

PROBLEMS ENCOUNTERED IN DEVELOPING A STATE LEVEL CCH-OBTS SYSTEM AND INTERFACING IT WITH THE NCIC-CCH SYSTEM

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BACKGROUND

DEVELOPMENT OF FCIC

Recognizing the need for complete and timely information, the Florida Legislature, in the Florida Law Enforcement Act of 1967, instructed the Department of Law Enforcement to "establish a system of intrastate communication of vital statistics relating to crimes, criminals, and criminal activity." A survey of law enforcement and criminal justice officials throughout Florida defined the objectives of this system - to compile, massage, store, retrieve, and communicate crime related information to all law enforcement and criminal justice agencies in the state.

To accomplish these objectives, the Florida Crime Information Center (FCIC) was developed. FCIC, a computer-based information system, was designed to evolve into a Criminal Justice Information and Statistics system. Through computers and 300 remote teleprocessing terminals located in law enforcement and criminal justice agencies throughout the state, FCIC:

- Provides a secure system of intra and interstate communications
- Provides information storage and retrieval services immediately, through on-line, real-time capabilities
- Provides these services continuously, 24-hours a day.

The FCIC computer programs were developed giving consideration to both state and local requirements, and provide for the intra-state exchange of information concerning:

VEHICLES

- Stolen vehicles
- Stolen boats
- Stolen aircraft
- Stolen motorcycles
- Stolen or lost license plates (tags)
- Vehicles wanted in connection with crimes
- Repossessed vehicles
- Impounded, abandoned, or recovered vehicles

PROPERTY

- Stolen serialized articles
- Lost, stolen, or recovered serialized guns

PERSONS

- Wanted persons
- Missing persons
- Criminal histories, including:
 - Identification data
 - Arrest data
 - Conviction data
 - Parole data

In addition, a computer interface was established with the National Crime Information Center (NCIC). When FCIC entries meet mandatory requirements for entry into the national files, the FCIC automatically converts the data from state formats to national formats and forwards it to NCIC. Also, an interface was established with the National Law Enforcement Telecommunications System (NLETS), which allows Florida's local law enforcement agencies to communicate nationally with other law enforcement agencies.

The Department also integrated the operations of its Crime Information Bureau (CIB) into the FCIC operations. The Crime Information Bureau is the state's central repository for criminal identification and criminal history information. Recognizing the potential of computers in criminal identification and information processing, the Department automated its fingerprint and records system. Utilizing the technology of computers and microfilm, the Crime Information Bureau accomplishes criminal fingerprint identification and the generation of up-to-date, computerized, criminal history "rap sheets" with a minimum expenditure of time, personnel, and resources.

PARTICIPATION IN PROJECT SEARCH

As a result of its responsibility for providing criminal history information, the Department of Law Enforcement began participation in the Law Enforcement Assistance Administration's (LEAA) newly organized Project SEARCH in 1969. In 1970, Project SEARCH demonstrated the feasibility of operating an on-line computerized system allowing the interstate exchange of criminal history files based on compatible criminal justice offender records.

Since Project SEARCH's prototype data elements were similar to those of the Department, the Crime Information Bureau modified and expanded its operation in order to achieve compatibility. The resulting criminal history information was forwarded to the FCIC for inclusion into the appropriate criminal history record. Before conversion to Project SEARCH standards, FCIC had criminal history records on over 250,000 individuals. Because the criminal history files were maintained in coded formats, special programs were created to extract records which met the mandatory SEARCH requirements. This resulted in approximately 16,000 individual criminal history records being utilized for the prototype SEARCH demonstration.

DEVELOPMENT OF NCIC-CCH

In 1971, as a result of the successful demonstration by Project SEARCH, the NCIC developed a computerized criminal history system which is to be implemented in two phases. The first phase concentrates on the development of a uniform data base for criminal histories at the national level. States, meeting mandatory NCIC requirements, submit criminal history information on individuals, and, in turn, inquire against this data base. When all states develop a uniform data base for NCIC compatibility, phase two will be implemented. This phase will have the NCIC serving as a national index and communications network for the fifty state criminal justice systems. With the established uniformity of data bases, states can communicate directly with each other to obtain detailed criminal history information.

Recognizing the need and value of the instantaneous interstate exchange of criminal histories, the Department of Law Enforcement, in June of 1971, recommitted its resources to the implementation of the NCIC Computerized Criminal History (CCH) system in Florida. The Department's first objective was to develop the CCH system for Florida and provide NCIC with an initial load file of criminal histories by November 1971.

Achievement of this goal required quick, accurate decisions and plans, a free exchange of ideas, access to necessary information, and the flexibility to develop and accept new concepts. Fortunately, the close infra-departmental working relationship of CIB (the State's repository for criminal identification and criminal history information) and FCIC, and the close inter-agency relationship with NCIC provided the framework to support these activities.

The FCIC had an operational statewide, on-line, real-time criminal history system prior to the NCIC-CCH. The FCIC file, by 1971, contained criminal history information on approximately 300,000 individuals. Preventing the loss of this data dictated conversion of the file instead of developing a totally new CCH system.

To some this may seem to have been an advantage. However, conversion of an automated system presents its own inherent problems. For example, the offenses and dispositions were in a state-coded form. The source document, literal for offenses and dispositions, was translated into standardized groups utilizing numeric codes. Thus, the translation from state numeric codes to CCH numeric codes required extreme safeguards to insure that the intent of the original literals was not lost.

Another problem area concerned agency identifiers. Since the state files mirrored the FBI's rap sheet, in some instances non-Florida arrest information was listed from agencies no longer in existence. Conversion necessitated the creation of special NCIC ORI's (Originating Agency Identifiers) for these agencies.

These and other problems were solved only as a result of the extremely close working relationship among NCIC, FCIC, and CIB. This cooperative effort resulted in the Department's meeting its November 1971 deadline for providing NCIC with an initial load file.

The conversion of the 300,000 criminal history files resulted in an initial load tape of approximately 52,000 individuals who met mandatory NCIC-CCH requirements. However, even with the safeguards, some 2,000 individuals were rejected by NCIC. Approximately 1,100 were rejected due to invalid ORI's, while the rest were rejected due to having already been entered by the federal government. In order to maintain proper control and insure the integrity of the information in both the NCIC-CCH and FCIC files, the Department expended additional resources to manually analyze and, where appropriate, correct the data on these individuals.

Whether an agency is converting an existing file or developing a totally new CCH system, generation of the NCIC-CCH initial load demands close cooperation from the Identification Bureau, the Computer Center, and the NCIC; the ability to retain maximum flexibility within established guidelines; and the realization that "rejects" will occur, necessitating corrective procedures.

DEVELOPMENT OF OBTS

As stated earlier, FCIC was designed to evolve into a Criminal Justice Information and Statistics system (CJIS). In this system, the three criminal justice modules (law enforcement, judicial, and corrections) will be interfaced to form an integrated Offender-Based Transaction Statistics system (OBTS). This offender-based system will provide the criminal justice community with: (1) a criminal history that includes each significant transaction from the time an individual enters the criminal justice process by arrest until he exits from the system, (2) status information or where the individual is within the system, and (3) derivative statistical information for management and decision making.

Information contained in this system will be more complete than that contained in NCIC-CCH. While CCH is interested only in the final outcome in each segment of the criminal justice system, OBTS concerns itself with *each* significant transaction within the segments. For example, OBTS is concerned not only with the final result of an offender's trial, but also with what action the prosecutor took relative to the offender's charges, what happened at the preliminary hearing, and the decision at arraignment.

Information contained in an OBTS system is also more detailed in certain areas than the information needed for CCH. For example, OBTS is interested in the manner in which the case was filed, pleas, whether the trial was jury or non-jury, types of defense counsel, and multiple release actions. CCH does not concern itself with these items of information.

Thus, CCH is the foundation upon which an OBTS superstructure can be built. Interfacing the two, however, presents problems similar to those which an engineer faces when constructing a building which has been designed by two architects, one for the foundation and another for the superstructure.

Concurrent with Project SEARCH's prototype criminal history demonstration, the Department of Law Enforcement participated in the Statistical Advisory Committee of Project SEARCH. This Committee's goal was to "design and demonstrate a computerized statistics system based on an accounting of individual offender's proceeding through the criminal justice system. As a part of this Committee's work, Florida, and nine other states, each conducted a historical study of an arbitrary sample of persons arrested in 1968, constructing longitudinal records by tracing offenders

step-by-step through the criminal justice process using the concept of offender-based tracking. The results of this study provided a meaningful experience as well as insight into problems that would be confronted in attempting to develop and operate an OBTS system on an on-going basis.

In light of this experience, Project SEARCH established a Statistical Steering Committee, of which Florida is a member. The Committee defined the minimum requirements for an on-going OBTS system, aided five participating states in developing and implementing such a system, and evaluated and developed descriptions of each state's system to aid other states' contemplating the development and implementation of an OBTS system.

As a result of its participation on the SEARCH Statistical Steering Committee, Florida has taken the following steps toward implementing an OBTS system:

1. Finalized development of a document describing criminal justice in Florida.
2. Established a state advisory committee composed of leaders in all areas of criminal justice and held meetings.
3. Developed intrastate data elements.
4. Developed forms to collect OBTS data.
5. Prepared a Contributor's Reporting Manual describing how to complete the forms and route them.
6. Made liaison contacts in two Florida counties to lay groundwork for testing the prototype system.
7. Held training workshops in the two test counties.
8. Tested the prototype system.
9. Maintained field assistance during the test.
10. Modified in-house work procedures and created software to generate data to satisfy the grant requirements and update CCH.
11. Prepared a legislative budget and a grant application for full implementation of OBTS in Florida.
12. Developed a draft brochure describing the Florida OBTS system.

The following tasks still need to be accomplished in order to implement fully this system:

1. Obtain legislative funding for OBTS.
2. Complete staffing for development, implementation and operation of the program.
3. Train and orient the staff.
4. Modify and finalize system design based on test results and evaluation. This will include changes in forms design, paper flow, reporting manuals, training packages, internal work processing and software.
5. Finalize information brochure describing the Florida OBTS system and disseminate to all criminal justice agencies in Florida.
6. Make liaison contacts with all Florida criminal justice agencies.
7. Hold training workshops for all contributors.
8. Begin collection of OBTS data.
9. Provide individual agency assistance through a field staff.
10. Verify, correct (when necessary), and process OBTS data, updating CCH and deriving statistical information for management and decision making.

PROBLEMS AND ISSUES

Florida's experience to date has resulted in the identification of certain problems and issues which other states may experience in attempting to develop and implement a CCH-OBTS system, and at the same time interface it with the NCIC-CCH system. As in any new system, numerous problems and issues arise. While some are technical, others administrative, and still others are policy oriented, they are matters of concern to all participants. The following is a discussion of some of these areas with their possible solutions.

OPERATIONAL CCH - FEDERAL VERSUS STATE CONTROL

Since CCH has been developed to be the foundation for an OBTS system, it is relevant at this juncture to highlight a very significant issue encountered in the implementation of CCH. This issue concerns the question of state versus federal control of the system.

If states are to assume responsibility for records they enter in NCIC-CCH, they must retain control of the system. If the national system has and utilizes capabilities to enter state information which the state has already determined should not be in NCIC-CCH, the state's control of the system will be jeopardized.

As a matter of policy, it must be reaffirmed that the national system is and should remain a repository for the fifty states. Recognizing that this repository contains information which is not within the immediate possession of the states, methods should be developed to make states aware of the status of each entry and let them maintain control of the entry. In effect, NCIC should be treated as an extension of the states' CCH systems.

Since states will be developing systems at different time intervals, the national system must also maintain the flexibility to function through both terminal operations with manual intervention and through sophisticated computer-to-computer interfaces. Restricting the national system to one or the other method places an undue burden on the resources of the states.

MANPOWER RESOURCES AND WORK PROCESSING

When a state converts an existing criminal history program to the NCIC-CCH system or converts from NCIC-CCH to OBTS, additional manpower

resources are needed. Considerable thought should be given to the additional work-load burden this conversion effort creates before a state commits itself to such a venture.

With the advent of the NCIC-CCH system in November of 1971, Florida found itself in the position of having to convert its entire criminal history file in order to meet the systems' requirements of NCIC-CCH. The Department realized that additional manpower would be needed in order to accomplish this conversion.

Anticipation of the increased data submission forthcoming under the NCIC-CCH program prompted projections for staff increases. Where eighty personnel (including supervisors) were required to process criminal history data and fingerprint cards in the past, some one hundred and ten were anticipated for NCIC-CCH. After the CCH implementation, however, even this figure proved inadequate. Based on work-load factors, it is estimated that it will take one hundred and sixty-five personnel to adequately process CCH data.

NCIC-CCH provided the Department with a foundation to process multiple forms concerning an individual's arrest and subsequent disposition. However, adaption to OBTS will require extensive development beyond CCH. Data elements will increase, and processing procedures will need to be modified. Due to the estimated 100% increase in data anticipated from OBTS, another staff increase will be unavoidable.

Of equal importance with the staff increase was the necessity to alter internal processing to include sophisticated audit and control procedures. The fingerprint card was no longer the only form passed through the processing sections for action. Therefore, procedures had to be developed to insure the accurate flow of all forms and to be able to determine their location immediately. In addition, audits became a routine operation, insuring that each section added the correct data to an individual's criminal history record.

At this time, the Department is analyzing various methods of inputting criminal history data to determine the staffing requirements. Methods under study include new ways to accomplish fingerprint identification, as well as a means of inputting the data into the files (e.g., optical scanners to capture the data from source documents, remote terminals to allow data to be input directly into the files without the need for an intermediate conversion step, utilizing edit programs to insure file accuracy).

TRAINING AND ORIENTATION

Concurrent with the need for additional manpower in converting to NCIC-CCH or OBTS is the need for in-house training and orientation for new personnel and existing staff as well. Another critical aspect of training is that instruction must be given to outside agency contributors to the system. If the input source (the contributor) does not understand the system, where that contributor fits into it, or how to submit accurate data, then there is no system, regardless of the amount of sophisticated hardware and software housed at the state level.

In-house training must include detailed instruction for the field service staff, identification technicians, coders, reviewers, analyst verifiers, key-punchers, keypunch verifiers, programmers, systems analysts, and computer operators. While detailed content will vary dependent upon the function of the personnel being trained, all personnel should be oriented to an overview of the entire system, its goals and objectives, and how it benefits the administration of criminal justice.

Contributor training can be broken down into three areas: managerial, supervisory, and worker. Managers of contributing agencies must be given an overview of the system, its goals and objectives. They should also be informed as to what will be required of their agencies and what benefits they can expect to derive as a result of participation. Supervisors should be given a managerial orientation as well as worker training. Workers who will be responsible for the physical completion and submission of the required information must be given an overview of the system, the importance of their role within it, the operating procedures, and details of how to submit the information accurately.

Because the functions of criminal justice agencies differ, all contributors should not be trained at the same time. Separate workshops should be held for law enforcement, court, corrections, and probation and parole personnel. While the detailed content of each workshop will necessarily differ, a system overview should be common to all. In this manner, all contributors are aware of the total system without their time being taken up listening to detailed training procedures for other agencies.

Finally, this effort requires the development of training manuals, written procedures, detailed job and task descriptions, and evaluation devices. Training and orientation is a critical aspect of conversion for, without it, the accuracy of the new system is negated. Further, the implementing

agency must realize that training is not a one time affair, but due to system modification, attrition, and the need to facilitate the continued interest of personnel involved, training is an on-going effort.

FORMS DESIGN

Another aspect of the evolution from CCH to OBTS involves the design of data collection forms. While forms needed to collect CCH data are few in number and relatively simple in design, the expanded information requirements of OBTS dictate a greater number of forms requiring a somewhat intricate design.

Recognizing that the fingerprints taken at the time of arrest are the only positive means of identification, the Department of Law Enforcement identified two basic alternatives in designing forms to collect OBTS information. One was to fingerprint an individual at each stage of the criminal justice process. For fiscal and other reasons, this alternative was untenable. The other alternative was to fingerprint the individual at the point of arrest and have subsequent information submitted on forms not requiring an individual's fingerprints. However, for this alternative to function effectively, a method of maintaining control over the individual's identity was needed. The method utilized by Florida was the use of a common number, unique to a specific individual for a specific arrest, which would enable the system to track the individual through the criminal justice process even though he might be involved at various stages for multiple, unrelated offenses.

In keeping with this alternative, Florida set out to design forms which would meet three basic requirements: (1) they would capture required data for CCH and OBTS, (2) contributors would be able to complete them with a minimum degree of difficulty, and (3) contributors would be able to integrate the completion of the forms into their normal work flow, thus avoiding the creation of an additional processing step.

Two types of forms were developed. After consultation with local criminal justice agencies, one set was discarded as impractical because it utilized codes alone, with no literal explanation. This type of form would not fit all situations, would have a high error rate, and would be time consuming to complete until codes had been memorized. Advantages included the fact that a common number was preprinted on a five-part, carbon snap-out form and that the identification and arrest information would only have to be filled in once, at the time of arrest.

The second set of forms, which combined a check-the-box concept with room for literal explanation where necessary, was tested in two counties. While the shortcomings of the first set were overcome, the second set had the following inherent problems. All agencies taking action on the individual's case after the point of arrest had to transcribe both the common number and identification information onto forms describing their respective actions. This resulted in an intolerable error rate in transcribing the information as well as unacceptable time delays and backlogs.

Results of the test indicated that a merger of the two forms' design concepts described would result in optimum achievement of the three basic forms' design requirements listed above.

LACK OF PRE-TRIAL SEGMENT IN CCH

Having discussed several pertinent problems relative to the operation of an on-going CCH system and its evolution into OBTS, there remains to be addressed the problem of interfacing OBTS with NCIC-CCH.

One of the primary factors hampering this interface is the lack of a pre-trial segment at the national level. Currently, the NCIC-CCH system fails to record (or records in another segment) important transactions occurring between arrest and trial wherein the individual may exit the criminal justice system.

For example, the situation where an offender's case is dismissed at the preliminary hearing would not be recorded as such in NCIC-CCH. To reflect this disposition in the National system would require that it be coded as "dismissed without trial" in the arrest disposition field, or a judicial segment would have to be created. Dismissal at the preliminary hearing is not an arrest disposition; it is a judicial disposition. However, it is not a trial which, functionally speaking, is what the judicial segment of NCIC-CCH addresses. Thus, this disposition does not truly fit in either place. In addition, consider the case where an offender has an arrest disposition of "released on bail." The prosecutor then decides to dismiss the charge. The original disposition of "released on bail" must be cancelled and the new disposition of "dismissed without trial" is then placed on file. In this example, the "released on bail" information is lost from the system.

It is apparent that the state is then placed in the position of having to choose between two alternative actions, both of which are undesirable. On the

one hand, the state can refuse to input the pre-trial disposition into the national system. This is undesirable from the standpoint that the record is then incomplete for anyone inquiring against the national data base. On the other hand, the state can "dummy" an arrest or court segment in order to get the disposition information into the national data base. However, this is equally undesirable in that it does not truly reflect how the disposition was made. In both alternatives, the state finds its own records reflecting one set of data while the national data base reflects another.

The creation of a pre-trial segment at the national level to include pre-trial dispositions where an offender exits from the system would serve to correct this problem and achieve needed flexibility.

DATA ELEMENT STRUCTURE

In order for states to interface successfully with the national level, considerable attention must also be given to the structure of data elements. Common denominators must be found which are applicable to all fifty states. The SEARCH Statistical Steering Committee has endorsed a data element structure for OBTS which is a mixture of transactions described by their location (e.g., lower court, higher court) and by their function (e.g., police/prosecution and corrections). This structure may be adequate for an OBTS system which limits itself to tracking "felonies only" as the SEARCH model does. However, a state level OBTS which expects to serve the needs of criminal justice and provide meaningful statistics relative to its operation must address itself to tracking misdemeanor offenders as well. This being the case, the recommended structure becomes inadequate because of inherent differences among judicial systems of the various states which make it impossible in some instances to describe transactions as having occurred in a lower court or a higher court.

In seeking standardization for OBTS and CCH, the model should be based on function rather than location, because the functions do not vary as much from state to state as do the locations of transactions. For example, the arraignment function is much the same in all states regardless of whether it takes place in a lower or higher court. With a data element structure by function, it becomes easier to input into the national data base. At the same time, a posture of flexibility is maintained at the state level in order to satisfy needs of local criminal justice agencies.

DATA PROCESSING SERVICES

In addition to the previously described problems and issues, a state must be aware of the tremendous increase in data processing services necessitated by CCH-OBTS. When the requirements of the NCIC-CCH system were examined, it was determined that existing FCIC criminal history files and programs were not completely compatible. Under CCH, a five-fold increase in information was anticipated, with the bulk of data being submitted by court, correctional, and probation/parole agencies. As a result, additional data processing support became mandatory.

The increased involvement affects both the software (programs) and hardware (computer equipment) portions of data processing. Software must be either modified to meet expanded needs or discarded as inadequate and new software created. Hardware must be evaluated to insure its capability to handle the increased workload and storage requirements. If remote teleprocessing terminals are used, terminal users must be redefined.

Because most of the 300 FCIC terminals were located in local law enforcement agencies, the need for close working relationships among these agencies and the courts was pointed out. The state is now developing a comprehensive plan to insure close cooperation in the routing of the expanded criminal history data.

The next challenge occurred as OBTS was being developed. Analysis indicated that OBTS implementation would result in approximately a 100% increase in data over CCH. As OBTS develops, new ideas and methods will increase the data needs. Also, anticipated utilization of OBTS indicates that use of the system by court agencies would be sufficient to justify its own FCIC terminals.

To implement OBTS, existing computer equipment must be evaluated to determine its capability of handling the increased data, criminal history processing software must be rewritten, disk storage must again be expanded, and the comprehensive

plan must be revised to allow provisions for FCIC terminals in the court agencies.

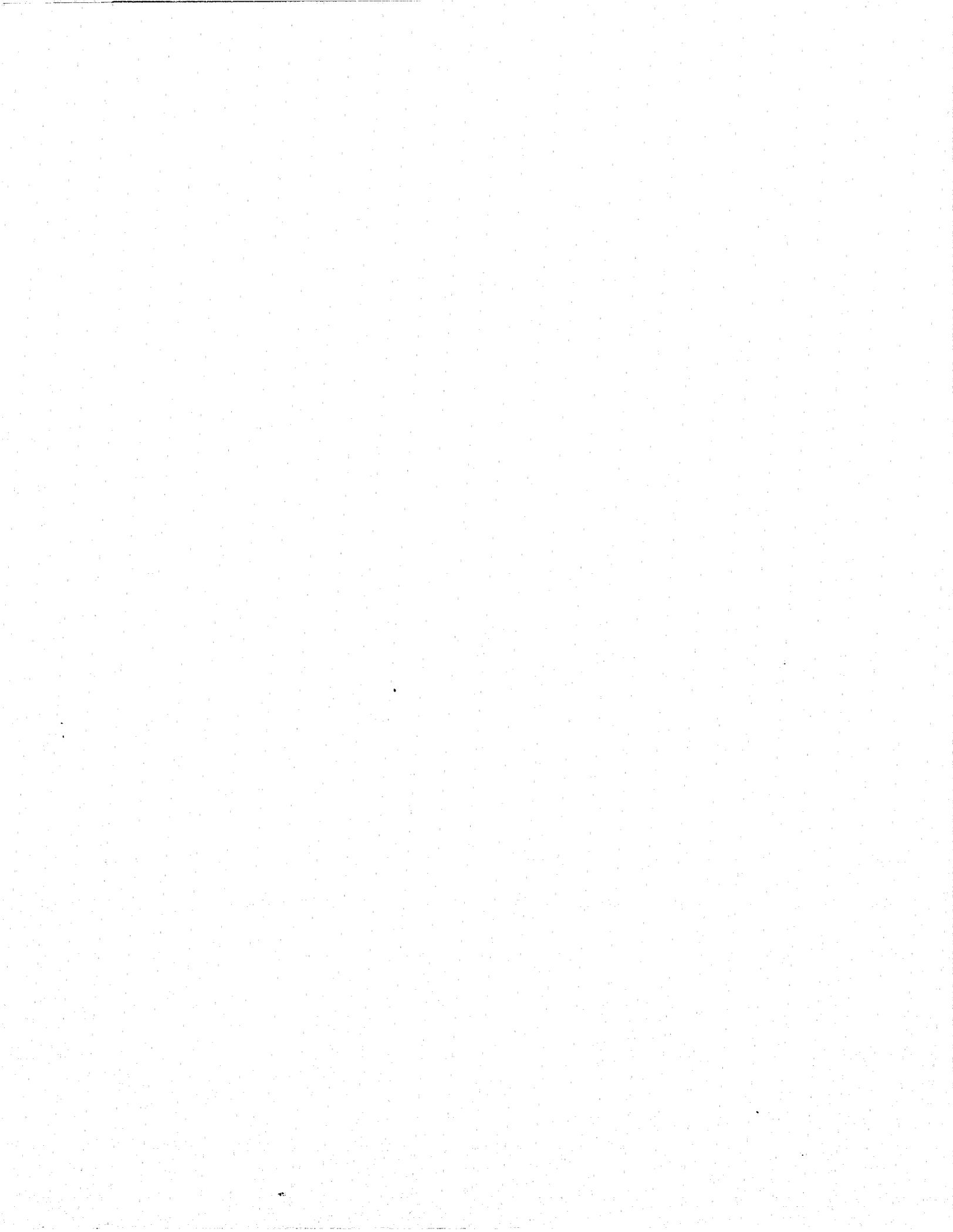
As an insight to costs, full implementation of CCH indicated an added expenditure for data processing of about 25% annually. It is estimated that the implementation of OBTS will increase the Department's budget for data processing by an additional 60% annually. This includes increased computer capabilities, additional disk storage, and terminals.

COST/BENEFITS

The anticipated benefits from CCH-OBTS in providing documentation on the effectiveness of the criminal justice system are well worth the effort necessary for its development, implementation, and operation. With CCH-OBTS, flaws in the criminal justice process that the criminal justice community has heretofore been unable to document statistically will become available. This in turn, will facilitate a more comprehensive, in depth, evaluation of these flaws, from which realistic improvements can be undertaken.

However, these systems require a major expenditure of time, resources, and money while providing little visible signs of benefit in the short run. Criminal justice managers will be placed in the difficult position of going before legislatures to justify that CCH-OBTS returns are, in fact, worth the expenditures. The cost-utility relationship between the current and proposed systems will be given particular attention, for we are in an era of intense competition with other governmental services for the tax dollar.

It is only through the combined and coordinated efforts of the criminal justice community that a CCH-OBTS system can be successfully operated. Cooperation is not only necessary within each state to make state systems work, but is necessary among the states and with the federal government to create a workable national system of information exchange.



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