data among competing equipment vendors and have been aimed at improved system effectiveness.

The overall impression gained through the on-site visits to jurisdictions with operating court information systems is that, in general, such systems are operating effectively in data handling and can deal with the caseload volumes of data found in the courts served. However, the manual procedures, paper handling, and other support activities associated with information systems operation are conducted less efficiently and often result in non-essential annual system maintenance and operation costs.

17. ISSUE: How has the quality of justice been effected by court information systems? The term "quality of justice" is extremely difficult to define and measure for it often depends upon the role in which one finds himself in the judicial process. The unsuccessful litigant, the convicted offender, and the losing attorney may view the same process with a different perspective from the prosecutor or the other more successful participants in the court activity. The defendant, unable to raise what appears to him to be an excessive bail, or the witness called repeatedly to court only to be told time after time of the continuance of the case, may not rate the quality of justice very highly. On the other hand, the public, seeing the release on recognizance of accused offenders or the suspension of prison sentences for convicted defendants, may also feel that the quality of justice is poor.

In the long run, it is the judiciary who must assure that the standards for the quality of justice have been met, and that justice is truly dispensed with protection for the legitimate interest of all parties concerned, and without regard to the procedural or other limitations of the court information system. The fear of "assembly line justice" or "efficiency for efficiency's sake", which may be caused by the introduction of a court information system, can only become a real problem if the court abdicates its responsibility for maintaining high standards for quality justice.

JUDGMENTAL ASSESSMENT: In none of the jurisdictions visited has the judiciary failed to maintain its standards for the quality of justice because of the procedural or other limitations of the court information system.

In fact, information systems have improved communications between the courts and the public through the production of indexes, calendars, and the timely notices for scheduled court participants, thereby also improving "quality of justice". However, analysis of the system's outputs covering such court processes as sentencing patterns among the court's judges (which may contribute to improvements in the quality of justice) was found in only two jurisdictions visited. In most jurisdictions available data, such as an individual judge's dispositions

was regarded as extremely sensitive data and was withheld from both the public and other court personnel, and was not otherwise used.

The courts have, for the most part, maintained the same quality of justice without regard to the court information system and its potential for assisting in improved judicial administration. In most jurisdictions, the judiciary continued its role in the dispensation of justice without regard to the court information system which it generally ignored. However, because of prompt accurate query responses, timely notices of court appearances, the modern business-like atmosphere of computer equipped offices, and other information system related activities, the public may, in fact, feel that the quality of justice has been improved.

18. ISSUE: Is useful data available from past evaluations of court information system projects?

JUDGMENTAL ASSESSMENT: Although the procedures covering grant applications for funding for the development of court information systems require the preparation of an "evaluation component" or plan, and the guidelines adopted by the Law Enforcement Assistance Administration in 1974 state that each State Planning Agency "is expected to intensively evaluate...selected projects or groups of projects..."²⁷, there has been no real evaluation of any of the court information system projects.

Only in one of the jurisdictions visited (Santa Clara County) was a formal evaluation document prepared covering the court information system. That document reported the results of a three-month, mostly subjective evaluation of the overall CJIC (Criminal Justice Information Control) system. It was a quantitative evaluation only in the sense that it presented certain cost data, but it did not utilize either the methodology of a "before versus after program comparison" or "comparison of projected values with actual measurement" methodology. In fact, measurements (as opposed to subjective ratings) were not made as part of the evaluation.

In several other jurisdictions, some limited analysis of the costs associated with the processing of cases before and after the institution of the court information system or a projection of costs after a planned system expansion were made but, in general, there has not been any formal evaluation of court information systems. Such evaluation should be based on a methodology including preparation and planning, development of an evaluation design, followed by the execution of the design.²

The failure to perform such evaluations in the area of court information systems is probably caused by the unavailability of baseline data, the absence of any formalized and measurable goals and objectives for such systems, and the reluctance of personnel engaged in or sponsoring such large and complex projects to have an objective appraisal of their performance.

Since court information projects usually involve substantial amounts of resources, and produce significant changes in the operating procedures of a number of key criminal justice agencies, it would seem particularly desirable that evaluations be conducted before additional commitments of scarce funding is allocated to the system development.

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COURT INFORMATION SYSTEMS PHASE I EVALUATION METHODOLOGY

A. Identification and Selection of Candidate Systems

An extensive literature search was undertaken by the project team to identify those existing court information systems which were candidates for inclusion in the listing of systems selected for consideration as part of the Phase I Evaluation. In addition to the documentation concerning individual systems identified by this search, listings covering LEAA discretionary and block-funded court information system projects were reviewed and experts in the field of court administration were interviewed. Another source of data concerning related information systems projects was the report of state court information systems prepared by the Institute for Judicial Administration.*

An analysis of the information available from these sources yielded an initial list of 111 jurisdictions in which there appeared to be an information system currently operational.

B. Candidate System Selection Criteria

In the selection of the court information system universe to be considered in this study, three criteria were applied. Only court information systems that are currently operational were considered, thereby excluding systems in planning, development, test, or parallel test operation. The intention to examine fully operational systems was in accordance with the intent of the Phase I Evaluation to determine how the effectiveness of court information systems and their impact upon the courts can best be evaluated. To this end, information systems which had been operational for a very short period of time (e.g., a matter of a few months), and had not reached operational stability, were also excluded from consideration.

The second criterion applied was that only systems which support trial court operations would be included. That is, systems which exclusively supported an appellate court or central court administration were not included, but only systems which assisted in the case processing operations of the trial courts were considered.

The court information systems considered support both operational and management functions. The use of a computer only to perform certain data processing within the court did not qualify a system as a court information system unless the information system provided some management reports as well. For example, data systems which support only traffic violations processing, and produce no exception reports and only limited statistical summaries were excluded since they were performing only the mechanical tasks of data handling. Also, information systems which provide court management with exception reports and statistics, but which are not based on current operational data (e.g., systems which relied upon only historical tabulations) were also excluded.

* SJIS - State Judicial Information Systems - State-of-the-Art, SEARCH Group, Inc., June 1975.

Inquiries were sent to the National Institute of Law Enforcement and Criminal Justice liaison personnel in LEAA's regional offices. Through the cooperation of the Systems Development Office of LEAA, a presentation was also made to the LEAA Regional Office Systems specialists at their September 1975 round-table meeting in New Orleans. Subsequently, each of the systems specialists was reached by telephone to determine whether the initial list gleaned from the literature and analysis was complete and whether the systems appearing on it did, in fact, satisfy the three criteria. Since most of a regional LEAA systems specialist's work is concentrated on current developmental or planned projects, the project team was often referred to personnel at the state planning agency or to state-level court administrators for specific system information. Each state-level specialist was then, in turn, called by telephone regarding the completeness of the list and helped to evaluate that state's court information system projects against the three selection criteria. As a result of this effort, the number of information systems under consideration was reduced to approximately 40.

C. Characteristics of Selected Systems

Table A-1 summarizes the characteristics of the 47 court information systems surveyed by structured telephone interviews. The majority of the jurisdictions with court information systems (80%) serve populations of over 500,000, and 73% of the courts have annual system caseloads of over 10,000. Most of the information systems (83%) served the upper court, and 90% of them supported criminal case processing. Less than half served or supported both the upper and lower courts or both criminal and civil case processing.

Most of the information systems (68%) have been operational for less than three years. LEAA, through the state planning agencies, was the major source of funding for 60% of the systems, while city or county funds contributed to the development of 53% of the systems. In 70% of the jurisdictions, the data processing facility used for the court information system is operated by the county or city, while only 24% of the courts have their own data processing equipment. System on-line capability for input and/or query was reported for 80% of the systems. Most (68%) reported operational, management, and statistical applications, while 98% reported at least one operational application. Ninety-four percent reported other applications than those three, most frequently jury selection or management, or fines' record keeping (72% and 55%, respectively).

D. On-Site Field Visits

From the final list a representative group of jurisdictions was selected for site visits. Among the several factors used in the site survey selection process were the following:

- Source of development funds: internal, external (grants, discretionary funds, etc.).
- Data processing center operation: court, county, municipal.
- Size of population served.

TABLE A-1

Summary Characteristics of CIS Survey of 47 Courts

Population Served

More than 1 Million	42%
500,000 - 1 Million	38%
Less than 500,000	20%

Annual System Caseload

More than 100,000	20%
25,000 - 100,000	25%
10,000 - 24,999	27%
Less than 10,000	28%

Court Level Serviced

Only Upper Courts	39%
Only Lower Courts	15%
Both Courts	46%

Length of Time the CIS Was Operational

One Year	13%
One - Three Years	57%
Four - Six Years	28%
Seven or More Years	2%

Type of Cases Supported

Criminal	91%
Civil	53%
Both	49%
Juvenile and/or Traffic	40%

Development Funding Contribution

LEAA	60%
County or City	53%
State	8%
Multiple Sources	21%

Data Processing Center Operation

Court	24%
State	6%
County or City	70%
Dual Operations	6%

On-Line Capability 80%Case Flow Applications

Operational	98%
Management	79%
Statistical	77%
Two Applications	19%
Three Applications	68%

Other Applications

Any Other	94%
Jury	72%
Fines	55%

- Court locations served: individual court, or entire state, county, etc.
- Development of application programs.
- Length of time the court information system has been operational.
- Previous data processing experience.
- Computer hardware configuration: minicomputers, large system, dedication to court applications, service bureau, other government agencies.
- Availability of evaluation data.
- Availability of documentation.

The project team developed detailed descriptions of the actual project activities at a number of representative jurisdictions which currently operate court information systems through on-site field visits. The visits included interviews, data gathering and observations of court information system operation, and supplemented the structured telephone interviews conducted during the initial phase of the study. The court information systems examined in depth are listed in Table A-2.

Table A-3 presents the questions used for discussion by the project team during an on-site field visit to a jurisdiction operating a court information system. Discussions with court and information system personnel covered such information as project activities and their interrelationships; resource requirements; system objectives, methods, effectiveness, outcomes and impact.

The data gathered from each on-site survey were used, together with the data elicited during the knowledge gathering task, to document (1) the process by which the court information system was conceived, designed, and implemented; (2) the actual flow of information through the system; (3) the impact of the system on the court, the users, and the justice system; and (4) the potential for developing evaluation standards for measuring the effectiveness and impact of such systems.

TABLE A-2
JURISDICTIONS TO WHICH SITE VISITS WERE MADE
DURING THE PHASE I EVALUATION OF
COURT INFORMATION SYSTEMS

- Cuyahoga County, Ohio (Cleveland)
- Dallas County, Texas (Dallas)
- Tarrant County, Texas (Ft. Worth)
- Philadelphia, Pennsylvania
- Allegheny County, Pennsylvania (Pittsburgh)
- Beaver County, Pennsylvania
- Santa Clara County, California (San Jose)
- Alameda County, California (Oakland)
- San Francisco, California
- Union County, New Jersey (Elizabeth)
- State of Colorado (Denver)
- Broward County, Florida (Ft. Lauderdale)
- District of Columbia (U.S. District Court)

TABLE A-3

QUESTIONS FOR DISCUSSION DURING SITE VISITS

A. Development of CIS

1. How was idea for current CIS conceived?
2. Who was motivating force in project? A judge, court administrator? Consultant? Other?
3. What was project structure? (e.g., review committees, user groups? Provision for user participation. At what points did they participate?)
4. What was the decision making process? Who reviewed progress, approved designs, reviewed budgets and expenditures?
5. Who performed analysis, design concept?
6. What funding sources were utilized? Were any unusual procedures utilized to obtain project funding? Were grant applications submitted?
7. Who implemented the system? (i.e., programmed computer, designed forms, trained personnel, etc.)
8. Were visits made to other courts to examine their information system? Was data obtained from any other courts?
9. What was the training process, both for professional and clerical personnel?
10. What was the approximate time span from initial project idea to eventual implementation, including major milestones along the way? (i.e., completion of analysis, design and approval, implementation, training, test operations, full operations.)
11. What new job positions were created? Were any eliminated? How were both handled vis-a-vis existing court personnel?
12. What was the approximate cost of CIS development; for various phases or stages?
13. Given your experience, what would you do differently if you were to go through the process again?

B. Operation of CIS

1. What is the information flow through your system? Any flow charts available? Can we obtain copies of input forms, output reports, etc? (A system walk-through would be most helpful.)

TABLE A-3 (Concluded)

2. To what use are the management reports put? Who takes action? What type of action?
3. What is approximate cost of operating your information system?
4. Given your experience to date, what would you do differently? In the design? In the implementation?

C. Measures of Effectiveness

1. What were the goals of your information system development project?
2. How did you plan to achieve them and why did you decide on this way to achieve them (i.e., if the goal was to reduce backlog, how and why was this to be achieved)?
3. Have any measures been made of the actual impact of the system?
4. If not, do you have any intuitive feel for the effect regarding the following -- cost, complexity, public acceptance, case backlog, court delay, casflow management, information security?

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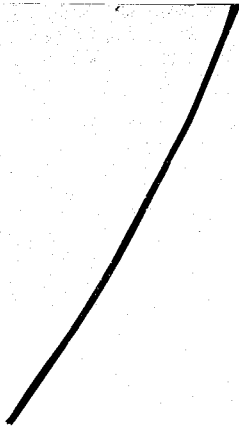
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