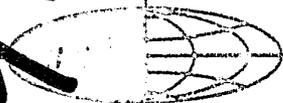


IMPROVING THE EFFICIENCY OF
CHARGING, SCREENING AND DIVERSION
FUNCTIONS IN THE CRIMINAL JUSTICE
SYSTEM THROUGH USE OF CLOSED CIRCUIT
TELEVISION AND COMPUTER TECHNOLOGY

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DECISION SCIENCES CORPORATION

BENJAMIN FOX PAVILION • FOXCROFT SQUARE • JENKINTOWN, PENNSYLVANIA 19046

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SYSTEM THROUGH USE OF CLOSED CIRCUIT
TELEVISION AND COMPUTER TECHNOLOGY

by

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EXECUTIVE SUMMARY

It is now recognized that the efficiency of the Screening, Diversion, and Charging functions in the Criminal Justice System can significantly affect the overall Criminal Justice process. Effective and judicious screening out of weaker cases, and more careful attention given to charging decisions, can materially improve the utility and effectiveness of the ultimate prosecution function. In addition, recent decisions made by legislative bodies at the state and federal level, have indicated the vital importance of improving the timeliness of the charging decision in order to reduce the delays which can penalize the innocent as well as the guilty in the existing Criminal Justice system and which reduce the possibility of effective prosecution and penalties for those adjudged to be guilty.

This study focuses on the development of improved methods for charging, screening, and diversion utilizing closed circuit television and computer technology. The study was carried out in the context of the City of Philadelphia's Criminal Justice System and involved the implementation of advanced charging, screening, and diversion functions supported by CCTV and computer aids. The system was demonstrated and compared to the present system of legal counseling at the time of an arrest through a centralized telephone system and post-arrest screening and diversion based upon investigative reports transmitted by the Police Department to the District Attorney's office.

The demonstration test showed that the use of CCTV and computer technology to provide counseling, screening, diversion and charging decisions by the District Attorney at the time of arrest can have a significant impact in improving the efficiency and effectiveness of the overall Criminal Justice System.

ACKNOWLEDGEMENT

During the course of the demonstration tests of the Closed Circuit Television and Computerized Systems to improve the charging and decision making process within the City of Philadelphia, a special evaluation team was constituted to perform an objective evaluation. This team consisted of:

- Dr. Fred Haber
Professor of Systems Engineering
University of Pennsylvania

- Dr. Ralph Spritzer
Professor of Law
University of Pennsylvania

- Dr. Robert Fiolio
Research Investigator, Criminology
Department of Sociology
University of Pennsylvania

This team actively supported the quantitative and qualitative evaluation and also contributed to the preparation of portions of this report.

I. INTRODUCTION

During the last ten years a considerable amount of study has been directed towards seeking improvements in the Criminal Justice System. Through the Law Enforcement Assistance Administration (LEAA), various national commissions, and congressional legislation massive efforts have been made to effect an improvement in the major components of the Criminal Justice System; the police, the courts, and the correctional institutions. However, the increasing rate of crime coupled with the obvious continuing inadequacies of the current systems of apprehension, adjudication, processing, and correction suggest that great opportunities for improvement still exist.

A. THE ROLE OF THE PROSECUTOR IN CHARGING, LEGAL COUNSELING, SCREENING AND DIVERSION DECISIONS

Analysis of the Criminal Justice System suggests that the prosecutorial charging decision is a crucial element of the system and serves as a key mechanism in establishing the overall efficiency of the initial stages of the Criminal Justice System. It is at the charging interface, at which the police functions involving arrest on the basis of "probable cause" first comes into contact with the court function of determining whether a criminal event has taken place "beyond a reasonable doubt". In fact, the prosecutor serves as the means by which the State converts apprehension of potential criminals to a initial determination of guilt leading ultimately to correction and sentencing. Ultimately, the prosecutor, as the chief law enforcement officer, must make the decision as to whether or not an individual apprehended by the police is to be charged by the State for an offense and brought to trial, or screened out of the system, or diverted into some non-judicial process involving education and rehabilitation.

Nationwide, police officials, prosecutors, and court officers are increasingly recognizing that criminal trials are one of society's scarce resources, and that this resource cannot be squandered foolishly on defective cases which cannot be won. Effective and judicious screening in the stationhouse can prevent weak cases from usurping the publicly-paid for efforts of police officers, prosecutors, public defenders, judges, juries, witnesses and detention facilities, from initial judicial appearance through preliminary hearing, indictment and arraignment to trial, only to be tossed out at that later stage because of error or evidentiary lack existing since the time of arrest.

It has long been recognized that one of the great issues within the Criminal Justice process is the difficulty of realistic interpretation of the laws which define crime and criminal action. If every law on the books, ranging from simple crime involving jay-walking and operating on Sunday without a license, to major felonies were enforced, with equal vigor and without interpretation, a very considerable segment of the civilian population would be involved in some aspect of the Criminal Justice process all of the time. It is in reality, the chief prosecutor (the District Attorney) who must make that interpretation.

One method by which the Criminal Justice System could conserve resources is by the District Attorney and the Police Department cooperating to have Assistant District Attorneys provide legal counsel to police prior to the execution of searches and arrests on the legality of search and arrest warrants and investigative and arrest procedures, and on the police role in fulfilling the burden to prove guilt beyond a reasonable doubt. Another possible method is for the District Attorney to provide a screening and diversion function to review cases after arrest but prior to trial in order to cull out those cases and situations which can be more efficiently handled through other methods and procedures. Both of these methods provide mechanisms by which the formal decision to charge and prosecute by court trial can be made on a more efficient basis.

This study deals with the role of the prosecutor in making charging decisions and the associated decisions of screening and diversion and legal counseling. Emphasis has been placed on the use of advanced technology (closed circuit television communications and computer information systems) as a mechanism to bring the District Attorney closer to the point of the arrest in order to make the charging decision more efficient. The analysis is carried out in the context of the City of Philadelphia's Criminal Justice System. However, the concepts and techniques described in this report are readily transferrable to other jurisdictions.

B. THE CHARGING, SCREENING AND DIVERSION PROCESS; STATE OF THE ART

Relatively little focus has been given to the importance of the prosecutor in the Criminal Justice System in general, and the impact of the timing and effectiveness of the prosecutor's charging decision in particular. Joan Jacoby and her associates* have carried out an excellent preliminary analysis of the issues and have suggested a research program to quantify the alternatives.

* See "Issues in Pretrial Screening", by Jacoby & Bomberg, Bureau of Social Sciences Research, 1975, and "Pre-Trial Screening in Perspective" by Jacoby, LEAA, 1976

Several bibliographies* have been produced under the auspices of the LEAA, on issues of prosecutorial discretion and plea bargaining. Some policy work has been done by the American Bar Association and by the California District Attorney's Association on guidelines and model procedures for charging, screening and diversion.

Some effort has also been sponsored in the development of computerized techniques to assist the prosecutor in the management of case information (the PROMIS system). However with the exception of Ms. Jacoby's work and some case studies carried out in Ph.D. dissertation studies, little is known about the affects on the Criminal Justice System of expanding or upgrading the sophistication and timeliness of the charging, screening and diversion decisions. A bibliography relating to these issues is provided in Appendix A.

C. OBJECTIVES AND GOALS OF THE PROJECT

The objective of this project was to demonstrate and evaluate the application and value of closed circuit television (CCTV) and supporting computerized technology as a basis for improving the efficiency and effectiveness of the prosecutor's charging, screening and diversion decisions and functions.

The goal of the project, set in the context of the City of Philadelphia's Police Department and District Attorney's Office, was to examine the application of technology as a basis for providing legal counseling and guidance to police officers at the arrest stage respecting the constitutionality of the procedures and process, the determination of charges, and the screening and/or diversion of cases based upon sufficiency of evidence, constitutionality and applicable law.

Under previously funded projects, the City of Philadelphia District Attorney's Office has already adopted techniques for providing legal counseling services, and screening and diversion services. The design goal of this project was to determine whether or not these services could be provided on a more timely and less costly basis through the use of a centralized closed circuit TV system and to evaluate the impact of these improvements on the Criminal Justice System. The present system of pre-arrest legal counseling by telephone, and post-arrest screening and diversion analysis based upon reports transmitted from the police department to the District Attorney's office was compared with a more advanced system involving the use of

* See Prosecutorial Discretion; the Decision to Charge by Teslick, LEAA, 1975, and Plea Bargaining, by Marcus & Wheaton, LEAA, 1976.

closed circuit TV and computer aids to provide legal counseling and screening and diversion decisions on-line, directly at the police detective divisions, at the time of arrest. Data was collected to evaluate the impact, on the Criminal Justice System, of moving the screening and diversion process up to, and in parallel with, the counseling decision on a more timely basis. Data was also collected to determine whether such action could improve the efficiency of the prosecutorial charging decision and reduce the flow of paperwork in cases which ultimately would be taken out of the system based on issues of constitutionality, lack of evidence, or incorrect charges, and to evaluate the overall impact of closed circuit television and supporting computerized technology on the process interface between the police department arrest actions and the prosecutor's charging decisions. In order to evaluate these issues, an advanced system using CCTV and computer aids was set up and demonstrated and a test was run for a period of 1 week. During this period data was collected to provide a basis for comparison with the present system of informal legal counseling prior to arrest via telephone, and full screening and diversion analysis after arrest, based on paperwork flow.

D. ORGANIZATION OF THE REPORT

This report has been organized to provide an overview of the Criminal Justice System in order to establish a setting for the charging decision process. The present role of legal counseling, and of the Screening and Diversion Unit of the Office of the District Attorney of the City of Philadelphia in the Criminal Justice System is discussed in Chapter II. Chapter III describes the proposed program for improving the Criminal Justice System through the use of a closed circuit television system (already installed within the City of Philadelphia), and a computerized management information system, to provide a direct linkage between the District Attorney's legal counseling and Screening and Diversion functions and the Police Detective Divisions in order to improve the efficiency of the charging process. This Chapter describes the current closed circuit television system and its potential use in support of the Screening and Diversion Unit operations. The results of a demonstration test of the Screening and Diversion Unit operation supported by closed circuit television in the City of Philadelphia is described in Chapter IV. This demonstration test was designed to evaluate the potential use of closed circuit television in support of the legal counseling screening and diversion, and charging decisions. Finally, Chapter V summarizes the results of the demonstration and provides conclusions and recommendations based on a comparative analysis as to its value within the City of Philadelphia, and to other jurisdictions. Appendices to the report provide references and bibliography, and specialized data concerning technological transferability and servicing issues.

II. THE PRESENT CRIMINAL JUSTICE SYSTEM: ROLE OF THE CHARGING DECISION

The present criminal justice system in the City of Philadelphia consists of a series of independent, but sequentially related operations and functions including:

- The Police Subsystem
- The Prosecution Subsystem
- The Court Subsystem
- The Prison Subsystem

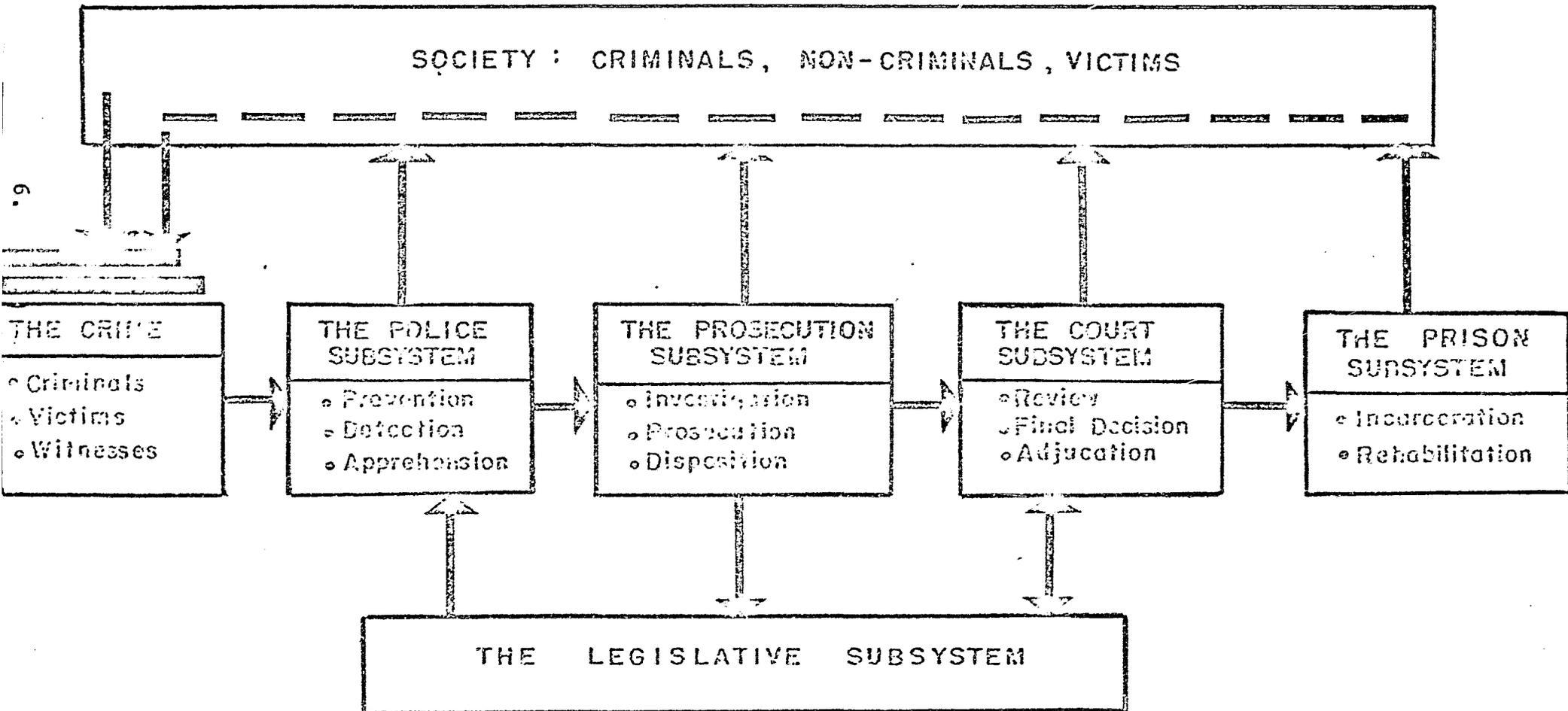
The interrelationship of these four subsystems is shown in Figure II-1. This theoretical framework has been presented merely to show that the general flow of activities through the criminal justice system is directly related to the efficiency, policies, and resource allocations of each of the subsystems, and can be represented in the form of a queue. It is important to note that this structure has been developed from a specific perspective, - that of the efficiency and productivity of the system, and the decision-making processes imbedded within the system.

A. PRESENT SYSTEM PERFORMANCE

From an administrative and decision-making standpoint, the existing system is inefficient and extremely wasteful of allocated resources. In order to prove this point, let's start with some basics. We assume that the purpose or primary objective of the Criminal Justice System is the prevention or inhibition of crime; - a practical way of demonstrating to potential criminals that a criminal act will result (in an orderly and efficient manner) in providing "justice" through punishment for crimes committed, in other words, justified punishment of criminal offenders in accordance with the law, and inhibition of potential criminals from carrying out an offense, because of the high probability that punishment would follow a committed criminal act. Thus, in general, the purpose of the Criminal Justice System is to reward the citizenry with a lack of criminal action, and punish the offenders of the criminal code in accordance with the law. Whether or not this particular theory actually works in society is not the subject of this paper. We are merely concerned with the cost-effectiveness of the criminal justice system in the context of these goals and objectives. In this sense, then, the system is quite inefficient. Let us take, as an example, the so-called victimless crimes:

FIGURE II-1

AN OUTLINE OF THE TOTAL CRIMINAL JUSTICE SYSTEM



- gambling
- commercial prostitution
- liquor law violations

Statistics presented in Figure II-2, indicate that of the approximately 4400 crimes of this type committed in the City of Philadelphia in 1973, less than one percent received prison sentences. Even fines for gambling, as an example, are quite low. For example, as shown in Figure II-3, the average gambling fine, where it is enforced, is around \$100. Thus, the meting out of true justice in terms of the functional operation of the total criminal justice system, in the case of victimless crimes, appears to be less than completely successful.

In this particular example, the question of which of the criminal justice subsystems contributes to this inefficiency is of some interest. One could argue that the police subsystem is carrying out their function of apprehension with high efficiency. The number of arrests in the City of Philadelphia for these crimes could be presented as a demonstration of this fact. However, the Police Department's work, as a subsystem in the total Criminal Justice System, stops at the point of arrest; it is up to the prosecution subsystem to carry forward. The lack of available resources, past experience in the prosecution of victimless crimes (which indicates that relatively few people are actually ever sentenced), and Pennsylvania law which currently requires that any case be brought to court within 180 days may lead the prosecution system to throw the case out, or to seek to prosecute for a lesser or more easily provable crime. If the case is, in fact, brought by the prosecution to court, then in turn, the resources of the court and existing judicial policies and practices may affect the process. In short, one element of the subsystem (in this case, the police) may be operating "efficiently". However, this efficient operation may create an inefficient imbalance in terms of the case-load such that the other segments of the system become inefficient. It is important, therefore, to fully understand the implications of the criminal justice system operating as a sequential queue. In a queuing system, an imbalance in any of the subsystems will automatically impose inefficiencies in the entire system. This is not only because of the caseload generated at each step of the way, but also because of the implicit paperwork and communications which exist within the criminal justice system.

DISPOSITION OF SELECTED NON-VIOLENT OFFENSES

CITY OF PHILADELPHIA 1970 - 1973

FIGURE II-2

<u>CATEGORY OF OFFENSE</u>	<u>YEAR</u>	<u>TOTAL DISPOSITIONS</u>	<u>TOTAL ACQUITTALS</u>	<u>PRISON SENTENCES</u>	
GAMBLING	1970	4,720	4,143	5	
	1971	4,548	4,177	4	
	1972	4,059	3,537	12	
	1973	2,878	2,076	4	
COMMERCIALIZED VICE	1970	958	719	19	
	1971	817	629	21	
	1972	1,012	677	21	
	1973	1,060	622	31	
LIQUOR LAWS	1970	1,084	745	4	
	1971	819	603	4	
	1972	876	632	2	
	1973	489	318	0	
TOTAL	1970	6,762	5,607	28	
	◦ GAMBLING	1971	6,184	5,409	29
	◦ VICE	1972	5,947	4,846	35
	◦ LIQUOR	1973	4,427	3,016	35

SOURCE: DISTRICT ATTORNEY'S OFFICE BASED ON PHILA. COMMON PLEAS AND MUNICIPAL COURT ANNUAL REPORTS

FIGURE II-3
CITY OF PHILADELPHIA
GAMBLING FINES IMPOSED - 1974

<u>FINE IMPOSED</u>	<u>NUMBER OF CASES</u>
\$10	1
25	2
50	9
100	73
150	22
250	15
300	9
350	2
400	1
450	1
500	9
1,000	4
1,500	1
1,600	1
2,500	1

SOURCE: DISTRICT ATTORNEY'S OFFICE

B. PRESENT PAPERWORK FLOW

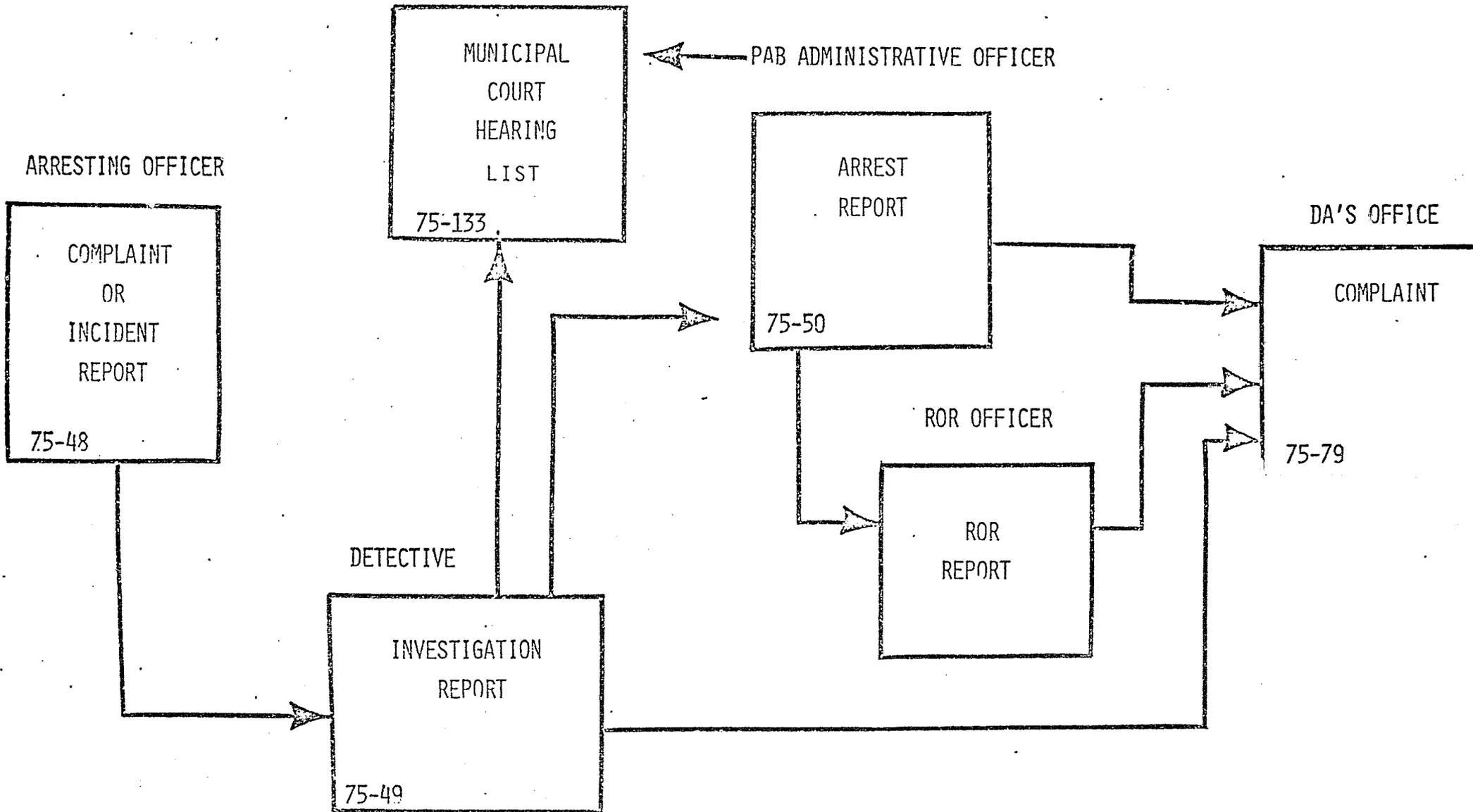
The paperwork generated by the police subsystem at the start of the process is staggering. In Figure II-4, the paperwork flow generated in the early stage of the criminal justice process is shown. The arresting officer fills out a form; the detective investigating the case fills out two forms; another set of forms is prepared in the Police Administration Building prior to arraignment; the ROR program requires a form. Very shortly after the original arrest, the file generated by the arrest has involved more than 20 pieces of paper (see Figure II-5 for a few examples).

A great percentage of this paperwork is redundant. For example, the name and address of the individual is repeated on every form. In addition, many of the forms exist purely because of the sequential nature of the process; that is, to inform the next individual in lines. Finally, some of the paperwork (such as the detective's investigation report) may never be used, particularly if the case is not fully prosecuted. In summary, the criminal justice system clearly operates on a sequential basis. The transfer of the criminal/suspect from one subsystem to another involves an increasing amount of paperwork to document the transfer. The manpower involved in this processing from stage to stage is significant (see Figure II-6).

In examining this process, we were able to identify an interesting decision mechanism at work in each of the first three subsystems which tends to operate to mitigate potential imbalances between subsystems, and provide some opportunity for productivity improvement. This process is called "counseling" in the police subsystem, "screening and diversion" in the prosecution subsystem, "plea bargaining" in the court subsystem, and "probation" in the prison subsystem. Although an inherent part of the criminal justice decision-making apparatus, it is considerably less formal, often quite heuristic, and yet quite viable. Interestingly enough, relatively little has been carried out in the way of cost/benefit analysis or study in order to examine this particular aspect of the criminal justice system.

FIGURE II-4

INITIAL PAPER WORK FLOW - CRIMINAL JUSTICE SYSTEM



PHILADELPHIA POLICE DEPARTMENT
COMPLAINT OR INCIDENT REPORT

YEAR	DIST	DIVISION	TYPE OF OCCUR	SECTION	CAR NO
CRIME OR INCIDENT CLASSIFICATION					CODE
PLACE OF OCCURRENCE <input type="checkbox"/> 1 - INSIDE <input type="checkbox"/> 2 - OUTSIDE					
DATE	DAY CODE	TIME OUT	AM	PM	
COMPLAINANT					
MAIL ROOM			PHONE		
FETTERED		REPORT TO FOLLOW		DIST / UNIT / UNIT CODE	
<input type="checkbox"/> 1 - YES	<input type="checkbox"/> 2 - NO	<input type="checkbox"/> 1 - YES	<input type="checkbox"/> 2 - NO		
DETAILS					
POLICE OFFICER			NUMBER	DIST.	
SUPERVISOR			NUMBER	DIST.	

Form 75-48

TR. (DISTRICT)	DC NO. (1-4)	CRIME CLASSIFICATION	PHILA. PHOTO NO. (54-11)		
SECTION (7)	CODE (8-11)		PHILA. FINGERPRINT NO.		
DEPENDANT (Last) (12-21)	(First)	(Middle)	ALIASES		
ADDRESS: (32-47)					
AGE (52-57)	SEX (58)	RACE (53)	DATE OF BIRTH	PLACE OF BIRTH	
<input type="checkbox"/> 1 - M	<input type="checkbox"/> 2 - F	<input type="checkbox"/> NEGRO <input type="checkbox"/> WHITE <input type="checkbox"/> OTHER			
MOTHER'S MAIDEN NAME		SOCIAL SECURITY NO. / OCCUPATION			
FATHER'S NAME		EMPLOYER'S NAME AND ADDRESS			
ADDRESS:					
DIST. OF ARREST (62-63)	DATE AND TIME ARRESTED (64-72)	WHERE ARRESTED <input type="checkbox"/> INSIDE <input type="checkbox"/> OUTSIDE	DIST. OF RECD. ICE (76-77)		
ARRESTING OFFICER(S)	DIST./UNIT (73-74)	SLATED DIST./UNIT	ARREST NO.	DATE AND TIME SLATED	
CHARGE	DISPOSITION(S)	JUDGE CODE (75)	JUDGE	DATE OF ARRAIGNMENT	
			PLACE OF ARRAIGNMENT		
			JUDGE		
REMARKS			DATE OF HEARING		
			PLACE OF HEARING		
			OTHER ARRESTED WITH DEPENDANT		
COMPLAINANT			ADDRESS		
INVESTIGATOR ASSIGNED		REPORT PREPARED BY		SUPERVISOR	

Form 75-49

PHILADELPHIA POLICE DEPARTMENT

INITIAL (59)	<input type="checkbox"/> Class Change	DIVISION (60-71)	SECTION (61)
SUPPLEMENTAL (57)	<input type="checkbox"/> Status Change	DIST. UNIT	REPORT DATE
CONCLUSION (58)	<input type="checkbox"/> Additional Info	CODE (62-63)	
Street	<input type="checkbox"/> Civil Disposition		
PLACE OF OCCURRENCE (11-12)	J.A.D. INVESTIGATIONS (13) Justice Director's Agent		
1. <input type="checkbox"/> Male	2. <input type="checkbox"/> Female		
3. <input type="checkbox"/> Other	PHONE		
DATE OF OCCURRENCE (14-17)	DATE AND TIME REPORTED	REPORTED BY	
DATE OF OCCURRENCE (18-21)	DAY CODE (22)	TIME (23-24)	FOUNDED (25) <input type="checkbox"/> Yes <input type="checkbox"/> No
STATUS (26) 1. <input type="checkbox"/> Active		3. <input type="checkbox"/> Arrest - cleared	
2. <input type="checkbox"/> Inactive - not cleared		4. <input type="checkbox"/> Exceptionally cleared	
PROPERTY VALUE (27-28)	NEGOCIATED VALUE (29-30)	INTENDED (31)	OCCURRENCE (32)
<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Inside <input type="checkbox"/> Out
1. <input type="checkbox"/> Car, Truck, Van, etc.	4. <input type="checkbox"/> Jewelry, Precious Metals	7. <input type="checkbox"/> Arms, A. <input type="checkbox"/> Firearms	
2. <input type="checkbox"/> TV, Radio, Stereo	5. <input type="checkbox"/> Household Goods (Furniture, Appliances)	8. <input type="checkbox"/> Clothing, B. <input type="checkbox"/> Misc	
3. <input type="checkbox"/> Cash, Bonds, Stocks	6. <input type="checkbox"/> Cash, Bonds, Stocks, Securities, etc.	9. <input type="checkbox"/> Firearms, C. <input type="checkbox"/> Misc	
REPORTED BY		SUPERVISOR	
DATE		TIME	

STAFF SERVICES DIVISION



75-50 (Rev. 12/72)

CITY OF PHILADELPHIA - POLICE DEPARTMENT
ARREST REPORT

STAFF SERVICES BUREAU

Form 75-50

MANPOWER INVOLVED IN CRIMINAL JUSTICE SYSTEM PROCESSING -
MINIMUM CASE*

FUNCTION	INDIVIDUAL	ESTIMATED TIME (MAN HOURS)
ARREST AND PRELIMINARY PROCESSING	POLICE OFFICER - DISTRICT	1.5
PROCESSING, INVESTIGATION AND WRITE-UP	DETECTIVE-DIVISION	3.0
PROCESSING, FINGERPRINTING, WANTS AND WARRANTS, SEARCH, ETC. FILING	POLICE OFFICER AND ADMINISTRATIVE STAFF	4.0
PRELIMINARY HEARING ARRAIGNMENT	COURT, DISTRICT ATTORNEY STAFF, JUDGE	1.0
PROSECUTION	DISTRICT ATTORNEY STAFF	8.0
COURT ACTION	DISTRICT ATTORNEY STAFF, ARRESTING OFFICE, ETC.	24.0
SYSTEM	TOTAL	41.5

* BASED ON DSC STUDIES IN 3 CITIES, INCLUDING PHILADELPHIA

FIGURE II-6

C. THE PRESENT LEGAL COUNSELING, SCREENING AND DIVERSION FUNCTIONS**

Two functions presently involved in reducing some of the potential inefficiencies in the system involve informal pre-complaint counseling or consultation before a charging decision and formal screening and diversion after the charge. Both roles are carried out by the District Attorney's office.

1. Pre-Complaint Legal Counseling Program

The objective of the present pre-complaint legal counseling is simply stated; to secure the evaluation and guidance of the trained professional, the experienced ADA, by the Police Department before a charging decision is made and filed. In a paper prepared for the National Institute of Law Enforcement and Criminal Justice entitled "Issues in Pre-Trial Screening", the authors observe that "the nature of prior choices enhances or precludes the opportunity to exercise subsequent options".*

The idea of pre-complaint consultation between the police and prosecutorial authorities in the City of Philadelphia is not novel. During an earlier period of experimentation in the City of Philadelphia, ADA's were assigned to tours of duty in the various detective divisions. This involved a substantial commitment of ADA staff. One consequence was that relatively inexperienced ADA's were assigned to the task. Reports from various persons interviewed indicate that the ADA's inexperience, coupled with the fact that they were operating on a police officer's "turf", diminished their effectiveness in providing guidance. Moreover, the ebb and flow of business is such that, under this system, the ADA's were idle for long periods of time. At present pre-complaint legal counseling is carried out via a telephone call made informally, at the discretion of the police detective divisions, to an assigned ADA. The call is not mandatory; the advice is not binding or recorded.

* Jacoby & Bomberg, "Issues in Pre-trial Screening", p. vi (Bureau of Social Science Research Inc., Washington, D.C. August 1975)

** It should be noted that Dr. Spritzer contributed to the preparation of this section; particularly subsection 2.

2. Screening and Diversion

At present, all cases (except murder) after police charging and preliminary arraignment, are forwarded to the District Attorney's Screening and Diversion Unit for handling.

The Screening and Diversion Unit, as it currently operates may do one of several things: (1) seek further information prior to reaching a decision; (2) decide to drop the charges and take appropriate steps to dismiss them; (3) refer the case for prosecution, with or without a recommendation that the charges be altered or modified; (4) initiate steps to "divert" the case*. As is evident, the performance of this function involves a broad exercise of prosecutorial discretion by the responsible attorneys.**

* Diversion is a technique, commonly used in this jurisdiction, whereby the accused agrees, in advance of trial, to undergo a program of treatment or rehabilitation for a prescribed period, with the assurance that if he satisfactorily completes the program, the charge will be dismissed. Pennsylvania Rules of Criminal Procedure approve the practice of "Accelerated Rehabilitation Disposition" and set forth the procedures to be followed. Rules 175-185.

The Philadelphia District Attorney's "Screening & Diversion Policy Manual" states that there are "no hard and fast" criteria for diversion but that the following characteristics are common to diversion cases:

- (1) Prosecution is likely to result in conviction - diversion is not to be used for losing cases; nol pros or withdrawal of prosecution are the appropriate dispositions for cases which cannot be won;
- (2) Defendant accepts moral responsibility for the offense(s) charged but conviction is not likely to result in additional significant deterrent impact;
- (3) The charge(s) placed against the defendant do not involve crimes based upon serious, violent conduct or organized criminal activity;

*footnote (page 14) continued:

- (4) Under the facts and circumstances presented by the case, it does not justify extensive use of judicial or prosecutorial resources to reach a just disposition;
- (5) Defendant's involvement in a case of minor significance is due more to a social or behavioral problem than to a confirmed pattern of criminality.

** Since the prosecutor's information comes largely from the police, his decision is obviously affected by the quality and completeness of the information they provide. In evaluating that information, numerous factors may enter into the prosecutor's calculus. Some indication of their variety is provided by the American Bar Association Project on Standards for Criminal Justice, "The Prosecution Function and the Defense Function" (Approved Draft 1971), §3.9:

- (i) the prosecutor's reasonable doubt that the accused is in fact guilty;
- (ii) the extent of the harm caused by the offense;
- (iii) the disproportion of the authorized punishment in relation to the particular offense or the offender;
- (iv) possible improper motives of a complainant;
- (v) prolonged non-enforcement of a statute, with community acquiescence;
- (vi) reluctance of the victim to testify;
- (vii) cooperation of the accused in the apprehension or conviction of others;
- (viii) availability and likelihood of prosecution by another jurisdiction

The process is not governed by detailed rules or guidelines* but a measure of consistency is doubtless achieved by virtue of the fact that the unit is small and is composed of experienced attorneys who are in close contact with one another and have ready access to their supervisors. Under existing practice there is no means of deriving data bearing on the pattern of decision-making short of making a case-by-case examination of individual files. In 1970, the unit did process out approximately 67% of all the arrests made (see Figure II-7). The stages at which this screening and diversion decision was made is also shown.

Examination by the Screening and Diversion Unit at or shortly after a complaint charge is filed in court is better than a check further down the line by the trial attorney assigned to the case - especially so in the common situation where the trial attorney, saddled with a substantial caseload, first undertakes his examination on the eve of trial. To the extent that the Unit's activity promptly results in further investigation, in the modification of charges, or in the elimination or diversion of cases there is a saving of prosecutorial and judicial resources.

A vital question is: what potential advantages are there in a pre-audit as contrasted with a prompt post-audit?*

* The Philadelphia District Attorney's "Screening and Diversion Policy Manual" declares that the following considerations are relevant to the decision whether to prosecute:

- (a) Nature of the offense charged;
- (b) Manner in which the offense was committed;
- (c) The likelihood of conviction upon the evidence presented, after an evaluation of the strength of possible legal and factual defenses;
- (d) Whether defendant's criminal record manifests a settled pattern of criminality and the nature of the pattern;
- (e) The value of prosecuting the particular case in light of the overall capabilities and workload of the criminal justice system

** That is, a screening and diversion decision before the charging action, versus after a charging decision has been made

CITY OF PHILADELPHIA
DISTRICT ATTORNEY'S OFFICE
SCREENING & DIVERSION UNIT DISPOSITION
 1976

ARRESTS	26,488	100%
NON-TRIAL DISPOSITIONS	<u>17,794</u>	<u>67%</u>
PRELIMINARY ARRAIGNMENT	3,681	21%
SCREENING REVIEW	5,000	28%
DIVERSION CONFERENCE (PRE-LISTING)	2,373	13%
DIVERSION CONFERENCE (POST-LISTING)	2,514	14%
DRUNK DRIVING DIVERSION	3,563	20%
PROSECUTIONAL NARCOTICS DIVERSION	663	4%

First, a pre-audit could provide an opportunity for clarification of information by direct interchange while the event is fresh and the key informants (the arresting officer, the accused, the witnesses) are at hand. The accuracy and aptness of charges can be no better than the information upon which they are based. Even a day or two later, information may be less clear-cut. Moreover, it may be more difficult to gather it. The arresting officer may be away from the stationhouse when the ADA seeks to reach him and witnesses may likewise be beyond ready reach.

Secondly, The ADA may perceive a need for additional investigation of a kind that can best be performed while the matter is fresh and the officer familiar with the event is available for the task.

Thirdly, and perhaps most importantly, there are the advantages to be derived from making a sound charging decision (whether to charge and what to charge) in the first instance. The underlying assumption, of course, is that the prosecutor is better qualified because he is presumably more knowledgeable (knowledge of the applicable law, of problems of proof, of prosecutorial policies and of the attitudes of judges and juries) and, perhaps also, because he may be more dispassionate than police officers closer to the criminal event.

It is true, to be sure, that a complaint once made is not irrevocable. Witness the current operations of the Screening and Diversion Unit, discussed above. It is also true, however, as emphasized earlier, that prior choices materially affect subsequent options. Once a charge has crystallized and a complaint has been filed in court, inertia may carry the day. Even if it does not, every decisional delay has its own costs. Thus, it is considerably cheaper to drop a case at the stationhouse gateway than to dismiss a complaint that has gotten into judicial channels. Not only is the former decision more simply executed; it is one that avoids the substantial costs incident to preparing and processing a complaint and taking the accused through arraignment.

Another commonplace example is where the police have elected to file a misdemeanor charge in circumstances where a prosecutor might have chosen to charge a summary offense. As a result of that choice, the case is lodged in the Municipal Court in City Hall, where the calendar is congested, rather than in the Municipal Court in the local district, where it might be dealt with more conveniently and expeditiously.

As already noted the prosecutor has at his command means of initiating changes in charges -- adding, substituting, reducing. How cumbersome this may be depends on a number of factors. For present purposes, it suffices to note that in all instances the change will involve an added expenditure of prosecutorial and judicial resources. There will also be collateral effects for the accused and his counsel.

D. SUMMARY

In summary, a key element in the present Criminal Justice System flow is the charging decision. Under the present system this decision is basically made by the police officer (uniformed in the case of summary offenses and detective in all other cases) with informal consultative access to the District Attorney's office. The D.A.'s Screening and Diversion Unit makes a post-audit analysis, resulting in over two thirds of the original arrests being screened and diverted out. The general flow is shown in Figure II-8. The paper work flow from this process is outlined in Figure II-9.

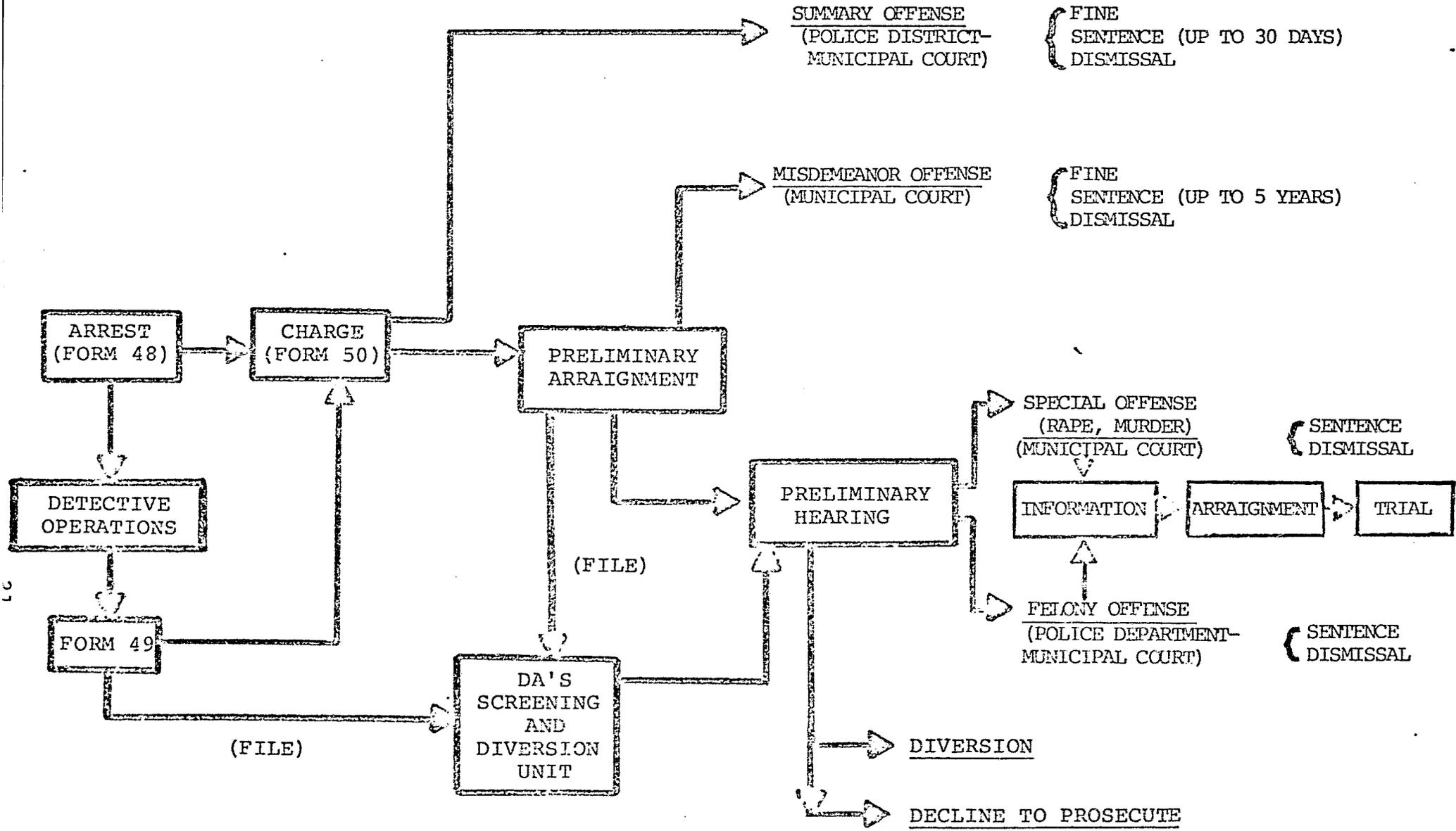


FIGURE II-8
PRESENT PROCESS

III. POTENTIAL IMPROVEMENT IN THE CHARGING, SCREENING, AND DIVERSION FUNCTIONS

A. INTRODUCTION

As indicated in Chapter II, the charging decision and the associated screening and diversion functions represent a key function in the processing of potential criminals apprehended by the police. Improvements in this function could be achieved through the use of technology to provide an improved communications link between the Screening and Diversion Unit of the District Attorney's office and the uniformed/detective operations at a point of time when the charging decision is made. This could serve to materially improve the efficiency by which charging decisions are made, and to materially reduce the paperwork flow and processing required. Since statistics clearly indicate that the present Screening and Diversion Unit successfully functions to significantly reduce the flow of arrest into the court system, it appears that moving the Screening and Diversion Units' role up (in time) into the actual charging decision offers significant opportunities for improvement. In effect, it is technically possible for the prosecution subsystem to operate on a parallel*with the police subsystem as shown in Figure III-1. This can be achieved through the use of a closed circuit television system currently existing within the City of Philadelphia, augmented by the application of digital processing for the storage, retrieval and communications of the charging decisions formally made by the Screening and Diversion Unit.

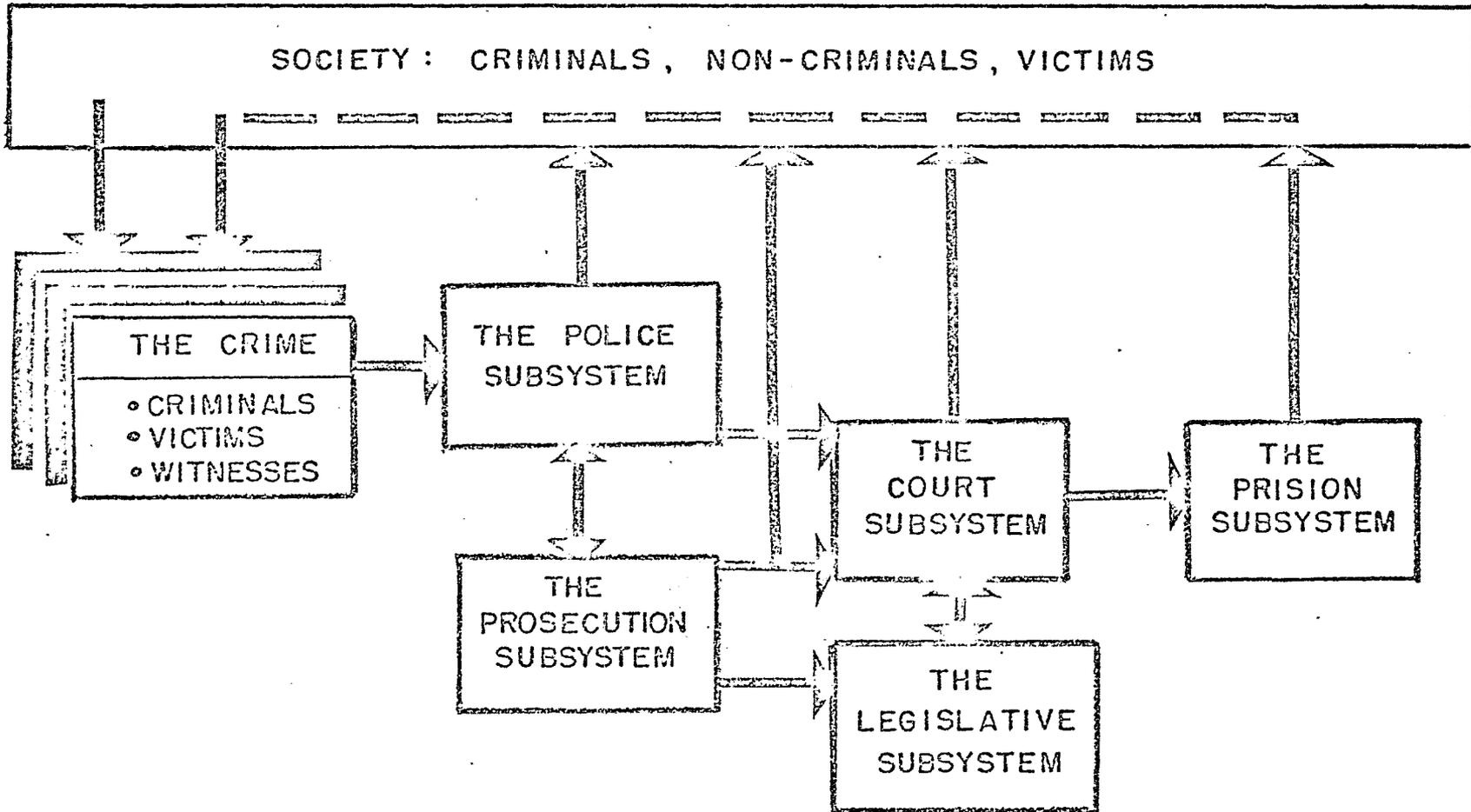
B. THE PRESENT CLOSED CIRCUIT TELEVISION COMMUNICATION SYSTEM IN THE CITY OF PHILADELPHIA

Communications and data transfer is a primary factor in providing more direct on-line communication between the first element of the Criminal Justice System (the police counseling process), and the second element of the Criminal Justice System (the prosecution screening diversion process). Fortunately, within the City of Philadelphia the basics of such a communication system exists. The Philadelphia Police Department's Administrative headquarters, its field stations, and the District Attorney's office are currently interconnected by a closed circuit cable TV network which is used for remote processing of prisoners, preliminary arraignment, police training, and face-to-face communication among command personnel. The system outlines and geographic spread are shown in Figure III-2. The cable is also used for transmission of high

* As contrasted with the present system, shown in Figure II-1

FIGURE III-1

An Alternative Criminal Justice System



24

speed facsimile messages among stations at police divisional headquarters, the Police Administration Building and City Hall. The system, which has been in construction since early 1973, is still being expanded to include specialized police field units, but its major elements are essentially complete. It is being used for its intended purposes though prisoner processing is being carried out only from the North Police Division (Northwest Detective Division) pending permission from the courts to expand operations to include the other divisions.

Figure III-3 illustrates the current usage and capability of the cable system. At present, the cable links the Police Administration Building to 19 other locations, as indicated. Of these, nine locations, which are the divisional command centers (in addition to serving also as district headquarters), are equipped for two-way communications with the PAB, while the 18 district headquarters (including the nine colocated with the divisions) and the Police Academy are equipped only to receive video information, but not to send it.

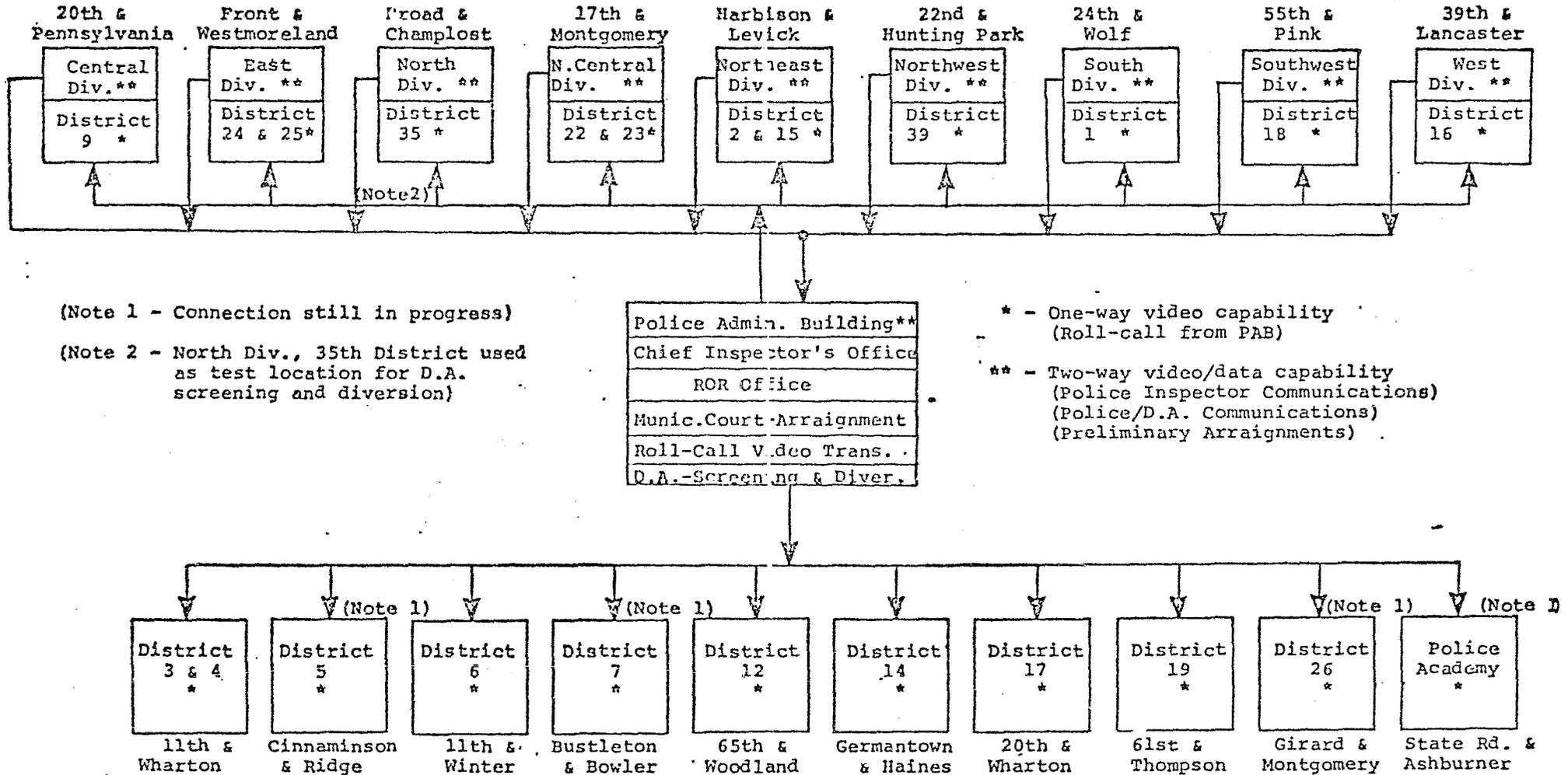
The one-way receive-only capability is not a limitation of the cable network, which can distribute bidirectional communications to all locations but rather of the terminal equipment procured. Since the districts and the Academy receive roll-call information, consisting usually of recorded video announcements, training films, etc., there is relatively little need to originate and transmit video signals at the district level. Consequently, these locations have each been equipped with one or two TV receiver/monitors, but with no video camera or other transmission facilities.

Roll-call information from the PAB is sent out over the cable in a "broadcast" mode, i.e., on a single channel frequency that can be received at all locations by tuning the TV receiver (or converter, if a non-standard channel were used) to the channel being used (e.g. Channel 6). This is functionally equivalent to an over-the-air broadcast which anyone can receive, with the proper equipment.

The locations which are equipped both to receive and transmit communications include the PAB and the 9 division headquarters, as shown in Figure III-3. Each of the division locations has the following terminal equipment:

FIGURE III-3

PHILADELPHIA LAW ENFORCEMENT/CRIMINAL JUSTICE CCTV SYSTEM - COMMUNICATIONS CAPABILITY



- One or more "videophone" units, which is a combination of a video camera and microphone, combined with a TV receiver. This permits both transmission of local video and audio, and reception of remote video and audio. Thus, simultaneous two-way closed-circuit television is provided.

- One such unit is located at the lock-up point, for use in transmitting suspect information, for identification or preliminary arraignment. Communications would be between the division and two locations at the PAB, the ROR Office or the Municipal Court.

Another unit is located at the inspectors' offices at each division, permitting communications between any two offices, or any office and the Chief Inspector's office at the PAB.

A third unit permits communications between detectives at any of the 9 division locations and the PAB.

- Facsimile terminals that permit two-way communications between any division and the Identification Unit at the PAB, and which are used for fingerprint, photo or document transfer.
- Appropriate switching and modulation equipment to permit each location to transmit and receive on authorized cable channel frequencies.

At the PAB, which is the master distribution center, there are currently five sets of terminal facilities:

- Videophone (two-way) capability at the Chief Inspector's Office, for inspectors' teleconferences.
- Videophone (two-way) capability at the Municipal Court, for preliminary arraignment.
- Video cablecasting equipment, for one-way Roll-call transmission.
- Videophone and Facsimile (two-way) capability, at the ROR Office and Identification Unit.
- Videophone (two-way) capability, at a temporary location in the PAB, used by District Attorney personnel for the demonstration test of video screening and diversion.

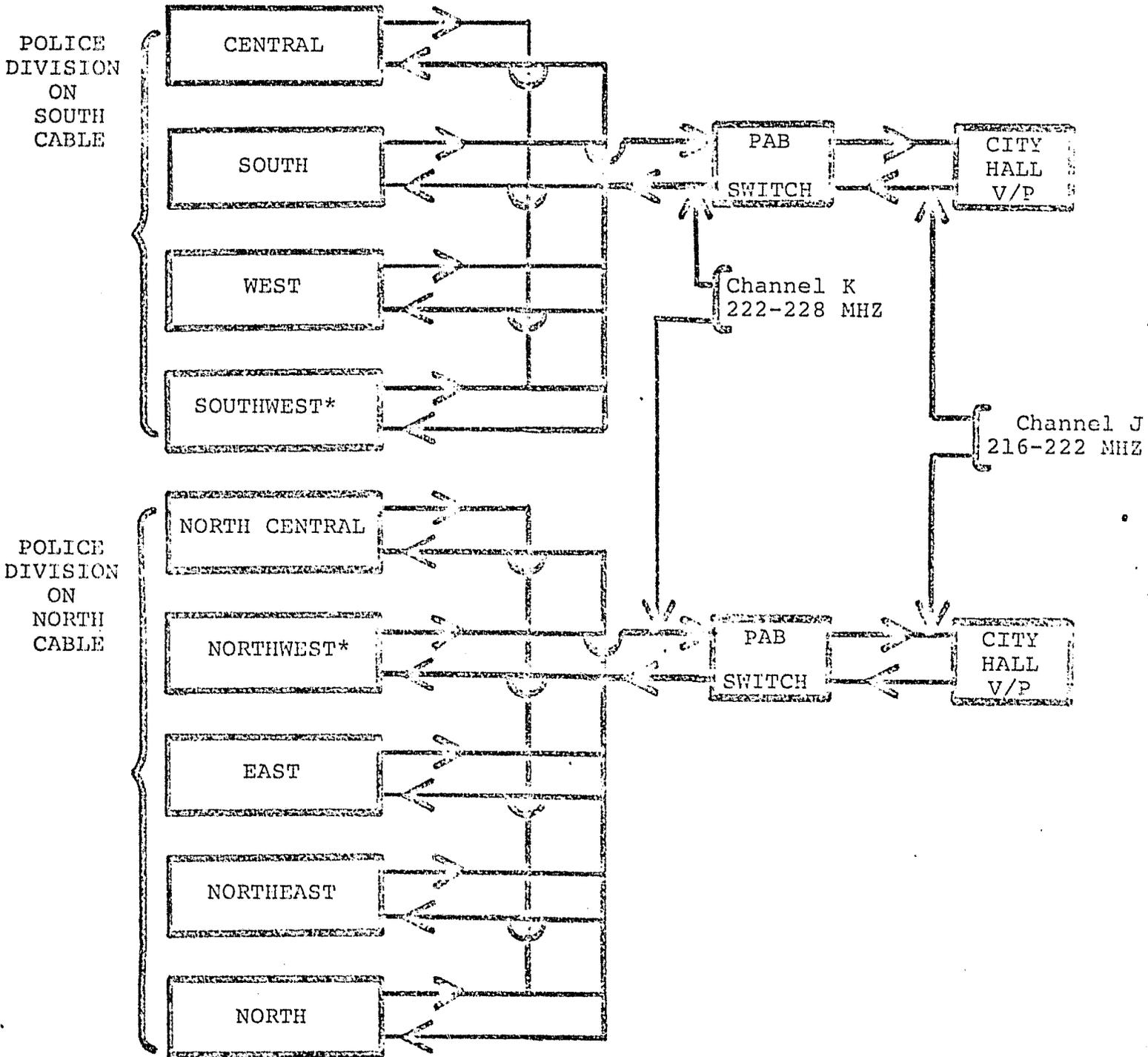
The District Attorney is now tied into the system for the purpose of testing the early screening procedure. The District Attorney's portion of the video network is shown in Figure III-4. Figure III-2 shows two separate cables: one connecting 4 police divisions, the PAB, and City Hall; the other connecting the remaining 5 divisions, the PAB, and City Hall. At present there are 7 detective divisions operating out of the 9 divisional headquarters, 3 on one cable (the South Cable) and 4 on the second cable (the North Cable). Five of the detective divisions are equipped for Detective-DA case screening. The equipment used in screening operations is as follows: (1) a videophone in the office of the lieutenant of detectives at each division so equipped, (2) videophones in the DA's screening unit office, one for each cable, and (3) a facsimile transceiver at the DA's office. There is also a facsimile transceiver at each divisional headquarters which the DA can access but this receiver is located in the prisoner processing area which is generally near the cell block.

Figure III-5 indicates the cable channel requirements if all locations were to participate fully in the communications network, for those applications considered to date. Excluding the Police Inspector communications, a total of 28 video channels and 27 data subchannels would be utilized in one direction and 27 video channels and 27 data subchannels in the reverse direction. The Police Inspector communications, since it involves any combination of 2 locations out of 10, must be time-shared or an inordinate channel capacity would be required.

The total channel requirements are within the dual cable's capacity, about 35 channels for each cable with commercially available, off-the-shelf components, such as amplifiers and converters. If additional uses are contemplated in the future, such as video testimony of police officers, the channel requirements for these new uses may force time-sharing for the present applications. At the present time, however, the existing cable network has the capacity to permit all locations to participate fully in the applications which have been demonstrated or are operational on a limited basis.

FIGURE III-4

DA - DETECTIVE CATV NETWORK



* No detective divisions currently at these locations.

FIGURE III-5

CABLE CHANNEL REQUIREMENTS

APPLICATION	TRANSMITTING LOCATION (S)	RECEIVING LOCATION (S)	COMMUNICATIONS MODES	CHANNEL REQUIREMENTS	
				TRANSMISSION	RECEPTION
Roll-Call	PAB	18 districts & Academy	1-way video	1 video channel for both transmission and reception.	transmission and reception.
Suspect Lock-Up Identification	9 divisions	PAB (RDR, Identifications)	2-way video 2-way facsimile	1 video channel and 1 data sub-channel if time-shared	1 video channel and 1 data sub-channel if time-shared
				9 video channels and 9 data sub-channels if permanently dedicated	9 video channels and 9 data sub-channels if permanently dedicated
Preliminary Arraignments	9 divisions	PAB (Municipal Court)	2-way video	1 video channel if time-shared	1 video channel if time-shared
				9 video channels if permanently dedicated	9 video channels if permanently dedicated
Police Inspector Communications	9 divisions & PAB	9 divisions & PAB	2-way video	1 video channel if time-shared	1 video channel if time-shared
				9-factorial video channels if permanently dedicated	9-factorial video channels if permanently dedicated
Police/D.A. Communications (Screening & Diversion)	9 divisions	1 D.A. location (currently in PAB)	2-way video 1-way facsimile 2-way data	1 video channel and 2 data sub-channels if time-shared	1 video channel and 2 data sub-channels if time-shared
				9 video channels and 18 data sub-channels if permanently dedicated	9 video channels and 18 data sub-channels if permanently dedicated

C. THE ADVANCED LEGAL COUNSELING, & SCREENING & DIVERSION UNIT SYSTEM

The communications technology to be used by the screening and diversion unit, to support legal counseling and charging decisions, consists of two subsystems:

° Closed Circuit T.V. Linkage

The CCTV system, described above, is to bring police officers and detectives in direct contact with an Assistant District Attorney of the Screening and Diversion Unit before charge is placed against an accused. The communication is between the arresting officer and the detective on the one hand, and the Assistant District Attorney on the other. Others may be present within the police environment; for example, a supervising Lieutenant or Sergeant of the detective unit witnessing the alleged offense. The accused also could be close at hand. This CCTV linkage provides direct 24 hour face to face consultation with the Assistant District Attorney of the Screening and Diversion Unit.

° Computerized Information System

The other element of the supporting technology required under this concept is the ability to officially record the charging decisions made by the Screening and Diversion Unit prior to the formal charge and to provide means for communicating and retrieving the information at other locations within the Criminal Justice System. Utilizing an existing computer within the City of Philadelphia (an IBM 370/145 assigned to support Court and District Attorney functions) an on-line interactive Screening and Diversion Unit Information System (SDIS) was designed, developed and implemented. The objective of the SDIS is to provide capabilities to allow the Assistant District Attorney within the Screening and Diversion Unit to enter a formal record of his charging decision, to record the reasons for that decision, and to provide further narrative information on the strategy of prosecution to be employed with special issues relating to the case. The SDIS is described in a separate document.* The format of the SDIS data base is provided in examples shown in Chapter IV.

* A summary description of the SDIS System is provided in Appendix 4

Through the use of visual communications via the CCTV system, and digital communications via the data processing network (SDIS) it is possible to provide a capability to allow the District Attorney's Screening and Diversion Unit to directly communicate with the police and detective operations and to provide the framework of establishing the formal charge to be made. Under this scheme, as outlined in Figure III-6, the Screening and Diversion Unit is engaged in a pre-audit to establish the decision to charge in terms of all misdemeanor and felony offenses, to reduce the case to a summary offense, or to divert or screen out the arrested individual. In essence, under this proposed program the flow would be as shown in Figure III-7. Assuming that the level of screening and diversion as observed in the present time (as outlined in Chapter II) continues to take place, a significant amount of paperwork and processing could be reduced.

D. SUMMARY

In summary, a specific technological structure (CCTV and computer aids) can be used to support the ability to allow the Screening and Diversion Unit to engage in pre-audit analysis of arrest situations for purposes of legal counseling to police officers, and to support a direct charging decision process at the point of arrest. This is provided through a series of communication linkages and the application of both CCTV and computerized technology as outlined in Figure III-8. The initial tests of the concept within the City of Philadelphia Criminal Justice System were carried out in December, 1976 involving the District Attorney's Screening and Diversion Unit and the Police Department's Northern Detective Division and the 35th Police District.* The results of that demonstration and test are described in Chapter IV.

* The procedures used in the demonstration are outlined in Appendix 5

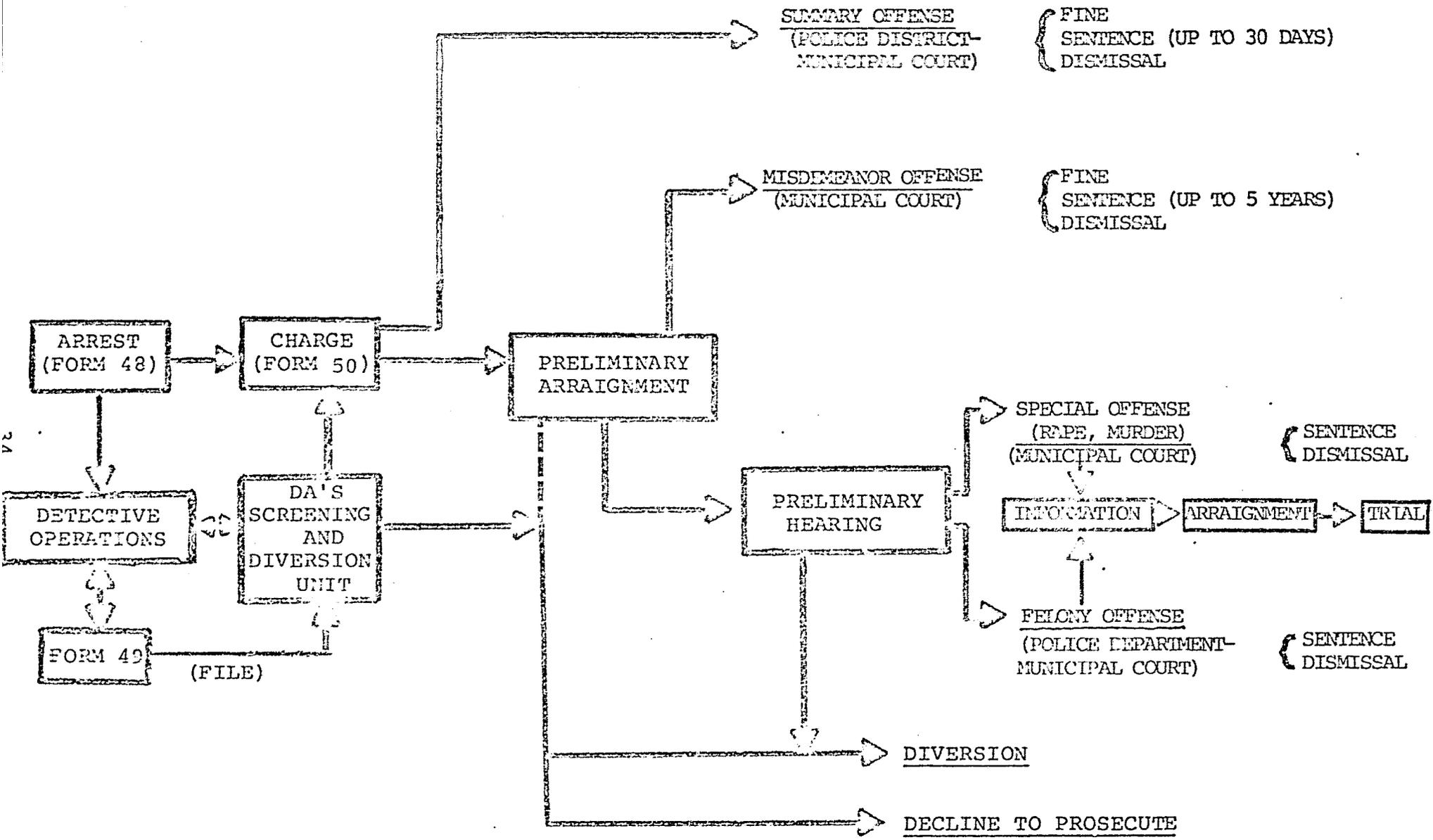


FIGURE III-7

FUTURE PROCESS

PAB - 8TH & RACE

BROAD & CHAMPLOST

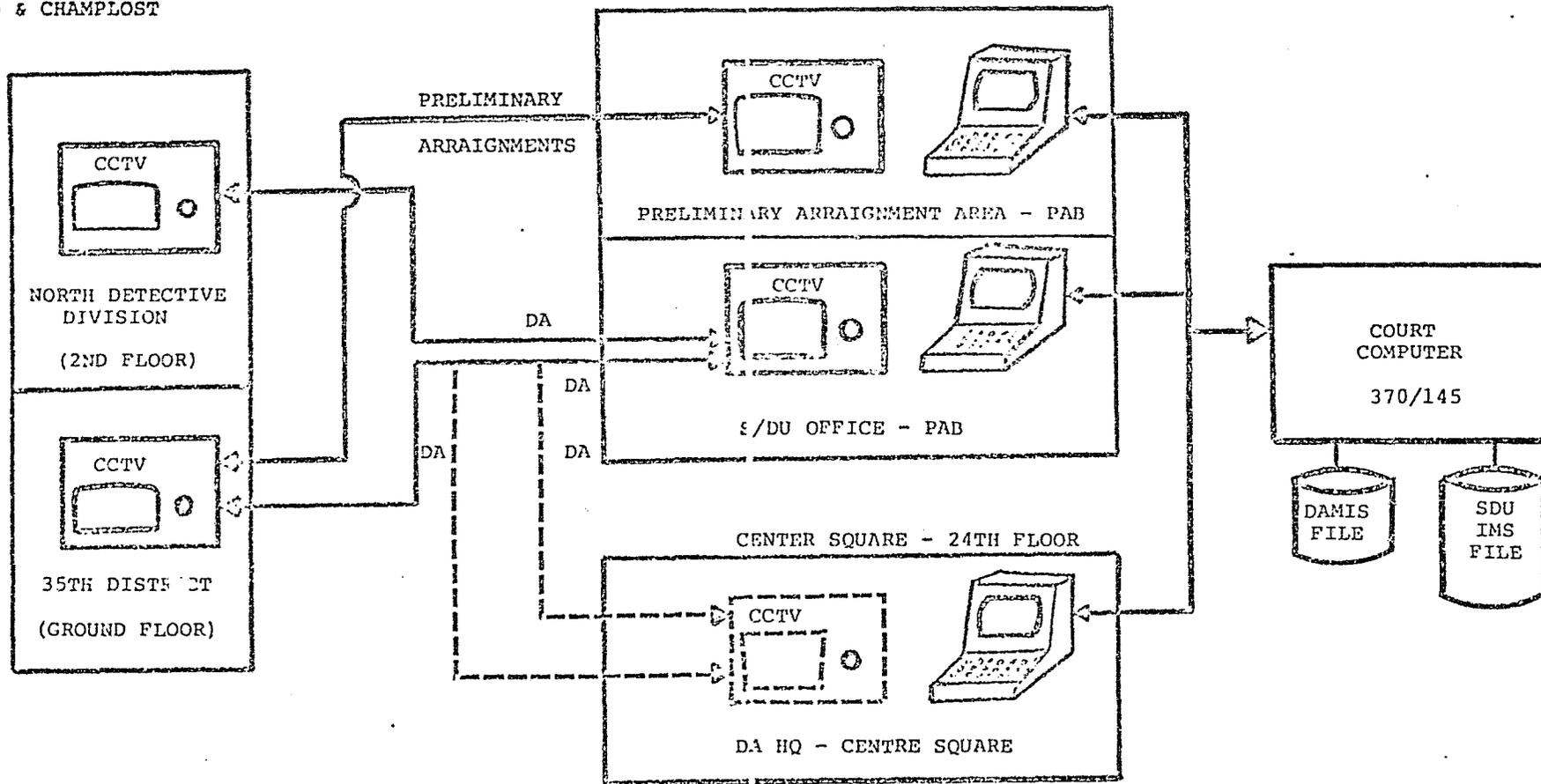


FIGURE III-9

COMMUNICATIONS LINKAGES

IV. RESULTS OF THE DEMONSTRATION TEST

Based upon the concept outlined in Chapter III, a demonstration test was carried out to explore the use of CCTV and computer communications in support of screening and diversion functions of the office of the D.A. of the City of Philadelphia. The objective of this demonstration test was to:

- a. Determine the general feasibility of the concept of moving the screening and diversion unit up in time to interface with the arresting police units prior to the point of preliminary arraignment, in order to make a formal charging decision
- b. To fully test the technical capabilities of the CCTV and SDIS systems and the procedures for operation in a working environment
- c. To evaluate the potential impact of the concept on the criminal justice system's efficiency and effectiveness

The primary time frame for the test was the five day period from Wednesday morning 10:00 a.m. to the following Monday at 10:00 a.m. in the second week of December 1976. This particular time frame was selected since analyses of actual arrest data showed that the maximum period of arrest within the City of Philadelphia's police department occurred during that period. Prior to this five day 100 hour demonstration, an initial test was run of five hours duration. Data was gathered on the arrival rates, charging decisions, technical performance, and attitude of supervising operational personnel within both the police department and the D.A.'s office, during this 125 hour period, utilizing the forms and procedures described in Appendix 5.

The demonstration was limited to the North Detective Division and primarily dealt with misdemeanor and felony cases. Narcotics, prostitution, and drunk driving cases were excluded as were murder and rape offenses.

A. RESULTS OF THE DEMONSTRATION TESTS; SYSTEM ANALYSIS

The demonstration tests fully validated the technical performance of the CCTV and screening and diversion unit support system as well as the operation procedures. Although some minor difficulties were observed in the first day of operation, they were immediately corrected.

The demonstration pinpointed the following specific technical areas requiring improvement. These include:

1. CCTV System - Some technical modification had to be made in the CCTV system in order to reduce noise and "squealing" in the line. This was cured by making specific and precise adjustments in the volume controls. In addition, there were some calls observed coming into the system from outside sources. This is a technical matter which can easily be resolved by the city communications organization. There does not seem to be any significant technical problems or cost in extending the CCTV system to all the detective divisions.
2. SDU Management Information System - The demonstration provided an excellent opportunity to shake down and debut the SDU management information system. A number of minor improvements were recommended and these were all implemented in the SDIS.

Analysis of the Observed Time to carry out the charging process and the distribution of the arrival of cases indicates that in the Screening and Diversion Unit, the highest use period will be from 6 p.m. to 4 a.m. However, analysis of the arrival rates and potential improvement in the process suggests that one Assistant District Attorney manning the screening and diversion unit could handle all detective divisions of the City of Philadelphia Police Department during the daylight hours; a maximum of two would be required for the evening hours*. Workload would be increased during the daytime period if narcotics and prostitution cases were also handled. However, with the addition of one data processing operator/clerk, the workload would not become excessive.

B. RESULTS OF THE DEMONSTRATION TESTS; OPERATIONAL ANALYSIS

The demonstration proved the operation is also technically feasible. During the course of the test period, 50 cases were observed. As indicated in Figure IV-1, in 62% of these cases, full agreement existed between the D.A. and the police department as to the charging disposition. In 32% of the cases, the D.A. Screening and Diversion Unit reduced the charges. Of those cases, 12% were reduced to summary offenses; 88% were reduced to lesser felony charges. In 4% of the cases, charges were increased by the SDU. A review of the actual cases handled by the Screening and Diversion Unit/Pre-trial Division indicated that as a direct result of the interaction, the D.A.s involved believe that cases could be prosecuted more efficiently, and that a higher rate of convictions should result. In addition, it is believed that the amount of time required by police appearing as witnesses and testifying in specific cases could be reduced. Some savings would also be possible in those cases in which the charges are reduced from a felony to summary offense.

* The data and analysis supporting these findings are shown in Appendix 2

FIGURE IV-1

DISPOSITION OF CASES
(125-Hour Test Period - 50 Cases)

Full Agreement between D.A. and Police	62%
Charges Reduced by D.A. from Charges Proposed by Police	32% ***
To Summary Offense	12%
To Lesser Felony Charges*	88%**
Charges Increased by D.A. over Police Charges	4%
Other Disposition	<u>2%</u>
	100%

* Police protested or expressed concern in only 38% of these cases. Primary areas of concern related to

- a. D.A. reducing/eliminating charges related to police related factors (i.e. threatening officer)
- b. Lack of understanding of reasons for reducing charges

** Of these cases, approximately 21% would probably have been diverted on screen out

*** In a fully operating system approximately a third of these cases, or 10% of the total cases would have been reduced to summary offense or diverted/screen out

In summary, the results of the demonstration suggest that there appears to be some specific savings which could be achieved by the police department through the use of this system and a significant improvement could be achieved in the handling and prosecution of cases on the part of the District Attorney.

In addition to the statistical assessment of the general flow of cases handled, it is also quite important to look at the special decision situations identified during the course of these tests. In order to show the value of this key information we can examine the actual SDU management information system reports generated by the assistant D.A. assigned to the screening and diversion unit during the course of the charging decisions. As shown in Figure IV-2, in a typical case handled by the Assistant D.A., charges were assigned in this particular case, and diversion was rejected. It should be noted that through the use of the CCTV system the ADA was able to directly confirm the degree of injury that existed in the case of this assault situation. A more complicated case is shown in Figure IV-3. In this burglary, through the use of the SIDS, the Assistant D.A. was able to provide a good summary description of a rather complex situation as well as to provide guidance to the prosecuting attorney as to the approach to be used in the handling of the case.

A third example, shown in Figure IV-4, also indicates the value of being able to observe the actual case situation and communicate the results in specific detail. As shown in Figure IV-4, a rather complicated weapons and assault case involving two different events, and several defendants was presented to the Assistant D.A. As shown in the SDIS data file, the ADA was able to provide guidance for handling of the case. The ADA in this situation admitted that if he had received the information in paperwork form he would have spent considerable time in trying to sort out the issues.

An example of diversion possibilities is shown in Figure IV-5. As indicated in both cases, the situation revealed by the Assistant D.A. suggested that diversion should be considered. Since the procedures established for this demonstration test did not include an operational diversion process, the diversion decision was in fact deferred. In point of fact, these two cases would have been diverted out had the full system been in operation. A final example of the value of the concept is shown in Figure IV-6, in which the particular case was examined by the Assistant D.A. The ADA recognized that diversion was possible. In addition, it became clear that this was not an area where well defined procedures existed and the ADA was able to identify the need for further examination of the policy and procedures issues related to this particular arrest.

FIGURE IV-2

STANDARD CASE SDIS DISPLAY

-7639062427 NAME- * RONALD PHOTC 00463123
ICER NAME-ULLMAN MARTIN BADGE-0915
RGING ADA NAME-DEPAUL EDMUND E ID-11111
LIM ADA NAME- ID-
RGE DATE-761219 ARREST DATE-761219 TIME-2105
D REQUIRED- CURRENT DB STATUS- SPECIAL-
SERIOUS CHARGE- PA DISP-
LIST DATE- PLACE- BAIL TYPE- AMOUNT-
7010 SIMPLE ASSAULT 48 DA REJECTS DVR 02 OFFENSE NATURE
7050 RECKLESSLY ENDANGERING ANOTHER 48 DA REJECTS DVR 02 OFFENSE NATURE
THIS CASE HAS TWO RELATED CASES. THE CASES ARE DC76-39-62457 AND
DC 76-39-62458. THE FACTS AS TO ALL THREE CASES ARE AS FOLLOWS FEMALE
VICTIM CALLED POLICE AND SAID MAN IN HER HOUSE BEATING HER UP. POLICE
RESPONDED AND SHE ADMITTED THEM AS LOVER BOY WENT OUT BACK DOOR. POLICE AND
FEMALE CHASED FORMER BOYFRIEND AND CAUGHT HIM ABOUT HALF BLOCK AWAY. WHEN PU
TTING DEFT INTO WAGON (ALREADY HAND-CUFFED); DEFT KICKED OFF FRANCIS
DALY #2209 IN THE GROIN AND OFF THOMAS COLLINS #1572 IN THE CHEST. INJURIES
TO OFFICERS DO NOT APPEAR TO BE SERIOUS AT THIS TIME. THE GIRLFRIEND VICTIM
COMPLAINANT SHOWED MARKED INJURIES TO FACE. NO WEAPONS USED. THE VICTIM-
COMPLAINANT IN THIS DC NUMBER CASE IS ESTHER * FORMER GIRLFRIEND.

* Names deleted for privacy purposes

FIGURE IV-3

EXAMPLE OF A BURGLARY CASE

DCN-7605022219	NAME-	WAYNE	C	PHOTO-00520685
OFFICER	NAME-HAHN	GERALD		BADGE-0768
CHARGING ADA	NAME-DEPAUL	EDMUND	E	ID-11111
PRELIM ADA	NAME-			ID-
CHARGE DATE-761220		ARREST DATE-761220		TIME-0100
INFO REQUIRED-		CURRENT DB STATUS-		SPECIAL-
HCN-		SERIOUS CHARGE-		PA DISP-

NXTLIST	DATE-	PLACE-	BAIL	TYPE-	AMOUNT-
1809032	CONSP TO BURG, STEAL, & RSP		48 DA REJECTS DVR	02 OFFENSE NATURE	
1835020	BURGLARY		48 DA REJECTS DVR	02 OFFENSE NATURE	
1839210	THEFT-2 CTS-AUTO & ADD. MACH.		48 DA REJECTS DVR	02 OFFENSE NATURE	
1839250	RSP-2 CTS-AUTO & ADD. MACHINES		48 DA REJECTS DVR	02 OFFENSE NATURE	

POLICE SAW DEFT LEAVING A CAR DEALER'S AND AS THEY APPROACHED DEFT ESCAPED. DEFT LEFT AN ADDING MACHINE AND KEYS BELONGING TO DEALER. GAVE PERMISSION TO DETECTIVE TO PHOTOGRAPH ITEMS AND RETURN THEM TO DEALER AFTER PUTTING DATE, TIME OF PHOTOS AND IDENTIFYING INFO OF ITEMS SUCH AS MAKE, MODEL, SERIAL NUMBERS, ETC ON BACK OF PHOTOS. AS POLICE KNEW DEFT BY SIGHT AS THEY HAD ARRESTED HIM LAST WEEK, A WANTED MESSAGE WAS PUT ON POLICE RADIO. SHORTLY THEREAFTER HE WAS ARRESTED IN A STOLEN CAR (DC 76-05-22220) ABOUT A BLOCK FROM HIS HOME. THIS CAR WAS A 1962 CHEVY WHICH HAD NOT AS YET BEEN REPORTED STOLEN. AT THIS TIME, DEFT GIVING WRITTEN STATEMENT THAT HE HAD A CO-DEFT ON THE BURG OF THE AUTO DEALER AND THAT THEY ESCAPED FROM THE BURG SCENE IN A 1976 RED DODGE. THIS DEFT SAYS CO-DEFT WAS JOHN WHO SUGGESTED THE BURG SO THAT THEY COULD TAKE A CAR SO THAT DEFT COULD DRIVE TO SEE HIS PREGNANT GIRLFRIEND WHO LIVES IN MANAYUNK. AFTER DRIVING AWAY FROM BURG SCENE IN THE STOLEN RED DODGE, THEY BECAME WORRIED AND DITCHED IT. THEREAFTER, THIS DEFT ALONE STOLE THE 1962 CHEVY. A WARRANT IS ISSUING FOR BUT THIS OFFICE SHOULD LOOK OVER HIS CASE CAREFULLY TO SEE IF ANY CORROBORATION OF THIS DEFT'S STATEMENT INVOLVING HIM.

FIGURE IV-4

EXAMPLE OF INTER-RELATIONSHIP IN TWO CASES

ICN-7639062148	NAME-	MARY	PHOTO-99999999		
OFFICER	NAME-CUNBOY	JAMES	BADGE-0797		
CHARGING ADA	NAME-DEPAUL	EDMUND E	ID-11111		
PRELIM ADA	NAME-		ID-		
CHARGE DATE-761218	ARREST DATE-761218		TIME-0200		
INFO REQUIRED-	CURRENT DB STATUS-		SPECIAL-		
ICN-	SERIOUS CHARGE-		PA DISP-		
NEXTLIST	DATE-	PLACE-	BAIL	TYPE-	AMOUNT-
09071	POSS INSTRMNTS	CRIME-GENERALLY	48 DA REJECTS DVR	02	OFFENSE NATURE
09080	PROHIBITED OFFENSIVE	WEAPONS	48 DA REJECTS DVR	02	OFFENSE NATURE
027010	SIMPLE ASSAULT		48 DA REJECTS DVR	02	OFFENSE NATURE
027020	AGGRAVATED ASSAULT		48 DA REJECTS DVR	02	OFFENSE NATURE
027050	RECKLESSLY ENDANGERING	ANOTHER	48 DA REJECTS DVR	02	OFFENSE NATURE

THIS DEFT AND CHARLES (DC 76-39-62166) WERE BOTH AT A PARTY WHEN EACH SERIOUSLY INJURED THE OTHER. AT TIME OF ENTRY OF CASE INTO COMPUTER AT 7AM 12-18-76, BOTH MARY SPEAKS AND CHARLES DANIELS ARE IN CRITICAL CONDITION AT WOMANS MEDICAL COLLEGE HOSPITAL. BECAUSE OF THE CONDITION, NO ARREST HAS BEEN MADE AS YET OF EITHER DEFT. NOTE THAT EACH DEFT IN THIS BRAWL HAS A DIFFERENT DC NUMBER AS THE DEFENDANTS ARE COMPLAINANTS IN EACH OTHER'S CASE, RATHER THAN IN THE NATURE OF CO-DEFT'S CHARGED WITH JOINTLY DOING THE SAME UNLAWFUL ACT. NOTE FURTHER THAT EACH DEFT WILL HAVE FIFTH AMENDMENT PLEA AVAILABLE TO HIMSELF AND THEREFORE THE INVESTIGATOR WILL HAVE TO FIND OTHER WITNESSES TO PROVE CASE.

ICN-7639062166	NAME-	CHARLES	PHOTO-00443990		
OFFICER	NAME-CUNBOY	JAMES	BADGE-0797		
CHARGING ADA	NAME-DEPAUL	EDMUND E	ID-11111		
PRELIM ADA	NAME-		ID-		
CHARGE DATE-761218	ARREST DATE-761218		TIME-0200		
INFO REQUIRED-	CURRENT DB STATUS-		SPECIAL-		
ICN-	SERIOUS CHARGE-		PA DISP-		
NEXTLIST	DATE-	PLACE-	BAIL	TYPE-	AMOUNT-
09071	POSS INSTRMNTS	CRIME-GENERALLY	48 DA REJECTS DVR	02	OFFENSE NATURE
09080	PROHIBITED OFFENSIVE	WEAPONS	48 DA REJECTS DVR	02	OFFENSE NATURE
027010	SIMPLE ASSAULT		48 DA REJECTS DVR	02	OFFENSE NATURE
027020	AGGRAVATED ASSAULT		48 DA REJECTS DVR	02	OFFENSE NATURE
027050	RECKLESSLY ENDANGERING	ANOTHER	48 DA REJECTS DVR	02	OFFENSE NATURE

THIS DEFT AND MARY SPEAKS (DC 76-39-62148) GOT INTO AN ARGUMENT AT A PARTY. EACH SO SERIOUSLY INJURED THE OTHER THAT AT THIS TIME (7AM ON 12-18-76), BOTH DANIELS AND ARE IN THE HOSPITAL IN CRITICAL CONDITION AT WOMANS MEDICAL COLLEGE HOSPITAL. SEE NOTE AT END OF MARY COMPUTER ENTRY MADE AT THIS TIME. NOTE THAT DETECTIVE SAYS HE HAS TWO WITNESSES THAT SAW THIS LOVER'S TIFF AT THE PARTY. THESE TWO WITNESSES CAN BE USED IN BOTH CASES.

FIGURE IV-5

EXAMPLE OF POTENTIAL DIVERSION CASES

CN-7635089947	NAME-	XAVIER	PHOTO-99999999
OFFICER	NAME-AINSLEY	JOHN	BADGE-0681
CHARGING ADA	NAME-BYRNE	MICHAEL	ID-43551
RELIM ADA	NAME-		ID-
CHARGE DATE-761217	ARREST DATE-761217		TIME-2230
INFO REQUIRED-	CURRENT DB STATUS-		SPECIAL-
MCN-	SERIOUS CHARGE-		PA DISP-
NXTLIST	DATE-	PLACE-	BAIL TYPE- AMOUNT-
1809012	ATTEMPT-1ST DEGREE FELONY	73 DVR REVW DEF RD	06 ADNL INVEST REQ
1809071	POSS INSTRMNTS CRIME-GENERALLY	73 DVR REVW DEF RD	06 ADNL INVEST REQ
1835030	CRIMINAL TRESPASS	73 DVR REVW DEF RD	06 ADNL INVEST REQ
1835031	CRIMINAL TRESPASS--BUILDINGS	73 DVR REVW DEF RD	06 ADNL INVEST REQ

POSSIBLE PREEXISTING RELATIONSHIP BETWEEN DEFENDANT AND TENANT OF THE APARTMENT INTO WHICH DEFENDANT WAS ATTEMPTING TO GAIN ENTRY. COMPLAINANT NOT AVAILABLE TO BE INTERVIEWED PRIOR TO CHARGING. NO WAY TO RELIABLY ASCERTAIN WHETHER ENTRY HAD ACTUALLY BEEN ACHIEVED. DEFENDANT DID NOT HAVE ANY UNUSUAL BELONGINGS.

DCN-7639062139	NAME-	CHARLES	PHOTO-99999999
OFFICER	NAME-LEAK	DAVID	BADGE-0630
CHARGING ADA	NAME-DEPAUL	EDMUND	ID-11111
PRELIM ADA	NAME-		ID-
CHARGE DATE-761217	ARREST DATE-761218		TIME-0120
INFO REQUIRED-	CURRENT DB STATUS-		SPECIAL-
MCN-	SERIOUS CHARGE-		PA DISP-
NXTLIST	DATE-	PLACE-	BAIL TYPE- AMOUNT-
1839210	THEFT	73 DVR REVW DEF RD	02 OFFENSE NATURE
1839250	RECEIVING STOLEN PROPERTY	73 DVR REVW DEF RD	02 OFFENSE NATURE

DEPENDING ON THIS MAN'S TOTAL BACKGROUND, DIVERSION SHOULD BE CONSIDERED.

FIGURE IV-6

EXAMPLE OF A CASE IDENTIFYING PROSECUTION POLICY ISSUES

7635089898	NAME-	CHARLES	PHOTO-00000000		
OFFICER	NAME-LEBOFSKY		BADGE-0979		
CHARGING ADA	NAME-BYRNE	MICHAEL J	ID-43551		
DELIM ADA	NAME-		ID-		
ARREST DATE-761217	ARREST DATE-761217		TIME-0121		
INFO REQUIRED-	CURRENT DB STATUS-		SPECIAL-		
CH-	SERIOUS CHARGE-		PA DISP-		
LIST	DATE-	PLACE-	BAIL	TYPE-	AMOUNT-
51040	RESISTING ARREST OR LAW ENF	50 AUTH ALCOHL DVR	07	PROSCTN	PRIORITY
510370	OPER M V UNDER INFL LIQR/DRUGS	50 AUTH ALCOHL DVR	07	PROSCTN	PRIORITY

THE FACTS RELATED BY THE ARRESTING OFFICER WOULD FIT WITHIN THE DEFINITION OF A VIOLATION OF PPC 2709(1) RATHER THAN PPC 5104 BECAUSE WE WILL NOT BE ABLE TO ESTABLISH SUBSTANTIAL RISK OF BODILY INJURY TO THE PUBLIC SERVANT. POLICE DEPARTMENT PROCEDURES MAKE DIFFICULT OR PROHIBIT THE JOINDER OF A MISDEMEANOR OFFENSE WITH A SUMMARY. THIS IS AN AREA WHERE THERE IS A NEED FOR REVIEW AND CONCRETE GUIDELINES SPELLING OUT WHEN THERE IS, OR IS NOT A PROBLEM UNDER COMPAGNA CASE AND HOW TO HARMONIZE COURT RULES CONCERNING WHEN A DEFENDANT MUST BE LISTED FOR TRIAL.

Finally, as shown in Figure IV-7, the propensity to modify charges appears to be dependant upon the Assistant District Attorney assigned, although the differences may be explained by the nature of the cases that each Assistant District Attorney received. To determine the effect of case type vs. Assistant D.A. characteristics, we would need to design and execute a randomized factorial design in order to test for these effects. Nonetheless, in the data shown it appears that Assistant D.A.'s one and two (the more senior and experienced) were more likely to modify charges than are Assistant D.A.'s three and four (the more junior). Experience was too limited for attorneys five and six. One and two did not change the police charges in 30% and 37.5% of the cases respectively, while three and four did not modify the charges in 76.4% and 84.6% of the cases. In fact Assistant D.A. number one reduced the charges in 60% of his cases, while number two did likewise in 50% of his cases as compared to 11.8% and 15.4% for three and four. It appears that the inclination to change is highly dependent upon which prosecutor is making the decisions, but we may not be conclusive about this finding until an adequate research design is undertaken.

C. EVALUATION OF THE SYSTEM CONCEPT*

Evaluation of the use of CCTV in support of the charging, Screening, and Diversion function must necessarily be qualitative since the system has so far operated for only 125 hours and dealt with only 50 arrests during the December 1976 pilot test. However, from observations and the data collected, some notions about the potential costs and benefits of the system can be derived. These observations relate to:

- ° The effect of the CCTV and SDIS support system on the work flow of the police and the District Attorney's Office
- ° The effect of the svstem on arresting and charging behaviors
- ° The potential for increased efficiency in the criminal justice system
- ° The legal implication of the system

1. Effect on the Work Flow

Essentially the system provices the capability to move the Screening and Diversion Unit (SDU) function of the D.A.'s office from the interstice between the preliminary arraignment and preliminary hearing to the charging locus. At that point not only is a formal determination made of whether or not to divert a case to some rehabilitative program but also the actual charging decision is accomplished in concert with the investigating detective or other police officer.

* This section was prepared by Dr. Figlio and Dr. Spritzer of the University of Pennsylvania

FIGURE IV-7

BEHAVIOR OF ASSISTANT DISTRICT ATTORNEY ASSIGNED TO SDU

VS. POLICE CHARGE

ASST. DISTRICT ATTORNEY*	ADA ACTION								TOTALS	
	NO CHANGE		ADDED CHARGES		REDUCED CHARGES		CHARGE DROPPED			
	N	%	N	%	N	%	N	%	N	%
1	3	(30)	1	(10)	6	(60)	0	(0)	10	(100)
2	3	(37.5)	1	(12.5)	4	(50)	0	(0)	8	(100)
3	13	(76.4)	1	(5.9)	2	(11.8)	1	(5.9)	17	(100)
4	11	(84.6)	0	(0)	2	(15.4)	0	(0)	13	(100)
5	0	(0)	0	(0)	1	(100)	0	(0)	1	(100)
6	1	(100)	0	(0)	0	(0)	0	(0)	1	(100)
TOTALS	31	(62)	3	(6)	15	(30)	1	(2)	50	(100)

* Refers to the six different individuals involved in the test

47.

In the initial project description* "Opportunities for Improvement in the City of Philadelphia Criminal Justice System", it was argued that substantial operating economies could result especially in the area of paperwork reduction if the CCTV system were in full-time operation. However, from the point of view of the police certain documents are generated in response to a criminal act. For example, Form 75-48 records the fact that a complaint has been filed. In addition, the 48 form briefly details the circumstances surrounding the incident being reported. All officially recorded police action begins with the 75-48 report. As such this form must accompany any further action by the police. For all offenses other than those which are disposed of in the police district-municipal court (summary offenses) an investigation by a detective is undertaken in response to the filing of the 75-48. The findings of this investigation are recorded on form 75-49 and the decision to charge or not to charge is made. Both of these records (75-48, 49) form a necessary part of the official documentation of the police.

However, the decision to charge and what the charge should be are based upon the detective investigation. It is therefore, at this stage, and not before, that possible operating economies may come into play in the police system's paper flow, for the intervention of the district attorney's office at the charging stage will help to insure that only cases which can be adequately prosecuted will proceed onward along the route to trial.

For cases in which the Assistant D.A. feels that the arrested individual should be charged with a felony or misdemeanor the pathway to disposition remains unaltered. However, if the Assistant D.A. feels that the accused should be either charged with a summary violation or diverted then a substantial reduction in prisoner processing would result, because further handling of the accused (fingerprinting, photographing, ROR hearing and preliminary arraignment) would be eliminated. Thus we may anticipate a reduction in prisoner handling by both the police and the judiciary in those cases in which the Assistant D.A., after discussing the evidence via CCTV with the investigating detective or police officer, has determined that the charge should either be reduced to a summary disposition and/or the defendant diverted.

* Donald F. Blumberg, "Opportunities for Improvement in the City of Philadelphia Criminal Justice System", Decision Sciences Corporation, Philadelphia, 1976.

Since the data does indicate that the police are, in fact, over-charging*, and a relatively large number of offenders are being diverted after the preliminary arraignment**, then we may expect meaningful economies to result from placing the SDU function at the point of charging. Of course it is difficult to anticipate the extent to which the flow may be modified with this system because adequate data are not yet available. However, the demonstration test suggests that in 10% of the serious cases (excluding narcotics, prostitution, and drunk driving) the police appear to be charging individuals with felonies or misdemeanors when they should in fact be dealing with those defendants summarily or the situation should have been diverted.

It should be noted that the data indicates that over-charging is not an extensive practice. However, it does occur with enough frequency that the earlier the screening and diversion decision is made by the SDU, the greater the savings in processing, record generation and time for the police, the D.A.'s office, the judiciary, and the accused. Therefore, we may conclude that a small to moderate cost reduction due to elimination of some police paper flow may result from placing the SDU at the charging locus***.

It has been estimated that in Philadelphia a "minimum case" requires over 40 man-hours of processing, including police and D.A. personnel with the greatest man-hour costs, per case, borne by the District Attorney's office. At an arbitrary \$12 per hour rate (which is probably low if overhead and support costs are included), this is equivalent to \$480 processing cost per minimum case. For more complex cases, the processing cost can easily rise to \$1,000 or substantially higher. If, by use of the cable communications link, one case can be eliminated every three days (e.g. by the A.D.A. advising that no prosecution will take place or by a reduction to a summary offense, then the cost saved by short-circuiting or reducing the required processing time for that case will pay for the cost of the communications****.

* The actual demonstration data shows that this was the case in a third of the situations. It should be noted that this did not include narcotics, prostitution or drunk driving arrests, which are often screened or diverted.

** As shown in Chapter II, Figure II-7, almost two thirds of all arrests are ultimately screened out or diverted.

*** The main operational cost potential (mentioned by the police) is the time required to handle the charging decision over the CCTV. During peak periods of criminal activity the police fear that the waiting time to discuss the charge with an ADA may be intolerably long. However, an analysis based upon the actual data, as found in Appendix 2 shows that case processing will not be a significant issue.

**** The cost of one two-way channel communications link and the terminal equipment, would be the total incremental cost. As noted in Appendix 3 this is in the order of \$50,000-60,000 per year. For 365 days per year, this equals about \$150 per 24-hour day, or about \$6 per hour.

There are further benefits that may be substantial. For example, elimination of even one false arrest possibly per year could very well save the city more than the \$50,000 in terms of liquidation costs and damages. Furthermore, reduction of police paperwork to any degree means more time available for the primary function of preventing crime and apprehending suspects.

Under the above assumptions, therefore, it appears that a strong cost/benefits case can be made in favor of D.A. screening and diversion via a communications link.

With respect to the overall concept, the following points should be noted:

a. CCTV appears to have a noticeable advantage over the use of a telephone

Visualization gives the ADA a somewhat heightened awareness of the attitudes of his communicants and of the significance of the information he is receiving. By the same token, it may contribute to better understanding of the ADA's viewpoint by those at the other end. This benefit, in itself, may not warrant the cost of installing a CCTV system. However, in the City of Philadelphia a CCTV system in place -- with costs already sunk is an important benefit.

b. Not all offenses need to be the subject of advance consultation between the police and prosecutorial authorities

Summary offenses, as well as certain misdemeanors not customarily processed by units could be excluded. Experience also shows that pre-complaint consultations might also be curtailed in other categories of cases on the ground that they are of a routine character and that their inclusion in the process would be a clog upon the operation.

2. Effect on Arresting and Charging Behavior

Perhaps the aspect of this proposed system which is most difficult to anticipate and evaluate is that dealing with the effect that formally placing ADA's at the charging decision will have on charging and arresting behaviors. It must be remembered that the decision to charge and the content of the charge have traditionally resided in the domain of the police even though the charges may later be modified (for example, through plea bargaining) or dropped by the prosecutor's office. After all, the policeman is often the witness to a criminal act or the results of that act and he is, therefore, closest to the crime and its associated charge. It might, then, be reasonably asserted that the policeman should be able to make the most accurate and substantial charge. Indeed it may be reasonably asserted that in most instances the police do feel that they are best able to charge a defendant. However, the charging decision rests upon legal as well as behavioral factors as perceived by the police, with the result that choosing the appropriate charge or charges is sometimes a complex affair requiring the aid of an experienced prosecuting attorney. As mentioned in Chapter II, requests for

consultative aid in the charging decision of complex cases are often made of the assistant district attorneys by the police. However, the essential difference in the proposed system is that all non-summary charges are formally reviewed, modified, or approved by an assistant district attorney at the time of charging. Of course, this procedure completely eliminates police autonomy in charging discretion.

What effect will this continuous review have on police morale and, therefore, behavior? One, and perhaps the most desirable effect will be further education of the charging officers through their interaction with the ADAs. Over time it is anticipated that there will be a convergence between the charges proposed by the police and those approved by the assistant district attorneys will be observed. This empirical observation results from the increased sensitivity of the police to the legal requirements which underlie the formulation of a viable charge during the course of the demonstration. Thus, even if tension was to develop between the police and the assistant district attorneys because of the numerousness of unacceptable (to the police) charge changing by the assistant district attorneys, we would hypothesize that such tensions would decline over time as the two charging agencies became more or less congruent in their practices. It is important to stress that the supposed morale difficulty is purely hypothetical. During the December 1976 test, no problems were observed with tension or hostility between the charging officers and the assistant district attorneys. In fact the opposite was true. Both the prosecutors and the officers knew each other and exhibited good rapport. The face-to-face interchange permitted by the CCTV served to strengthen the relationships between the ADAs and officers. Direct observation indicated that the interchanges were usually friendly, and this substantiated in discussions with the participants.

No evidence of intimidation of the police officers by the ADAs was observed, they appeared to be working together to insure that only "just" charges that would "stick" were entered against the defendant. The police and the district attorney both realize that an inappropriate charge only causes problems all along the criminal justice system flow. Thus, in some cases rightful convictions are lost and money, time, and effort are wasted. The real cause of reduced moral for the police, the prosecutor and the judiciary as well, is in the losing of convictions when in fact they should not have been lost. Oftentimes this "slippage" is caused by ineptness in the system: faulty charging, rights of the accused violated, poor prosecuting efficiency due to extraordinarily large caseloads and the resulting backlog, unreasonably long time intervals between preliminary hearing and trial, and so on.

One of the most important measures of police effectiveness is the "cleared by arrest" rate. Whether or not the defendant is later found guilty, the job of the police is, for the most part, finished when an arrest is accomplished.

Because the pathway to conviction is peppered with judicial and procedural pitfalls, it is to the officer's advantage to "pile on" charges, that is, overcharge to improve the chances of at least some kind of conviction. In a sense low conviction rates encourage the police to increase the charging rate. However, multiple charges which have incorrect, unsubstantiated or inaccurate charges within them also contribute to the conviction slippage by overloading the system, increasing the backlog and time interval to prosecution and cause wasted time on the part of the police in appearing at court actions, which are ultimately not successful or are dismissed. All of these factors contribute to a lowered conviction rate, lower police morale, and lowered confidence in the Criminal Justice System in the population at large.

3. Potential Efficiency Improvement

Improving the charging decision making process will reflect up and down the criminal justice system in a beneficial manner. At the initial level, that of the discretion of the police officer to arrest or not to arrest, the effect of the review of charging practices by the assistant district attorneys will be first apparent, for the quality of the arrest will be measured by the charge that it generates. Incorrect arrests or wrongfully elevated charges will not be supported by the assistant district attorney's screening and decision making, because the assistant district attorney knows that such a case will not survive further examination along the route to conviction. Thus we would suggest that eventually the measure of effective police practice will not be simply "cleared by arrest" but rather "cleared by arrest and charged" by the assistant district attorney. In that way policing behavior would be rewarded by successful arresting practice (well founded and charged) rather than simple arresting behavior.

In the other direction the prosecutorial role should be somewhat simplified in that the problems of charge reduction (which ideally would only arise because of faulty charging practice) and diversion would no longer exist in the judicial setting because they would already have been handled in the initial stage of charging. Thus we may anticipate some reductions in processing at the preliminary arraignment and hearing stage on the part of the district attorney's staff. In addition we may anticipate the more effective and efficient use of prosecutorial manpower as the system develops, especially as the district attorney's computer keying operation develops.

An efficient and accurate charging system may also have an effect on the ever-increasing practice plea bargaining. In a sense the practice of plea bargaining encourages the maintenance of elevated charges throughout the judicial process, for it rewards a voluntary guilty plea with a lesser charge. To some degree we see the intrusion of the assistant district attorney into the charging stream as having a potential for an unbalancing effect on the interaction between the initial charge and the final indictment which results in conviction in that the amount of latitude available for plea bargaining may be reduced.

It must be remembered that the practice of plea bargaining arose as a response to increasing backlogs in the criminal justice system. Each element in the system in the society in which it functions is interrelated with the other components. As plea bargaining blossomed and spread as a method to speed up the justice dealing process and gain convictions so have police and community disenchantment grown as the perceived disjuncture between the criminal event and its disposition or punishment has widened. The circularity and self-generating nature of this system is readily apparent.

Placing the prosecutor's office at the charging locus has the potential for widespread effects throughout the criminal justice system. Nonetheless, the extent and character of that effect will not be determinable until substantial data have been collected after considerable system operation. At the minimum, operating economies should result from the diversion of cases before the preliminary arraignment instead of after as is the present practice. Additional economies should result due to the reduction of charges from those requiring a preliminary arraignment to the status of a summary offense. For cost and social benefits beyond these immediately apparent and tangible items, we must await further experience with the system.

4. Legal Implications of the System

There is no doubt of the legality and propriety of the prosecutor's participating at the earliest practicable stage, i.e., before a complaint is filed in court, in the decision whether to prosecute, and if that decision is an affirmative one, in the determination of the charge or charges to be brought. The prosecutor is the trained professional, and the decision whether and how to prosecute is his responsibility*.

During the December experiment the ADA did not engage in questioning any of the accused. If that were done, however, it would raise no novel question. Whether questioning is conducted by an ADA or a police officer, the constitutional limitations are the same.

From the standpoint of legal policy, effective implementation of the pre-audit approach could provide benefits in the following respects: (1) minimizing disparate treatment of similarly situated offenders; (2) the development and articulation of prosecutorial standards; (3) conforming police practices to prosecutorial criteria; (4) the development of information and data for continuing evaluation of the criminal justice system by executive and legislative authorities. These considerations will be examined in turn.

a. Minimizing Disparate Treatment of Similar Offenders

Where complaints are shaped by arresting officers and detectives, inconsistent and inapt charging practices are a likely occurrence. The officers are non-lawyers. They will probably have only limited familiarity with considerations to which the District Attorney's Office is sensitive. They may well be prone to over-charge in the interest of covering everything. And, in the absence of expert guidance and centralized supervision, fortuitous factors are bound to play a significant role in cases that do not obviously fit in a single and familiar pigeonhole.

*The ABA Standards (see p.4, note, supra) state (§3.4):

(a) The decision to institute criminal proceedings should be initially and primarily the responsibility of the prosecutor.

(b) The prosecutor should establish standards and procedures for evaluating complaints to determine whether criminal proceedings should be instituted.

(c) Where the law permits a citizen to complain directly to a judicial officer or the grand jury, the citizen complainant should be required to present his complaint for prior approval to the prosecutor and the prosecutor's action or recommendation thereon should be communicated to the judicial officer or grand jury.

In contrast, ADA's in a small centralized unit can be chosen for their professional qualifications and their experience as prosecutors. Their daily working relationships with one another and their supervisors provide a means of developing some consistency of approach and practice. To the extent that this is achieved, disparate treatment of similarly situated offenders can be minimized.

b. The Identification of the Need for, and Development of Prosecutorial Standards

While a degree of consistency can be achieved through the interaction of personnel in a group like the Screening and Diversion Unit without formal articulation of rules, policies and guidelines, there are advantages -- at least within limits -- in more formal procedures. The American Bar Association Project urges that the "prosecutor establish standards and procedures for evaluating complaints to determine whether criminal proceedings should be instituted"*. The very attempt to articulate guidelines compels a more direct confrontation with recurrent issues and may lead to reduced areas of ambiguity. How detailed the standards should be is another question -- one that probably cannot be given a meaningful answer in the abstract. Certainly, room must remain for the exercise of prosecutorial judgement, for some flexibility of response.**

The significant point, for present purposes is this. If the District Attorney becomes involved in the direction of matters at the point of intake -- before complaints are crystallized and get into particular channels -- his options are enhanced. By the same token, there is improved opportunity to develop and to apply more comprehensive and more visible standards and criteria of disposition.

* For a broad discussion of administrative rule-making as a means of confining, structuring and checking discretionary power, see K.C. Davis, "Discretionary Justice: A Preliminary Inquiry" (1969).

**As Victor Rosenblum has suggested in a commentary on Davis' "Discretionary Justice," there are dangers in too little discretion as well as in too much. Rosenblum, "On Davis on Confining, Structuring and Checking Administrative Discretion," 37 Law & Contemp. Prob. 49 (1972).

c. Insuring Conformance of Police Practices to Prosecutorial Standards

Under the current practice, the arresting officer and the investigating detective may get little or no feedback following the filing of a complaint. True, the case will come to their attention again if it proves to be one of the small minority that goes to trial. However; the chances are that they will hear little or nothing if it is dropped, diverted or terminates in a guilty plea. Accordingly, uniformed police officers and detectives may persist in initiating charges that the ADA's are regularly engaged in weeding out or modifying at a later stage in the ongoing process. Moreover, even when police officers learn, through rumor or happenstance, what disposition has taken place in certain of their cases, they are unlikely to be informed of the reasons. Thus, there is not only a failure of education but a breeding ground for distrust.

If, on the other hand, there is direct and immediate consultation between the ADA and the police officers via CCTV, the latter are perforce exposed to the thinking and attitudes of the prosecutorial staff. If, for example, it is the view of the District Attorney that, in light of his priorities, it is not worthwhile to bring certain types of cases in certain circumstances, the detectives and uniformed officers should be aware of that. The colloquy between the ADA and the officers may provide other insights, e.g., what information the officers should be seeking, what investigative procedures they might adopt, how in given circumstances they should conduct a search and seizure.*

In short, the pre-audit procedure provides an opportunity to achieve a greater degree of coordination between the prosecutor and the police and a more efficient utilization of resources.

*It should be added that consultation is not a one-way street. The ADA will learn more of the attitudes of the police and of the practical problems they encounter in the performance of their work. He may also get a livelier sense of the strength and character of the case at hand.

d. The development of a Base of Data for Continued
Policy and Legislative Review

An adjunct of the pre-audit procedure is that the ADA will feed into the computer terminal at his side skeletal data (including a coded designation of the reason or reasons for the disposition made) concerning each case handled. Apart from such utility as this may have from the standpoint of internal management of caseload, it affords a valuable means of gathering data for refined analyses of aspects of the criminal justice system. For example, one could readily ascertain how many cases were dropped during a given period because of the prosecutor's view of his priorities. One might then break these cases down by categories - what types of charges were involved and how many of each. The results might suggest a re-examination of priorities. Or they might be thought to signal the desirability of a legislative change, such as down-grading a particular crime from misdemeanor to summary offense. Examples might be multiplied, but the point is a simple one: computerization of the data derived from the contemplated pre-audit system can provide a useful tool for continuing evaluation by executive and legislative authorities.

V. COMPARATIVE ANALYSIS SUMMARY, AND CONCLUSIONS

As a direct result of the demonstration tests carried out in December of 1976 and an independent evaluation of the results of these tests, basic conclusions can be reached concerning the validity and viability of the CCTV and SDIS concept in support of the legal counseling, Screening and Diversion process, its transferability to other jurisdictions, and recommendations for further action. These results are outlined below:

A. COMPARATIVE ANALYSIS

The major issue analyzed in this project related to improved methods for providing legal counseling, screening and diversion services in support of the charging process by the District Attorney's office. There are three basic methods by which this process can be augmented:

1. Decentralized Support

One possible method is to provide legal counseling and screening and diversion support services at each detective division, by assigning a full time assistant district attorney to each site. The assistant district attorney assigned is available to police officers and detectives for advice and counsel. A variation of this approach, designated as the "circuit rider" system, assigns one assistant district attorney to serve two or more detective divisions. The ADA would be physically located at one detective division, and would be available by phone to the other division(s) assigned to his "circuit". Under this concept a district attorney assigned could either provide counsel over the phone, or on call, physically drive to the other detective division requiring his services.

2. Centralized Informal Telephone Access Support

A second method is to provide legal counseling services on an informal basis from a centralized location. One or more assistant district attorneys would be assigned to the function, and the individual police districts and detective divisions would be able to call up, at their discretion, to obtain legal advice and counsel on a particular case of interest. In this situation, the assistant district attorney's involved are located at a central point and all requests for service is done via telephone.

3. Centralized Formal CCTV Access and Support

A third method involves the establishment of a formal legal counseling/screening and diversion function which is centrally located and is in direct communication on a continuing basis, via Closed Circuit Television, with each detective division. Each detective division operates on the basis of a charging manual and procedure which requires formal call-up of the Screening Diversion unit for guidance, counseling and a formal charging decision. The communication between the police detective divisions and the screening and diversion function is by both audio and visual means. The guidance as to arrest and charging recommendations, made by the District Attorney's office, are formally recorded by means of a computer terminal (SDIS), and are available for recall at the preliminary hearing location. The basic difference between this approach and the second method (centralized telephone calling) is 1) the availability of visual, as well as audio communications, and 2) the requirement for a formal recording of guidance and charging decisions provided by the District Attorney's office.

The City of Philadelphia has had experience with the first two methods. For over two years the District Attorney's office of the City of Philadelphia provided on-site assistant district attorneys at each police detective division, for advice and counsel. Serious deficiencies were noted in this approach in that the district attorneys assigned often had relatively little to do. In addition, the operational environment of a police detective division is neither professionally stimulating or comfortable for an attorney. As a result a significant morale problem arose. Finally, some attorneys who found the assignment interesting, became very involved with the detective division personnel; over a period of time they adjusted to the personal attitudes and views of the individual detectives and police officers they were dealing with. In effect, the closeness and proximity of the assigned district attorneys to the police detective divisions inhibited the ability of the assistant district attorneys to make an independent and objective appraisal. For example, to the extent that a decision rendered was unfavorable to the personal views of the detectives involved, it was very difficult to make such a recommendation since the assistant district attorney had to continue to "live" with the detectives assigned.

The method of centralized telephone access is currently in use in the City of Philadelphia. The system provides for a detective or police officer within the City of Philadelphia Police Department to call the central counseling service by telephone, at their

own discretion. Under this system the legal counsel and guidance given is not recorded, and the district attorney providing the advice and counsel has no way of knowing whether or not his guidance was accepted or rejected or whether or not the facts and issues of the case were fully presented. Because of this, the District Attorney's office also maintains a separate Screening and Diversion Unit which reviews all cases, after arrest and preliminary hearing. The purpose of the Screening and Diversion Unit is to independently evaluate the facts of each case in order to decide what the actual charge should be and whether or not the case should be screened out, diverted, or brought to trial.

The purpose of this study design was to make an independent, objective comparison of the costs and performance of the three concepts outlined above in general, and to provide a direct comparative evaluation of the differences and similarities between the present system (of informal telephone access for legal guidance and formal screening and diversion review after the preliminary hearing and arrest) vs. the system of formal direct closed circuit television access and screening and diversion decisions made on-line at the time of arrest, and documented through the use of the SDIS computer system.

The results of the demonstration tests as well as historical data collected relative to the decentralized method are presented in Figure V-1. The comparative analysis clearly indicates that the formal process of legal counseling and guidance, and screening and diversion decisions on-line utilizing the closed circuit television system and computer aids is the least expensive and most efficient method in that 1) it uses the least number of district attorneys, and 2) involves the earliest screening and diversion out, of those cases which would not normally be brought to trial; thus offering the potential for elimination of paperwork and manpower. While there is essentially little or no difference as to the ultimate resolution of the flow of cases under either of the centralized systems, the CCTV/SDIS approach provides the benefit that the decisions are made significantly earlier in the criminal justice process, thus offering savings which are not achievable under the system of informal telephone access, and formal screening and diversion review after preliminary hearings. Other more qualitative aspects of the advanced system have already been described in Chapter IV.

FIGURE V-1

COMPARATIVE EVALUATION OF
ALTERNATIVE SYSTEMS

COMPARATIVE CRITERIA	DECENTRALIZED	CENTRALIZED		COMPARATIVE EVALUATION AND COMMENT	
	FULL TIME COUNSELING; AND SCREENING SERVICES PROVIDED AT EACH SITE BY ASSIGNED ADA	INFORMAL COUNSELING BY TELEPHONE FORMAL SCREENING AND DIVERSION AFTER HEARING	FORMAL COUNSELING, SCREENING AND DIVERSION BY CCTV AT TIME OF ARREST- DOCUMENTED VIA SDIS		
NUMBER OF ADA'S REQUIRED TO SERVE CITY NEEDS	20	1	4	CCTV SYSTEM REQUIRED LEAST NUMBER OF PEOPLE	
PERCENTAGE OF TOTAL ARRESTS REDUCED TO SUMMARY OFFENSES, SCREENED OUT OR DIVERTED BEFORE TRIAL	0	1%	10%	QUALITY OF CASES ACTUALLY HANDLED, SIGNIFICANTLY IMPROVED WITH CCTV SYSTEM	
MAJOR POINT OF SCREENOUT OR DIVERSION	AT ARREST	0	0	30%	SIGNIFICANT PORTION OF UNPROSECUTABLE CASES SCREEN OUT AT ARREST
	AT PRELIMINARY HEARING	0	0	30%	SIGNIFICANT PORTION OF DIVERTABLE CASES HANDLED AT PRELIMINARY HEARING
	AT PRE-TRIAL	100%	100%	40%	TRIAL AND CASE WORKLOAD IS SIGNIFICANTLY REDUCED
PERSONNEL & PAPERWORK SAVINGS	NONE	NONE	SIGNIFICANT	ESTIMATED \$1-2 MILLION ANNUAL SAVINGS POSSIBLE	
MORALE & RECRUITMENT PROBLEMS	SIGNIFICANT	NONE	NONE	DA'S MOST POSITIVE ABOUT USE OF CCTV	

A careful and realistic weighing of the alternatives favors the use of CCTV. The use of centralized video-audio communication has the following advantages:

1. Video-audio communication allows face-to-face communication between police officers and assistant district attorneys (ADA's).

Such communication is essential to maintain a harmonious and cooperative working relationship between the two groups. It also allows assistants to identify officers they may know by face, but not by name, in order to assess their credibility.

2. Video-audio communication allows face-to-face communication between police officers, and witnesses at the remote location and assistant district attorneys.

This facilitates the assistant's understanding of testimony and his determination of credibility.

3. Video communication lets the ADA's view physical evidence.
4. Video-audio communication allows an ADA to observe line-ups and the taking of statements to ensure adherence to constitutional protections.
5. Centralized legal counseling solves the personnel problem of recruiting ADA's to work in and travel through dangerous neighborhoods at all times of the day and night, and to work in unfamiliar or less than adequate professional surroundings.
6. Centralized legal counseling puts several ADA's in close physical proximity during each shift.

This provides for assistants consulting over difficult problems and for the enormous training benefit of making up shift teams of combinations of experienced and inexperienced assistants. The project would be able to train prosecutors in constitutional problems in a way which is not possible using the individual assignment approach.

7. Video-audio communication may be recorded on tape for later playback, for purpose of documentation.

In comparison with video-audio communication, telephone service does not allow identification and assessment of credibility of officers, defendants and witnesses. It compromises the assistant's understanding of testimony, and does not allow him to read documents or view physical evidence, line-ups, and interrogations.

B. SUMMARY OF TEST FINDINGS

An analysis of the demonstration tests clearly indicate that the concept of moving the charging decision role up prior to arraignment, and providing the capability of allowing the Screening and Diversion Unit of the District Attorney's Office to directly communicate with detectives and uniformed officers via CCTV the time of arrest, is technically feasible. The tests showed that the concept operationally improves the efficiency of the front end of the Criminal Justice System.

A summary of expected benefits to be derived from extending the Screening and Diversion Unit through the use of CCTV and the computerized SDIS is shown in Figure V-2. An analysis of the data indicates that there will be a significant reduction in the operating costs and work flow in both the District Attorney's Office and the police detective divisions. In addition the system appears to offer significant opportunities for improving successful case prosecution by the District Attorney's office. An independent evaluation of the benefits of the system to the District Attorney's Office is contained in a separate evaluation report prepared by the Chief of the Pre-Trial Division of the District Attorney's Office of the City of Philadelphia (see Appendix 6).

A qualitative evaluation indicates that benefits to be derived through the implementation of the system more than offset the costs of implementation of the appropriate closed circuit television and computer based programs.

C. TECHNOLOGICAL TRANSFERABILITY

An in depth analysis of the technological transferability of the CCTV concept to other jurisdictions is contained in Appendix 3. In general, the analysis suggests that the system has a high degree of technological transferability using microwave or a buried cable communications approach. In general the analysis, made in several major metropolitan areas suggests that the benefits and cost reductions which can be achieved as a result of the implementation of such a concept would more than offset the cost associated with the implementation of the supporting systems. This is particularly true in cases in which multiple uses can be found for the CCTV network.

FIGURE V-2

EXPECTED BENEFITS* FROM
EXTENDING SDU CCTV SYSTEM
TO ALL POLICE DETECTIVE DIVISIONS

A. Benefits to District Attorney's Office

- Reduction in Pre-trial Division workload by 10%
- Increase in successful case prosecution by 25%

B. Benefits to Police Detective Divisions

- Reduction in paper work processing workload of 5%
- Reduction in time required for detective/officer appearances at felony cases of 20%
- Reduction in number of false arrest charges

* Estimated Based on Demonstration Tests & Analysis

D. RECOMMENDATIONS FOR FURTHER ACTION

Based upon the results of the demonstration test and the independent analysis contained in this report, the District Attorney of the City of Philadelphia is currently planning to extend the system to City-wide operations. Proposals have been submitted to key executives within the City administration to support this action.

It is strongly recommended that extensive research design be built into further implementation of the system so that the full extent of the effects on the accused, the police, the prosecutor's office, the judiciary, and the population at large may be determined. This design should take into account the discrepancies in the police-ADA charging practices as a function of the charge, the charging officer, and the Assistant District Attorney. It should document the actual benefits derived from pre-arraignment diversion and charge reduction. It should look at the effect of tightening up charging practices as reflected on the plea bargaining process and court backlogs. Finally the design should be sensitive to the attitudinal charges, if any, which occur both within the police and the prosecutor's offices.

APPENDICES

APPENDIX 1 - References & Bibliography

APPENDIX 2 - Estimate of Processing Load

APPENDIX 3 - Evaluation of Technological Transferability

APPENDIX 4 - SDIS Information System

APPENDIX 5 - Plan for Experimental Use of CCTV System
for Early Case Evaluation

APPENDIX 6 - Special Evaluation Report

APPENDIX 1

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ESTIMATE OF PROCESSING LOAD*1. AVAILABLE DATA ON CASE ARRIVALS, AND SERVICE TIME

An analysis of data collected from the City of Philadelphia Police Department files on the number of cases processed during three weeks in April, May, and June, 1974 shows that weekends are the periods of heaviest activity. The arrival rate in cases per hour as a function of time over the four-day weekend period is shown in Figure 1. The graph is based on the count of actual cases during the three weekends in corresponding four-hour time intervals. Thus, the first bar shown (0000 to 0400 hours, Friday) was obtained from the actual count of 59 cases from midnight to 4 A.M. Friday morning during the three weekends (59 cases/12 hours = 4.92 cases/hour). Peaks are seen to occur periodically around midnight with the greatest occurring on Friday night when 92 cases arrived (= 7.67 cases/hour). These data represent all cases arriving through all police divisions. Actual arrival rates by hour for the test period are shown in Figure 2, showing the peak arrival rates occurring around 8 P.M., with a special fall-off occurring at the shift change (or midnight).

In the subsequent analysis, the rates shown in Figure 1 will be assumed to be the true average arrival rates. It must be pointed out, though, that these numbers are not exact since data was only collected over a limited number of weekends. Figure 3 shows the total count of cases in each 24-hour period of the three weekends. The standard deviation around the mean ranges from about 8% of the mean to about 25% of the mean, implying that the means have a standard deviation of about $\frac{1}{\sqrt{3}}$ these values, or as much as about 15%. The rates shown in Figure 1 should, therefore, be viewed as having about this much error (15%). The use of four-hour intervals of analysis was arbitrary; the original data available was given in two-hour intervals. In grouping the data into the larger intervals, it turned out that only rarely was it necessary to sum two radically different arrival numbers. Thus, the data shown is not excessively smoothed and where great variations occur, they are preserved. In fact, one may further combine without much loss. For example, the combination of cases from Friday, 8 P.M. to Saturday, 4 A.M. would give an average rate of 7.42 cases/hour over this eight-hour interval. In view of this limited number of observations, this may reasonably be taken to be the average arrival rate applicable to the peak period of eight hours duration, and will, in fact, be used in the analysis to follow as the mean arrival parameter of a Poisson arrival process.

* This appendix was prepared by Dr. Fred Haber, University of Pennsylvania.

FIGURE 1

Arrival Rate in Cases/Hour

Determined From Data

Collected Over 3 Weekends

Arrival Rate; Cases/Hour

7
6
5
4
3
2
1

0 4 8 12 16 20 0 12 0 12 0 12 0

Friday

Saturday

Sunday

Monday

H O U R S 71.

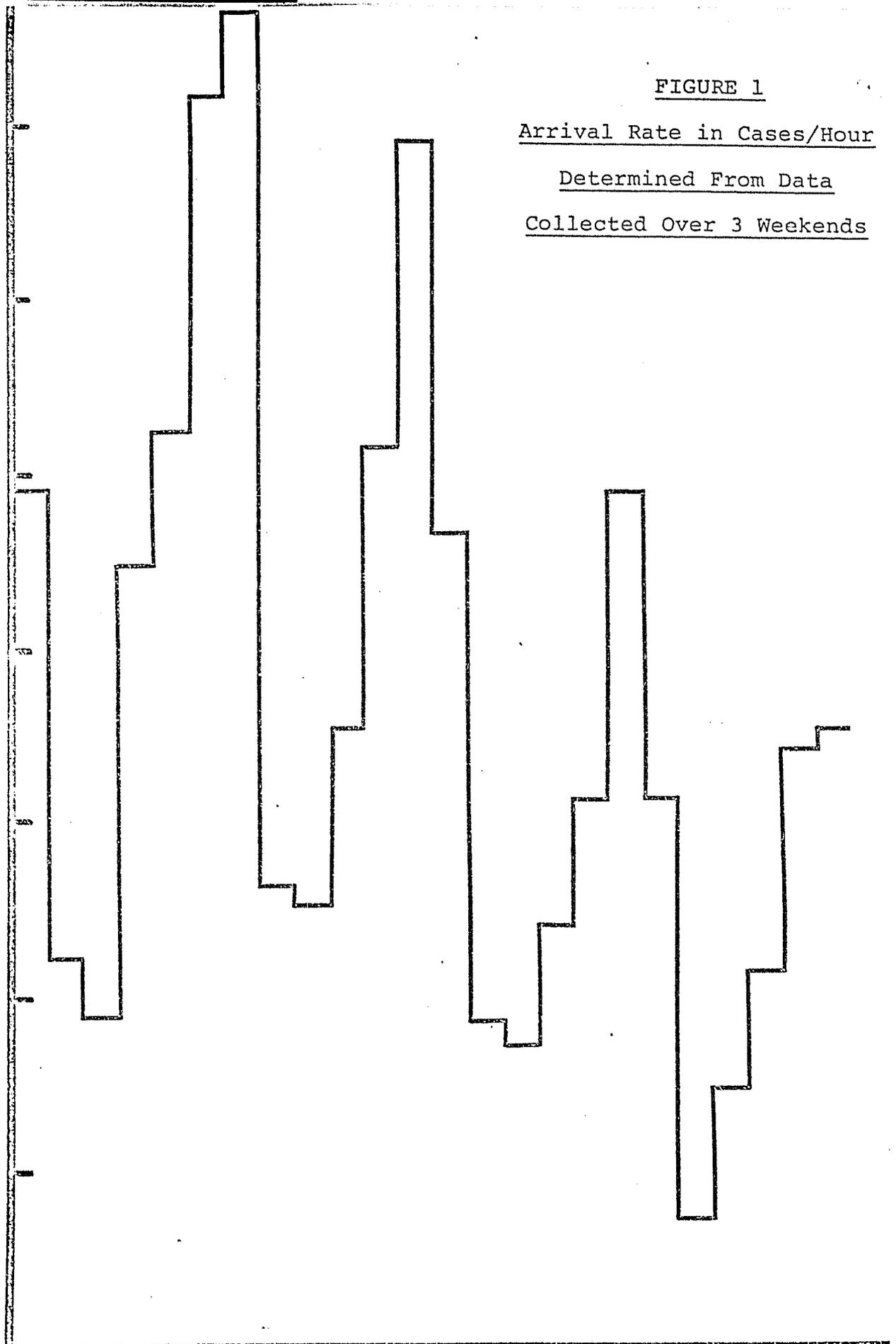
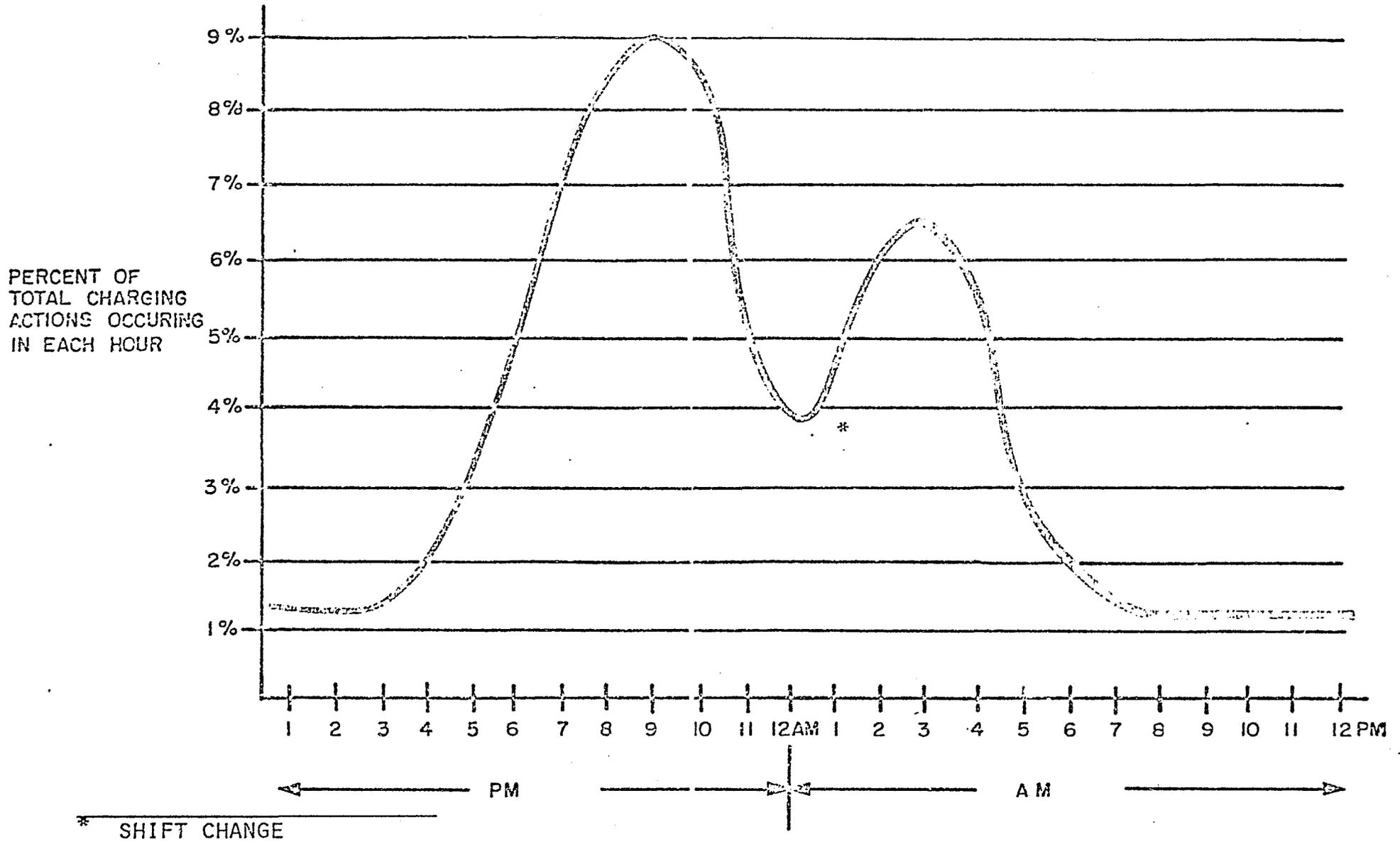


FIGURE 2

TIME OF CHARGING DECISION IN TYPICAL 24 HOUR DAY

(Based on 125 Hour Observation)



72.

FIGURE 3

TOTAL CASES PROCESSED; THREE TEST WEEKENDS IN 1974

	Weekend 1	Weekend 2	Weekend 3	Mean	Standard Deviation
Friday	114	105	93	104	8.6
Saturday	137	117	89	114	19.7
Sunday	66	83	77	75	7
Monday	59	42	76	59	13.9

73.

Service time data is only available in limited form. Screening, as it is done in this program, has not been done before so that no historical data could be used to estimate service time. The only data available is based on the test (Figure 4). One might expect that as experience is gained, service time would be reduced. On the other hand, if there should be a tendency to use less experienced personnel, particularly for the late night weekend busy hours, the service time could possibly increase. For the analysis, service time was assumed exponentially distributed with mean ranging about 10 minutes.

In the analysis to follow, 15 minutes is used as a basis for discussion. Ultimately, mean queue length and waiting time is plotted for various values of service time ranging up to 15 minutes. The assumption of an exponentially distributed service time is arbitrary. Based on the observations made thus far, there is reason to believe that service time tends to peak at some intermediate value, perhaps 8 - 10 minutes, and that the distribution is more nearly Gamma distributed or (perhaps) approximately normally distributed. The uncertainty points to the need for a more thorough test which will lead to reliable estimates of the distribution and its parameters.

2. ANALYSIS OF QUEUE LENGTHS AND WAITING TIME

The fluctuating arrival rate suggests that a time dependent solution to the problem is required. The probability of a specified queue length at any specified instant of time, given initial queue size and fixed departure and arrival rates, can be computed using queueing theory*. This technique can be used iteratively to determine the probability of a specified queue length given arrival and departure rates which take on different constant values in contiguous intervals. Thus, we might assume a constant arrival rate of 7.42 cases/hour on Friday night between 8 P.M. and 4 A.M., followed by a constant arrival rate of 2.62 on Saturday morning between 4 A.M. and 12 noon, etc. The formula is, however, too unwieldy for this purpose and in the analysis to follow, approximations and bounding arguments will be used to minimize the calculations required.

With an arrival rate of 7.42 cases/hour, and a simultaneous service rate (the inverse of the mean service time) of four per hour, the arrival to service rate ratio is $7.42/4$ is greater than one. Were such rates to continue ad infinitum, the queue would grow to indefinite lengths. It is reasonable, therefore, to suppose that when the arrival rate is large, both service channels will operate and both will be manned. It was, therefore, assumed that during such times, there will be two queues each independently manned and each having an arrival rate of $\lambda = 7.42/2 = 3.71$ cases/hour. For each queue,

the arrival to service ratio will be

$$\rho = \frac{3.71}{4} = 0.9275$$

If this arrival rate is in effect long enough, a steady probabilistic state is reached where the probability of having k people in the queue is the geometric distribution* as shown in equation (s):

$$P_k = (1-\rho)\rho^k, \quad k = 0, 1, \dots \quad (1)$$

This is a standard result applicable to a single server queue with exponential inter-arrival time and exponential service time. The mean of the number of people in the queue is

$$E(K) = \frac{\rho}{1-\rho} \quad (2)$$

and the variance of the number of people in the queue is

$$\text{Var}(K) = \frac{\rho}{(1-\rho)^2} \quad (3)$$

the mean time spent in the queue by a new arrival is

$$E(T) = \frac{1/\mu}{1-\rho} \quad (4)$$

where μ is the service rate.

Just prior to the period of heavy arrivals, the arrival rate is about five cases/hour for both channels, and if we assume again that both channels are manned, the rate in each channel is about 2.5 cases/hour. We argue that during the busy time, the probability distribution as calculated by equation (1) will be weighted toward the higher values of k as compared to the true time dependent probability distribution. Also, near the end of the busy period, the two distributions will be least different, and may even be sufficiently close to one another to be considered equal. Also, the mean queue length and the mean time on the queue will, at steady state, be greater than in the time dependent case because at the beginning of the busy interval, there is, on the average, a shorter queue than there would be if the rate of arrivals was equal to the busy rate for all time in the past.

* This is the most common kind of queueing system, known as an M/M/1 queue, and is described in Kleinrock, Queueing Systems, pp. 94-95, John Wiley & Sons, 1975.

FIGURE 4

OBSERVED TIME TO CARRY
OUT CHARGING PROCESS*
(Based on 22 Observations)

° SHORTEST TIME	5 MINUTES
° AVERAGE TIME	11 MINUTES
° LONGEST TIME	16 MINUTES

* Based on Demonstration System - Northwest
Detective Division, December, 1976

Thus, from (2) and (4), we can compute:

$$E(K) = \frac{0.9275}{1-0.9275} = 12.79$$

$$E(T) = \frac{.25}{1-0.9275} = 3.45 \text{ hours}$$

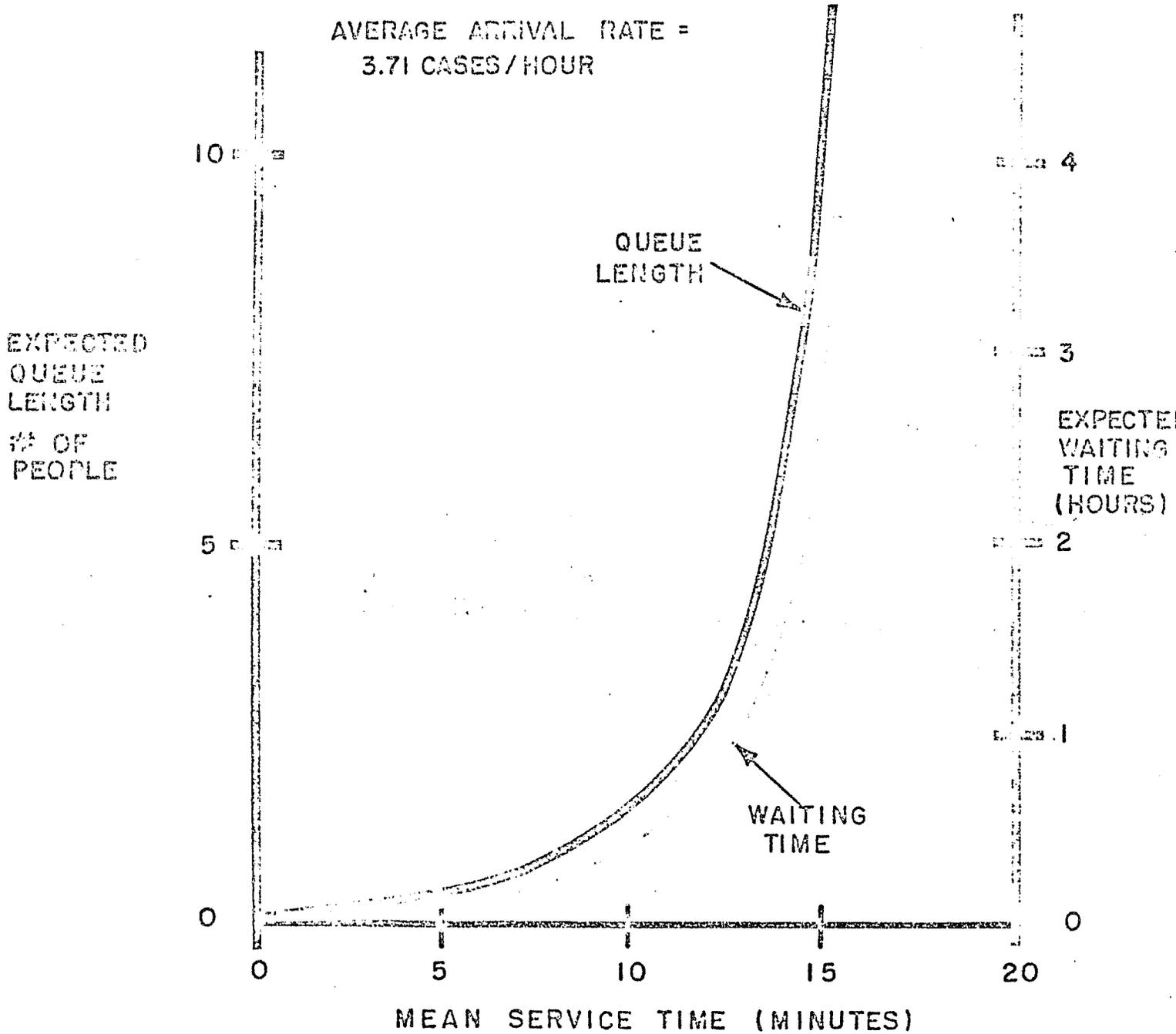
If the steady state were reached, the average queue length would be nearly 13 and the average time spent in the system would be 3.45 hours. By our argument above, the true averages will be no greater than these numbers and will be closest to these numbers at the end of the interval.

Without an evaluation of the time dependent equation, we cannot be precise about how close these numbers are to the true values. However, since an average of 30 cases will be arriving on each cable in the eight-hour interval (the number arriving is Poisson distributed with parameter λt where λ is arrival rate and t is the interval length over which arrivals are being counted) with standard deviation of about 5.5 arrivals, and since total service time standard deviation for 30 cases is 1.37 hours (total service time is Gamma distributed; the standard deviation is \sqrt{n}/μ where n is the number served and μ is the service rate) during which about five cases could have been served, the figure of 13 for queue length, which depends on the standard deviations of arrivals and total service time, doesn't seem unreasonable. We point out that though the interval following the busy interval will see only 1.31 cases arriving per hour on each cable, it will be advisable to continue with the two screening circuits operating in order to clear out the backlog. According to the results above, cases arriving near the close of the busy period will take, on the average, 3.45 hours to be cleared out, assuming separate queues on the two cables.

These results, based on a service time of 15 minutes, are probably too high to be considered satisfactory. If service time is, in fact, ultimately found to be around 15 minutes, it would suggest that a preliminary culling of minor cases is in order. On the other hand, if every case is to be reviewed, shorter service time will be required. The mean queue length and waiting time as a function of mean service time for the case, based on an arrival rate of 3.71 cases/hour, is shown in Figure 5. If, for instance, average service time is 12 minutes, the mean queue length is 2.88, and the mean waiting time is 0.775 hours, these numbers do not appear to be unreasonably high. We emphasize that busier times must be expected when arrival rates are greater than

FIGURE 5

EXPECTED VALUE OF QUEUE LENGTH & WAITING TIME AS A FUNCTION OF SERVICE TIME OF SCREENING & DIVERSION UNIT*



* SINGLE ADA ON DUTY PER CHANNEL

assumed here; during these times, greater reductions of mean service time will be necessary to avoid unreasonably long queues.

The records of the test of the screening procedure indicate that some detective lieutenants are concerned over the increasing load that this new procedure will put on them. Assuming that all detective divisions are equally loaded, the analysis above indicates that each station will have three to four cases waiting during the busy period (assuming 15-minute service time), and that waiting time will be more than three hours for each case. Furthermore, the arrival rate of cases is in the order of one per hour, and screening time is one-fourth of this. These numbers do suggest that police will have to increase the period of incarceration of detainees substantially and, if the detective lieutenant is to be involved in every screening case, 25 percent of his time would be occupied in this pursuit. However, if the screening process is reduced to 10 minutes, these deficiencies would be essentially eliminated.

3. QUEUEING PROCEDURE

If the screening procedure is to be carried out with all detective divisions, a queueing discipline will have to be devised. It has been suggested by Mr. Harry Zacher, Communication Engineer in the City's Public Property Department, that in peak load situations, the facsimile system be used to signal arrival of new cases. That is, when a new case arrives, a brief message is typed out giving the source and defendant identifier, and sent from the division's facsimile transmitter to the DA's screening unit. These would be collected in order of arrival and handled in that order by the DA's personnel. This scheme has a minor disadvantage in that the division's facsimile equipment is not close to the current location of the detective's videophone. The advantage to the method is that the facsimile printout notifying the DA of a case arrival is automatic; if the DA is occupied with a case at that moment, he will not be diverted. More convenient methods for signaling the arrival of a new case can be devised using the cable to transmit case arrival information and displaying this information at the DA's location. However, the method described using the facsimile requires no additions to the system and no expense.

4. SUMMARY

The results of the queueing analysis indicate that queue lengths and waiting time during the busiest periods - Friday, 8 P.M. through Saturday, 4 A.M., may become excessive if the average duration of a screening procedure takes an estimated 15 minutes. Waiting time, on the average, would exceed three hours, and three to four prisoners would be waiting at each division.

Reduction of the screening time to 12 minutes would reduce average waiting time to about three-quarters of an hour, and rarely would there be more than one prisoner waiting per division. Culling insignificant cases would be advisable if screening time is found to require the maximum of 15 minutes observed. Reducing the number of cases screened by a factor has the same effect on queue length as decreasing the service time by the same factor.

When all divisions are involved in the screening procedure, a queueing discipline will have to be devised. The use of the facsimile system for this purpose, though mildly inconvenient, is feasible and requires no additional hardware.

APPENDIX 3

EVALUATION OF TECHNOLOGICAL TRANSFERABILITY

1. CRITERIA FOR TRANSFERABILITY

In considering the question of possible transferability of both the concept and the technology of the Philadelphia network to other jurisdictions and agencies, some generalized criteria must be established. Among them are the following:

- System Flexibility -- The system considered for transfer should be flexible enough to meet a variety of operating conditions, some of which may be substantially dissimilar from those in Philadelphia. Flexibility also should permit system modification or expansion to meet changing future requirements, without a heavy financial penalty.
- Interconnection Capability -- The system should be capable of interconnection to other public telecommunications systems, such as law enforcement or criminal justice computer networks, emergency medical communications, 911 networks, mobile communications, etc.
- System and Data Security -- The system should be capable of providing a level of data security and channel privacy adequate to meet the sensitive nature of law enforcement/criminal justice applications.
- Cost-Effectiveness -- The system must be cost-effective, in terms of anticipated benefits being sufficient to justify the capital and operating costs.

Of the four criteria above, the last is the most difficult to evaluate. System costs can be predicted within reasonable confidence, but benefits may be more speculative, and less subject to accurate quantification. Consequently, a cost-effectiveness analysis must be prepared and evaluated with great care.

With respect to the first three criteria, the Philadelphia cable network, or any transferable version, appears adequate. Figure 1 illustrates the generalized cable network, using separate cables for outbound and inbound communications. Any facility along the cable path can be connected for two-way video/audio/data communications, with one or all other facilities.

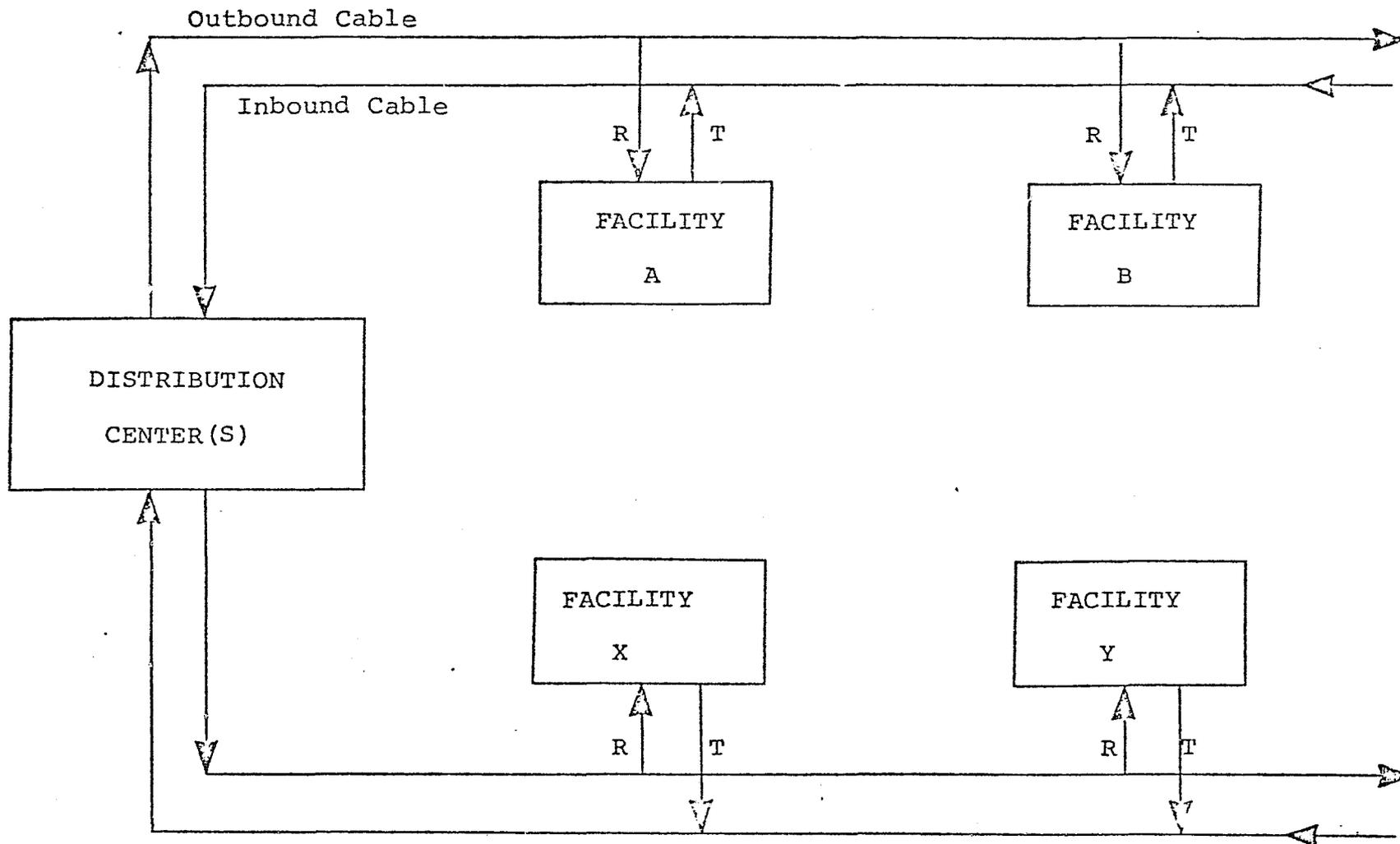


FIGURE 1

GENERALIZED BIDIRECTIONAL CABLE NETWORK

The system of Figure 1 is responsive to the first three transferability criteria above as follows:

- ° System flexibility is achieved primarily by the cable mode of communications. The broad bandwidth permits a wide choice of communications signals that can be carried and distributed simultaneously, without interference. Additional locations can be connected, if close enough to the cable route, by relatively simple splicing and bridging techniques. The cable can be expanded geographically, as desired, and additional spare cables can be provided for more channel capacity, either initially or at any time in the future. Expansion will not obsolete any existing portion of the system.
- ° Interconnection capability is easily achieved. Signals from other systems can be introduced at any cable entry point shown in Figure 3, although the most convenient normally would be the major distribution centers. The only additional equipment required would be modulator-demodulator terminals to convert the external signals to the frequency and format compatible with the cable system.
- ° System security can be provided at a number of levels, each progressively more secure and expensive.
 - A cable system which is installed underground offers more physical security than one constructed aurally, using utility poles, but also is substantially more costly.
 - Private channels can be assigned on the cable network, with only those recipients authorized to receive that information provided with appropriate converters. This security level can be breached by someone having, or making, an unauthorized converter.
 - Scrambled or coded signals can be utilized, with special decoders required for reception. This makes unauthorized tapping a much more difficult task.

In general, any level of security available for other telecommunications media can be utilized for cable. No technique, however, is completely secure, but the objective generally is achieved if the cost and difficulty involved in breaking security are greater than the value of the information obtained.

The determination of the fourth criterion, cost-effectiveness, cannot be made from a generalized concept as indicated in Figure 1, but must be approached on a specific, case-by-case basis. Cost/benefit analysis, therefore, is associated with the individual transferability examples described in the following sections.

2. Technology Alternatives

The Philadelphia system is essentially a coaxial cable network*, and in considering its transferability to other areas the relative advantages and disadvantages of cable vs. other telecommunications media should be weighed. A brief summary of the most practical media alternatives is therefore of interest.

(a) Coaxial Cable

It should be noted that cable does not present a new communications mode, or imply any technical "breakthrough". Closed-circuit cable systems, for both video and non-video use, have existed for many years.

The basic advantages of broadband coaxial cable as a communications medium (and those specially relevant to metropolitan communications) are the factors of lower cost and high capacity, rather than any unusual technological capability.

- ° A single coaxial cable, with commercially available components such as amplifiers, taps, etc., can carry 30-35 television signals** simultaneously. This translates into high capacity, if only one user utilized all channels or low cost, if 30-35 users utilize one channel each and share the costs proportionately.

*Two locations not yet connected, the 5th district and the Police Academy, may utilize microwave links since the expense of installing underground conduit and cable to these two facilities appears to be greater than that of microwave. The microwave links will limit the information distribution capability to essentially one video channel

**The capacity to carry a standard television signal is usually called a "channel". Any channel may be used for data, voice or other signals instead of television. Since these other signals usually require much less bandwidth, a channel may be divided into hundreds of data or voice "subchannels". For example, one TV channel can easily be subdivided into at least 500 voice-grade subchannels for data transmission, so that the 30 channel cable capacity is the equivalent of 15,000 separate data circuits.

- Two cables can be used as the equivalent of two one-way streets, providing 30-35 channel capacity in each direction. Any user, connected to both cables, can transmit and receive simultaneously, permitting completely interactive communications. (Bidirectional communications on a single cable is also possible, but technically more complicated and subject to greater signal interference.)
- No FCC licenses are required, since the air waves are not utilized. Thus, both frequency crowding and the delays associated with FCC licensing are avoided. Expanding the system can be accomplished at any time by installing additional cables.
- A large number of sending and receiving locations can be accommodated, if the cable path is so designed. Connection to the cable is relatively simple and inexpensive. (This is one advantage over microwave, which requires a transmitter and receiver at each location.)
- Both video and non-video communications such as data and facsimile transmission can be accommodated easily, with appropriate terminals.

In effect, the broadband cable network is a huge communications highway, providing capacity for the complete spectrum of communications services. Obviously, many of these services should involve some element of audio/visual communications to utilize most effectively the available bandwidth. This is true not only because of the large number of channels, but also because relatively little in the way of alternate facilities currently exists for interactive video transmission. Common-carrier circuits can be leased on special order, but such circuits are invariably costly, since the full expense is charged to one user.

(b) Microwave

If wireless telecommunications modes are considered, the available frequency bands range from the microwave region to even higher frequencies. Since the bandwidth of a single standard television signal is up to 6 MHz, it requires a carrier frequency high enough to transmit the information bandwidth, either in AM sideband or FM form. In practical terms, this means a carrier of at least several hundred MHz. Since the VHF-UHF regions are extremely crowded, with broadcast television and other uses, the microwave region must be utilized.

The relative advantages of microwave with respect to coaxial cable are:

- ° A point-to-point connection can be made for \$5,000-10,000 per channel per single direction (excluding the possible cost of towers and land acquisition). Since the path can be as long as 10-15 miles, this is substantially less than the cost of cabling, either aerial or underground.

For a small number of connection locations, therefore, microwave is less costly.

- ° Microwave signals do not degrade to the extent that cable signals do, because of attenuation losses in the cable and distortion introduced by the amplifiers which are needed to compensate for the attenuation.
- ° Once FCC permits are granted, and land and/or towers are available, a microwave network can be constructed and operational in much less time than a cable network (typically 3-6 months vs. 1-3 years for cable, in a metropolitan environment).

Offsetting these advantages, however, microwave has the following disadvantages:

- ° It requires FCC licenses, which are difficult and sometimes impossible to obtain in metropolitan areas. Sufficient bandwidth to transmit a number of video channels simultaneously would probably not be available in most cities.
- ° The cost advantage for few locations becomes a disadvantage for a system with many locations, each of which would require its own transmitter and receiver. In many locations, multiple transmitters and receivers would be necessary to communicate with several other facilities simultaneously.
- ° Adding new locations to the network is cumbersome, if those locations must also communicate with many other locations.
- ° The quality of microwave transmission is to some extent dependent on atmospheric conditions, and may be degraded, for example, during a heavy rainfall.

These characteristics generally make coaxial cable the preferred choice where the following conditions exist:

- Large number of locations
- Many channels of information
- Requirement for future expansion or modification

(c) Optical Cable

Within the last few years, the technology of communication through optical fibers has rapidly advanced from the laboratory stage to the point of now being introduced into demonstration or experimental systems. A demonstration system is now planned for Japan (other tests are being conducted in the U.S.).

Fiber optics promises the following advantages over coaxial cable:

- Greater bandwidth, or information handling capacity.
- Smaller size. A coaxial cable may require a 3/4-inch or 1-inch diameter to carry 35 TV channels for 5-10 miles with acceptable attenuation. A 1/4-inch diameter optical cable can provide greater capacity and transmit the signal longer distances without severe degradation. The smaller size carries another potential advantage, in the possibility of stringing the small optical cable through existing conduit that already contains other cables. This is usually not possible for the larger coaxial cable.
- Lower cost, after substantial production of optical fiber cable begins.
- Elimination of radio interference, either outward from the optical cable or inward to the cable from external sources.

At present, the production of suitable optical fiber cable and the associated modulators, couplers, repeater amplifiers, etc., has not yet reached the point where such items are available as standard, off-the-shelf equipment. The 1980 time frame is forecast for such availability.

The conclusion for optical fiber cable communications, therefore, is that it represents a potential improvement over coaxial cable, particularly for longer cable runs between locations. Any system designed for installation in 1980 or later should consider this mode of communications very seriously.

Any cost-benefit analysis performed for coaxial cable may well be more favorable when optical cable is available as a standard manufactured item.

Finally, there is no reason why hybrid combinations of the above alternatives may not be considered. As in the Philadelphia case, microwave links may be used where cable is too costly or unfeasible (e.g., across a river). Optical cable and conventional coaxial cable may also be combined in the same system to take advantage of each medium's special features.

3. Transferability to Other Metropolitan Areas

As examples of possible transferability of the Philadelphia concept to other locations, four specific examples have been chosen:

- ° New Orleans, Louisiana
- ° Nashville and Davidson County, Tennessee
(combined Metropolitan government including City and County)
- ° Portland, Oregon
- ° Detroit, Michigan

Figures 2-5 illustrate the geographic location of the major law enforcement and criminal justice facilities in each selected area, and a possible cable network linking them together.

It will be assumed that a coaxial cable network is constructed in each area as a fully-underground system, with two activated cables (one in each direction) and two "shadow" (unactivated) cables for use as spares or later system expansion. It is also assumed that no existing conduit can be used, and new conduit must be installed.

The all-underground design increases capital costs substantially, but it is believed necessary to achieve at least minimal security for a system carrying extremely sensitive information.

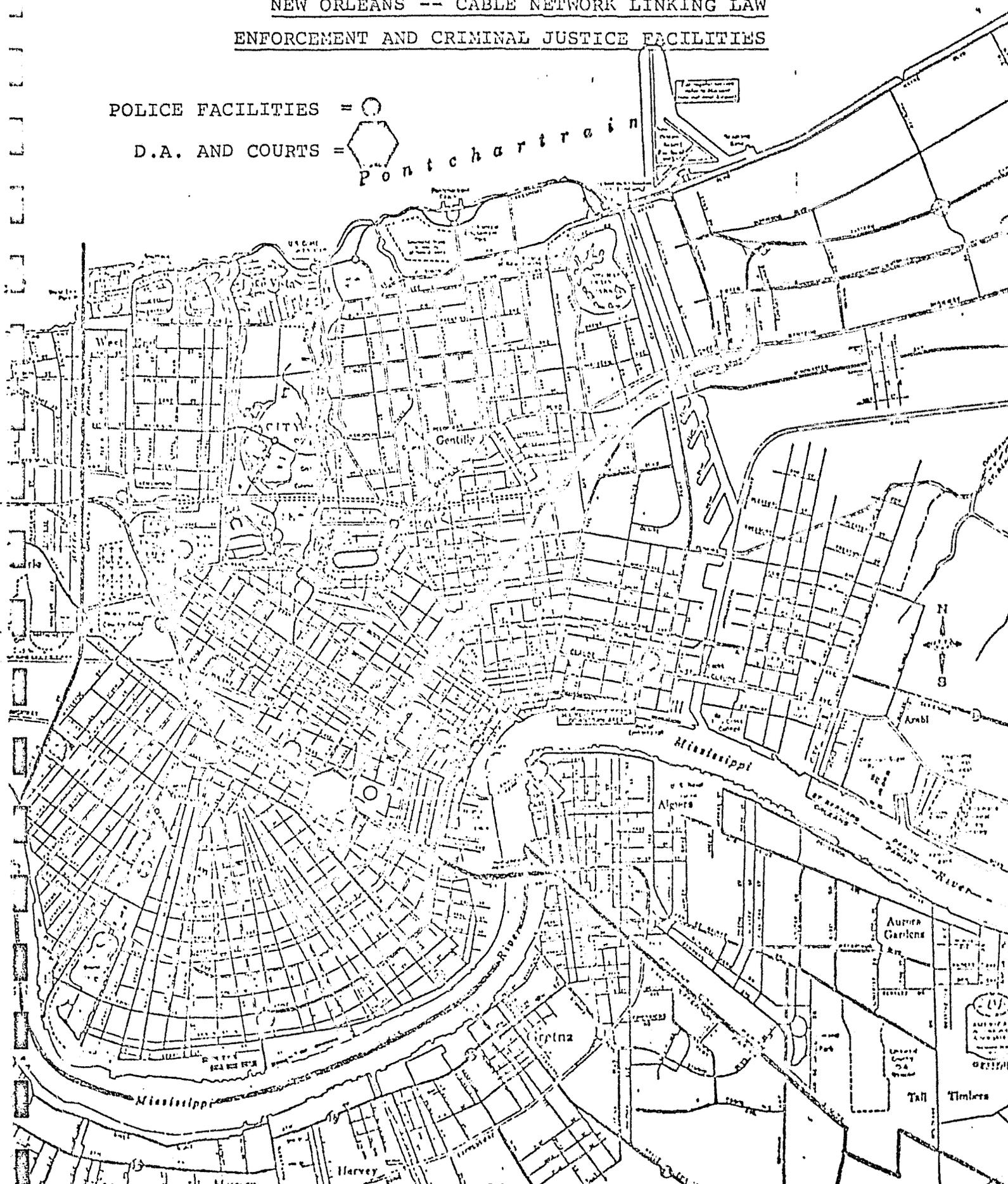
FIGURE 2

NEW ORLEANS -- CABLE NETWORK LINKING LAW ENFORCEMENT AND CRIMINAL JUSTICE FACILITIES

POLICE FACILITIES = ○

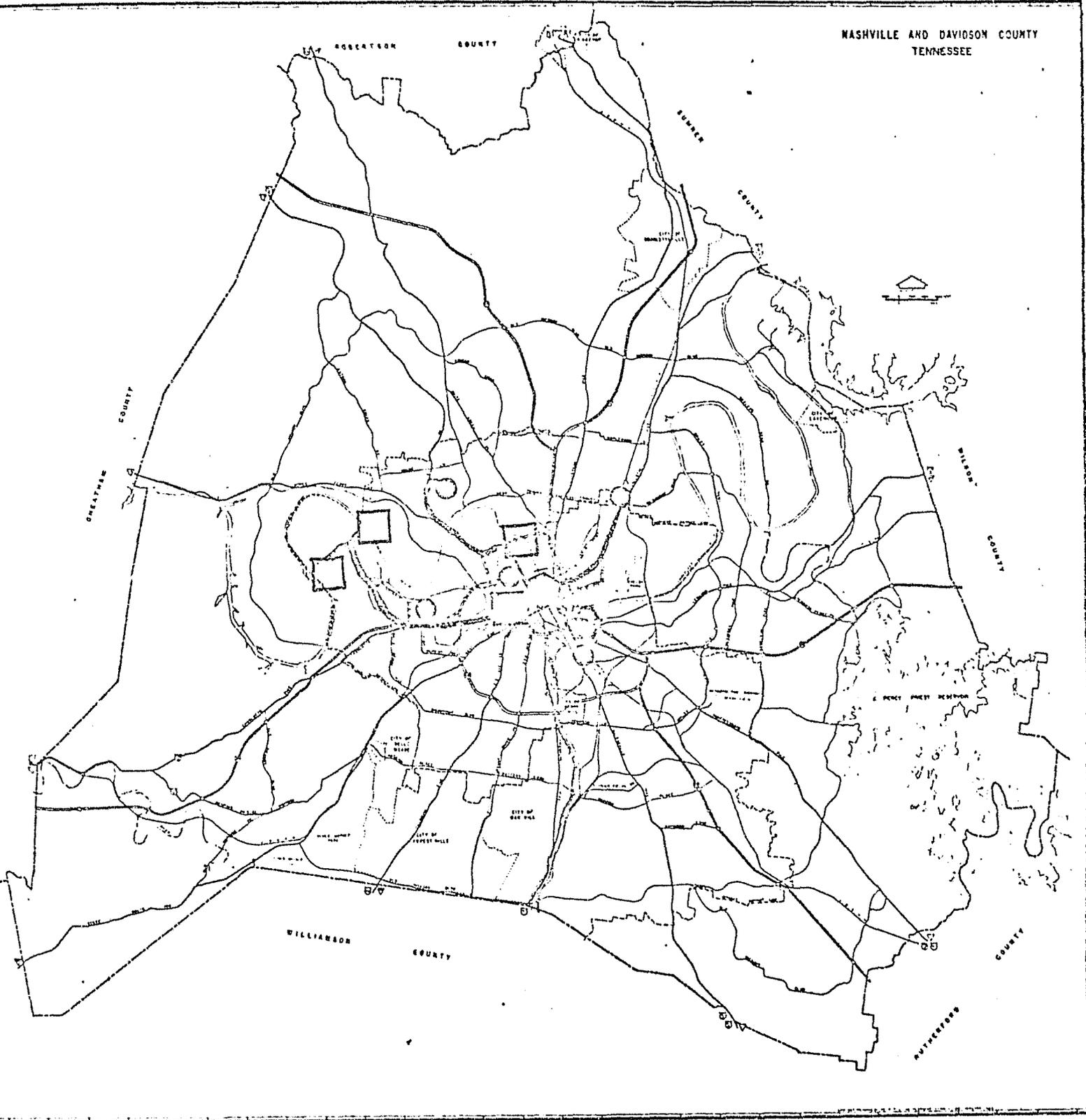
D.A. AND COURTS = ◡

Pontchartrain



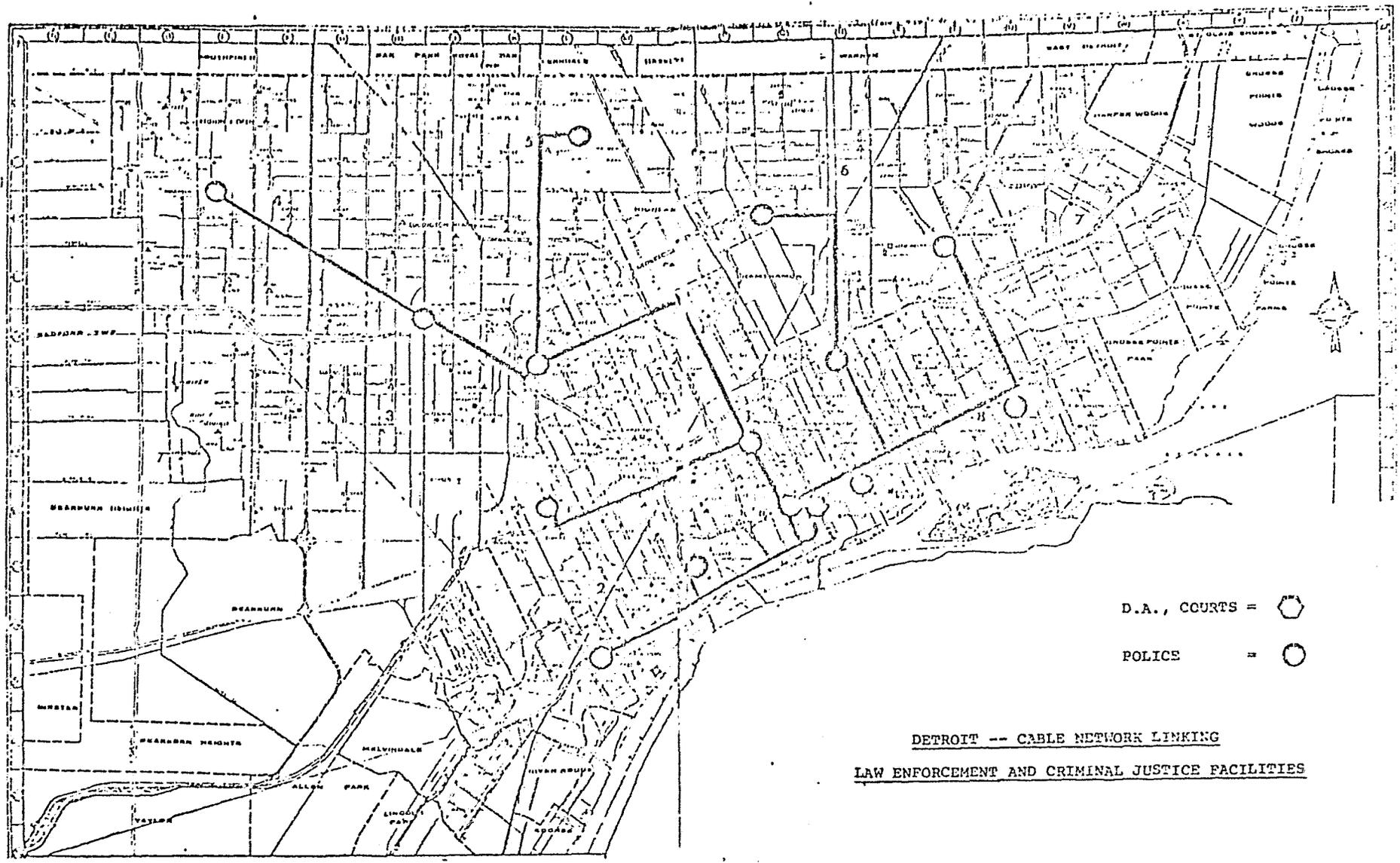
CONTINUED

1 OF 2



- D.A., COURTS = 
- COURTS = 
- SHERIFF = 
- PRISONS/JAILS = 
- POLICE FACILITIES = 

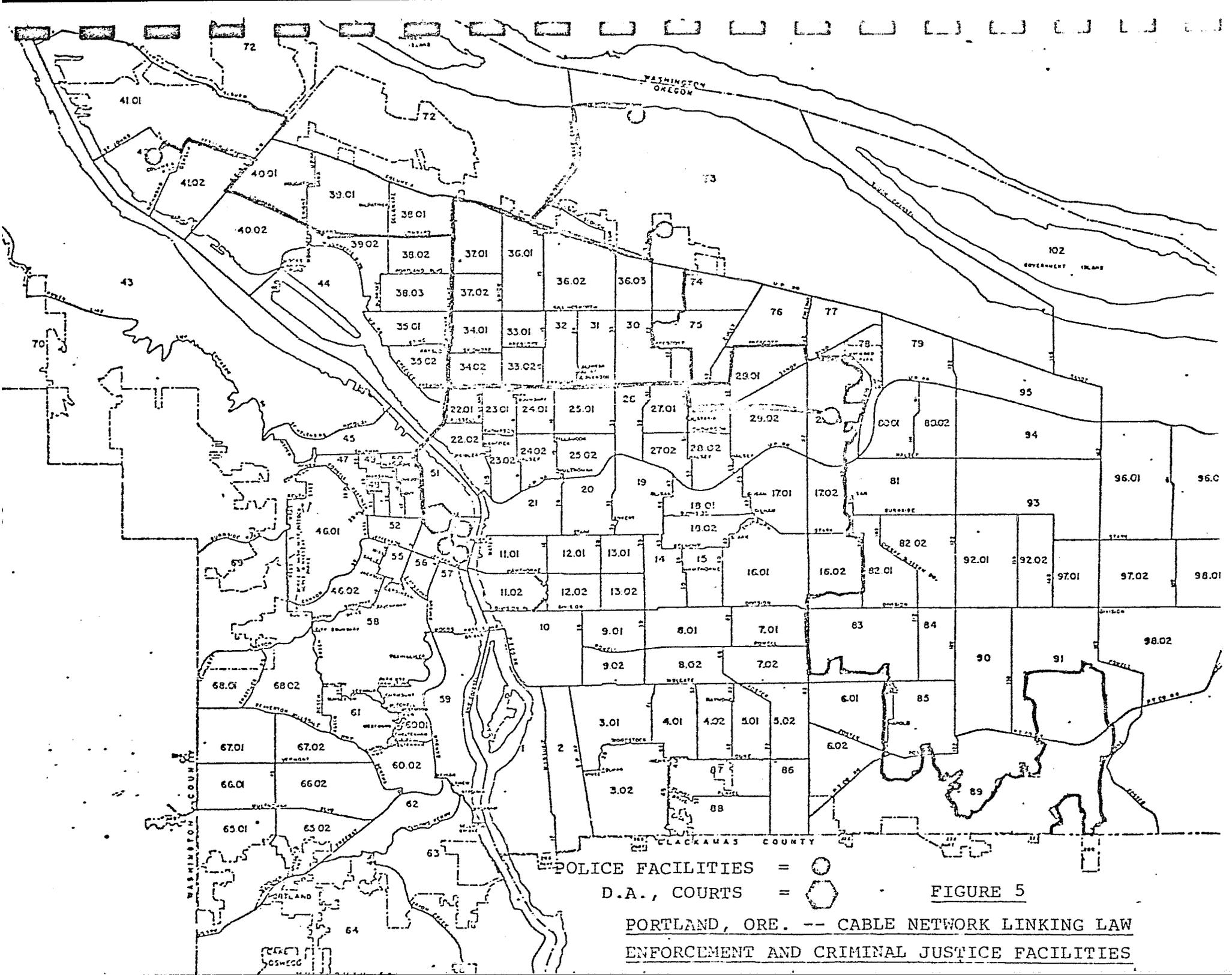
FIGURE 3
NASHVILLE AND DAVIDSON COUNTY --
CABLE NETWORK LINKING LAW ENFORCEMENT
AND CRIMINAL JUSTICE FACILITIES



DETROIT -- CABLE NETWORK LINKING
LAW ENFORCEMENT AND CRIMINAL JUSTICE FACILITIES

FIGURE 4

91.



POLICE FACILITIES = ○
 D.A., COURTS = ⬡

FIGURE 5

PORTLAND, ORE. -- CABLE NETWORK LINKING LAW
 ENFORCEMENT AND CRIMINAL JUSTICE FACILITIES

Figure 6 tabulates the estimated capital costs for systems in each of the four areas. Cable per-mile costs have been taken from past studies, and indicate the relative difficulty in installing conduit and cable both in the inner city, downtown areas and the outer, less dense suburbs.

Terminal equipment has been estimated on the following basis:

- ° Four sets of black-and-white videophone and video tape recorder equipment, and two sets of facsimile and data terminals for each major location, such as D.A. offices, Police Headquarters and Courts.
- ° Two sets of black-and-white videophone and video tape recorder equipment, and one set of facsimile and data terminals for all other locations.

One set of terminal equipment is estimated to cost \$20,000, assuming purchase of all items rather than rental.

The annualized capital cost was calculated using a 10-year depreciation cycle, with interest on funds at 10% per year.

From Figure 6, some generalized conclusions may be drawn:

- ° For cities and/or metropolitan areas with populations in the 400,000-600,000 range, the initial capital costs for a law enforcement/criminal justice coaxial cable communications network will be in the \$1,000,000-\$2,000,000 range. Total annual costs, including both capital and operating expenses, will be in the range of \$800,000-1,000,000 per year.
- ° For larger metropolitan areas, such as New York, Los Angeles, Chicago, etc., using Detroit as an example, the initial capital costs may be in the \$3,000,000-6,000,000 range. Total annual costs may range between \$1,500,000 and \$3,000,000.

No insuperable technological barrier exists to installing a system in any of the above cities, but some technical problems exist. In Detroit, for example, the 36-mile cable system will require careful design to reduce attenuation losses and signal degradation. Special techniques, such as low-frequency transportation along multiple cables, or FM modulation, may be necessary to keep the signal-to-noise ratio at acceptable levels. In this case, at least, optical fibers may, in time, prove to be the ideal solution.

The first part of the report deals with the general situation of the country and the position of the various groups. It is followed by a detailed account of the events of the past few days, and a description of the current state of affairs. The report concludes with some observations on the future prospects of the country.

In the course of the investigation, it was found that the situation in the country is very serious. The government is unable to maintain order, and the people are suffering from the effects of the civil war. It is hoped that the situation will improve in the future.

1. The situation in the country is very serious. The government is unable to maintain order, and the people are suffering from the effects of the civil war. It is hoped that the situation will improve in the future.

called to give evidence, the amount of over-time pay and travel costs needed could be reduced in a major way. As an approximation, for example, if 50% of the total testimony given by police officers could be given by video link, and if each such video testimony occurrence required 1 hour of the officer's time as compared to 4 hours if the officer had to be present in court, almost 40% of the total overtime and travel costs could be saved.

- More rapid and convenient attorney-client conferences (e.g., between the Public Defender's office and a prisoner at the jail). Two-way video links used for this purpose would, of course, require privacy and security features to insure confidentiality of communications.
- Traffic and Area Surveillance via closed-circuit TV is a service uniquely compatible with cable. High density traffic areas can be monitored by video cameras mounted at strategic locations to indicate traffic jams, accidents, etc. This information can be used to deploy traffic police more efficiently, or even to vary the duty cycle of traffic lights at the points of greatest congestion. The same type of TV surveillance is possible for high-crime rate street areas (although this poses serious privacy questions), and has been utilized in some cities.
- The cable also can assist in police dispatch operations. It cannot substitute for mobile communications but it can supplement these by providing distribution paths from base radio stations to any other dispatch location desired. Using the cable for such a function can replace leased-common-carrier lines, if used, or reduce the number of radio relays required.

The problem of frequency crowding, for example, makes it difficult for many mobile units to operate in the same geographical area. Experiments are under way to reduce the transmitting power of mobile units, and to communicate only to a base station within a cellular area, which in turn would connect to a cable system that would carry the message the rest of the way.

The use of cable for such dispatch operations offers an additional long-range benefit. When a metropolitan-area "911" system is implemented, the cable has the capacity to serve and integrate all emergency communications, whether a single centralized response facility or several facilities are contemplated.

- ° More convenient record transfer among law enforcement and criminal justice agencies, and also more convenient access to central data files. This could be extended to state and federal agencies also via interconnection links.

It is not necessary that a cable system initially be designed to implement all of these services, since many of them will require testing and will evolve gradually. It is important, however, that all of them be considered in the system design and cost justification phases. Obviously, the more services that can be accommodated at an early time, the greater will be the economic benefits to all participants.

Finally, if all of the services contemplated by the law enforcement and criminal justice agencies in a given metropolitan area cannot utilize the full capacity of a cable network, other participants may be considered to share costs. In the public sector, these include fire departments, health care facilities, schools, etc. As a general statement, the added cost to extend the cable network to include these facilities will be justified by the additional cost-sharing capability.

5. Conclusions

The foregoing technology transferability evaluation leads to the following conclusions:

- ° There is no major technological barrier to the installation or use of a cable network similar to that of Philadelphia in other metropolitan areas.
- ° The technology of optical fibers may provide a more cost effective medium, particularly for long, unbroken cable paths, starting around 1980.

- ° As rule-of-thumb guides, the following costs appear reasonable for a conventional coaxial cable network:

<u>Area Population</u>	<u>Total Annual Costs (Incl. Cap. & Operating)</u>
400,000-600,000	\$800,000-1,000,000
1,000,000 and over	\$3,000,000-6,000,000

- ° The use of the cable-system for a function such as District Attorney screening and diversion appears cost-effective, if only the costs associated with the cable capacity needed for that specific function are considered.
- ° To justify the costs of a complete cable network, other users and applications are necessary. The greater the number of users, in general, the greater will be the cost-effectiveness.

APPENDIX 4

SCREENING & DIVERSION INFORMATION SYSTEM (SDIS)

The Screening and Diversion Interactive System (SDIS) consists of CRTs connected to the court computer system,* a data base which will reside in the court computer system, and a set of interactive programs which reside at the court system. The hardware configuration of the SDIS system is shown in Figure 1. The data base is updated by adding new cases to the file interactively. Data can be transferred to the District Attorney's Management Information System (DAMIS) or purged on command. The data base is accessed on-line via CRTs placed at the Screening and Diversion section, and at the Preliminary Arraignment Court using the interactive programs.

The system is interactive in that the data entry can be input on-line to the system by an ADA while talking with detectives. The system has the built-in capability of capturing input errors while entering data.

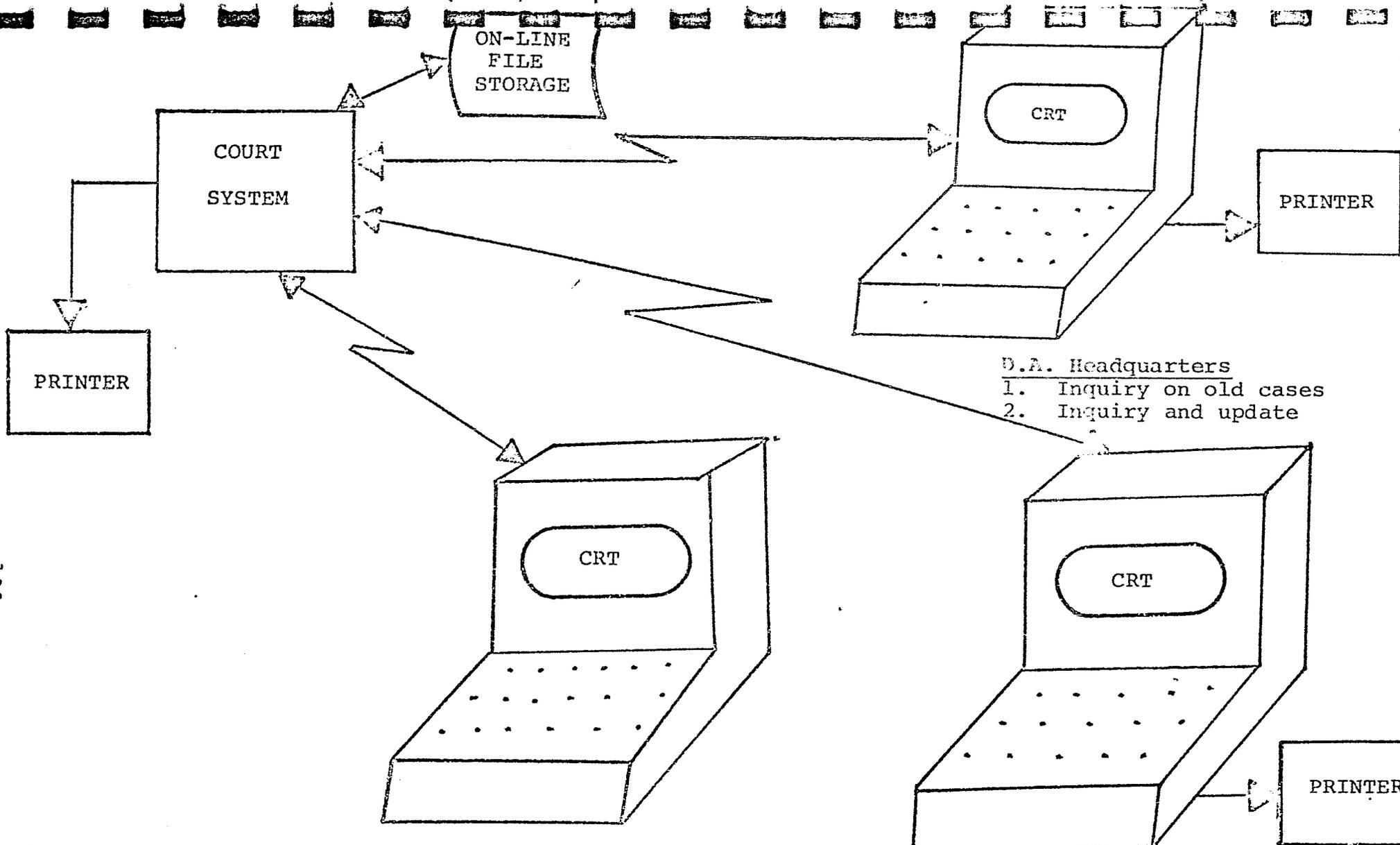
The following processing tasks can be done interactively:

1. Add a new case history interactively. (ADA enters data while talking with defendant and detectives via CCTV.)
2. Inquire for information on a specific case and update any fields (during preliminary arraignment time or when more information is available on a hold case)
3. Inquire only (during preliminary arraignment time or some other time)

A general overview of this processing approach is shown in Figure 2. A manual back-up procedure is also available. An example of the data input format of the SDIS system is shown in Figure 3.

Complete operation instructions for the SDIS system are described in a separate document.

* An IBM 370/150



D.A. Headquarters
 1. Inquiry on old cases
 2. Inquiry and update

Screening & Diversion Section

- Functions:
1. Adding new case
 2. Inquiry on old case
 3. Inquiry & update on old case.

Preliminary Arraignment

- Functions:
1. Inquiry on old case
 2. Inquiry & update

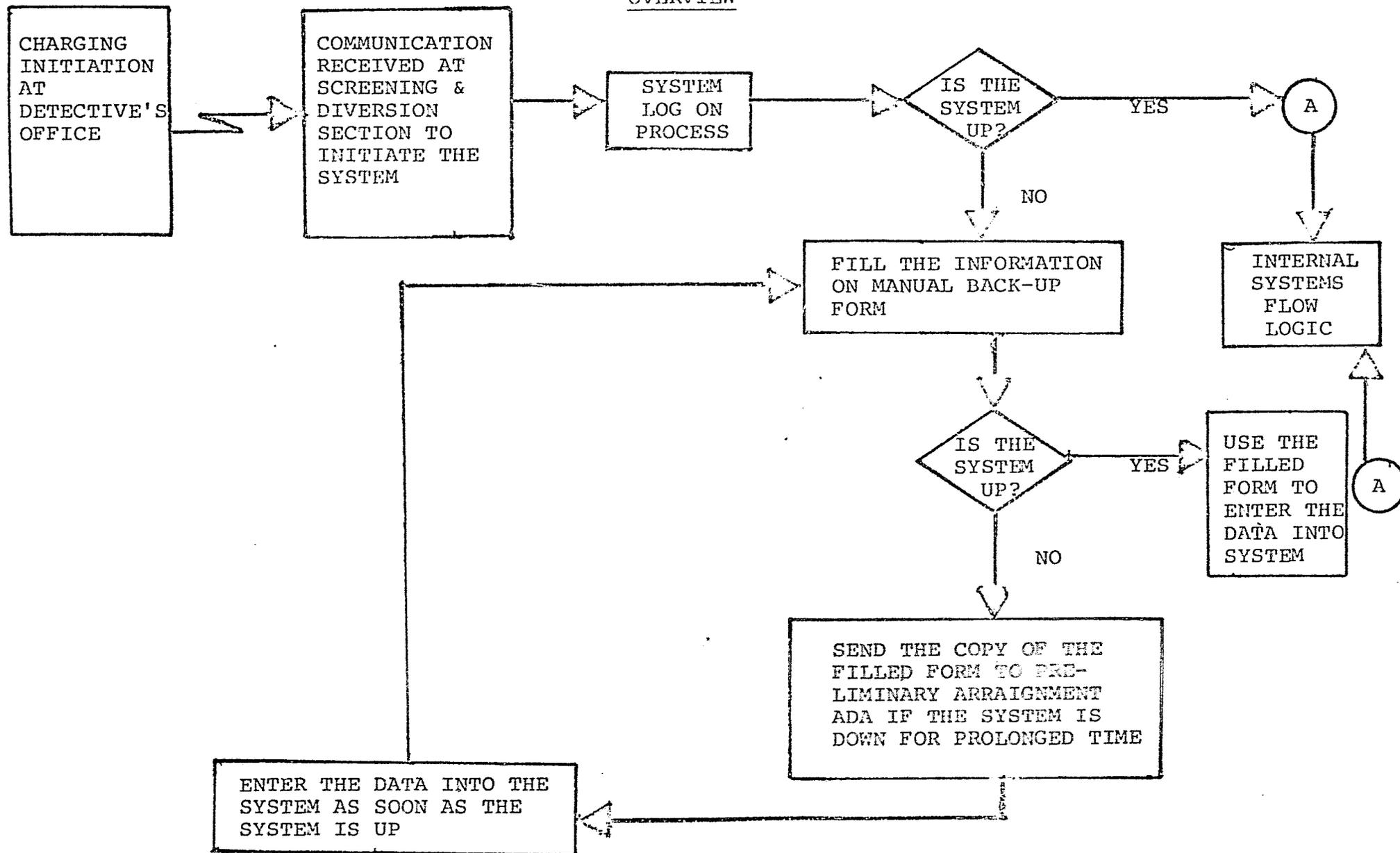
FIGURE 1

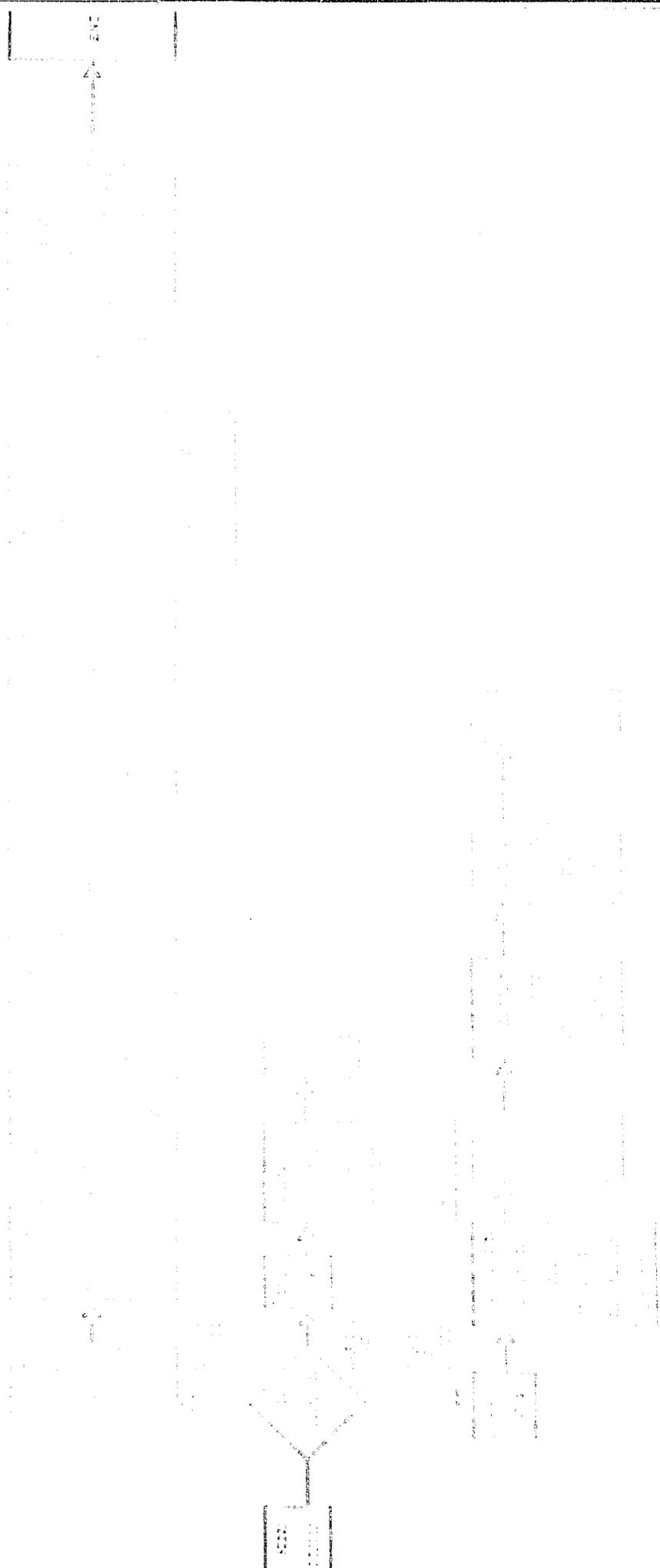
100.

FIGURE 2

SCREENING & DIVERSION SYSTEM

OVERVIEW





1944

1944

1944

1944

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1944

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1944

1944

APPENDIX 5

PLAN FOR
EXPERIMENTAL USE OF CCTV SYSTEM FOR EARLY CASE EVALUATION

PROJECT OFFICER:

Donald F. Blumberg
Office of the District Attorney
Special Phone: Office: 887-1970
Home: 646-7515
Car: L09-4255

POLICE DEPARTMENT COORDINATING OFFICER:

Chief Inspector Herron: MU6-3138

DISTRICT ATTORNEY COORDINATING OFFICER:

Asst. District Attorney, Michael Byrne: MU6-8165

SPECIAL CONTACT FOR ADMINISTRATIVE PROBLEMS:

Ed Flood, DA Administrative Office: MU6-8040

SPECIAL CONTACT FOR COMMUNICATIONS PROBLEMS:

SPECIAL CONTACT FOR COMPUTER SYSTEMS PROBLEMS:

K. Muthuswamy: 887-1970

Nature of Experiment

From December 15, 1976 through December 19, 1976, the Police Department and the District Attorney's Office will conduct an experiment to evaluate the potential of the CCTV system to provide legal advice and communicate charging decisions from a centralized location to the Detective Divisions.

The participants will be the Screening and Diversion Unit of the District Attorney's Office, Northwest Detective Division and the 35th Precinct of the Police Department.

The experiment will take place for eighteen (18) hours daily, beginning at 9 a.m. and concluding at 3 a.m. of the following day. Two days during the week of December 6, 1976 will be utilized to identify serious problems and the actual experiment will take place on five (5) successive days including one weekend.

Purpose

The purpose of this experiment is to determine whether close cooperation between the Police Department and the District Attorney's Office with regular flexible charging policies can result in increased efficiency to both agencies, and whether, if this is the case, a centralized District Attorney counseling post will be able to perform this function in cooperation with Police Districts and Detective Divisions throughout Philadelphia.

Severe difficulties have been experienced in processing charges which are now regularly scheduled for City Hall courtrooms, within the time periods prescribed by the speedy trial rules. This has resulted in the declination of charges, which could be prosecuted.

Arrests, which may warrant prosecution, and which are now declined, need not be declined if prosecution could be accomplished in a more efficient manner. Trial of arrests in a summary form may result in the imposition of a fine if not processed in City Hall. Summary trial in the districts results in convenience to complainants, witnesses, and other interested parties. Likewise, some potential felony cases may receive an adequate prosecutorial result through a misdemeanor trial, thereby freeing up the felony courts for the trial of more serious felony cases.

PROCEDURES TO BE FOLLOWED

1. All suspects arrested in the 35th District or investigated by Northwest Detective Division will be processed according to established Police procedures. In those cases where police personnel ordinarily impose summary charges, no contact need be made to the District Attorney. Contact may be made if desired.
2. In those cases where the possible charges include misdemeanor or felony offenses, all information necessary to prepare the Policy Forms 75-49 and 75-50 or 50C will be assembled by the assigned investigator. This is to include necessary record checks. The investigator will then determine what charges would ordinarily be imposed by the Police Department and record them on the form No. 100 provided. This record will be made only during the course of this experiment.
3. In all cases except summary offenses, the substance of the investigation will then be immediately communicated to the Assistant District Attorney/Screening and Diversion Unit on duty at the PAB utilizing the CCTV system. This will be done for all situations (uniformed/35th District and Detective/Northwest) through the CCTV unit located in the office of the Detective Lt., located in the Northwest Detective Division offices, 2nd floor, Broad and Champlact.
4. The Assistant District Attorney will enter the necessary information into the computer terminal available according to the procedures established, and will either decline prosecution or will authorize the imposition of specific charges.
5. The Northwest Detective Division or 35th District will then prepare all arrest reports necessary according to established police procedures, but utilizing only the charges authorized by the Assistant District Attorney. A record of the charges authorized will also be entered on the form provided (No. 100).
6. Defendant will thereafter be arraigned at the earliest possible opportunity utilizing the CCTV system. A notation will be entered on the form provided. A copy of the form will be sent to the Screening and Diversion Unit of the District Attorney's Office with the case file (form 75-49,50) if a detective arrest, or with the arrest file (form 48) if a 35th District arrest, via the present arraignment procedures flow, one copy will be retained at the Northwest Detective Division or the 35th District. The Screening and Diversion Unit will then send copies of the form to Chief Inspector Herron and Mr. Blumberg's offices.

PROCEDURES TO BE FOLLOWED (continued)

7. At the end of each shift during the experiment, the Supervisor commanding (Northwest Detectives and 35th District) and the senior ADA (Screening and Diversion Unit) will fill out an evaluation form (No. 101) and forward one copy to Chief Inspector Herron and Mr. Blumberg's offices.

NOTE

THIS IS A SPECIAL REPORT - DO NOT DESTROY

Forward to the District Attorney's Office - Screening and
Diversion Unit, Attn: M. Byrne

CCTV EXPERIMENTAL SCREENING & DIVERSION REPORT
(FORM 100)

SECTION I: ARREST SITUATION:

D.C.# _____

LOG# _____

ARREST DATE _____

ARREST
TIME _____

CHARGING
TIME _____

SECTION II: POLICE PROPOSED CHARGES:

CHARGING OFFICER/DETECTIVE: _____

SECTION III: DA AUTHORIZED CHARGES:

SDU DA _____

SECTION IV: ARRAIGNMENT:

DATE _____ TIME _____

SPECIAL DISPOSITION (if any) _____

SECTION V: COMMENTS:

BY _____

INSTRUCTIONS: 35th District/Northwest Detectives fill out Sections I & II,
then call ADA/SDU. Section III then filled out and copy
retained. Section V may be filled out as required to amplify
situation or add special notation. Section IV filled out at
time of arraignment.

CCTV ADVANCED SYSTEM

EVALUATION REPORT

Form 101

SECTION I: REPORTING UNIT

REPORTING UNIT: NORTHWEST DETECTIVES _____ 35th POLICE DISTRICT _____
(check one)

DA/SDU _____

DATE _____ SHIFT TIME _____ (hour to hour)

SUPERVISOR REPORTING: _____
Name

SECTION II: CCTV SYSTEM PERFORMANCE

1. Did system operate? Perfectly _____
(System includes CCTV Units Good (some problems) _____
communications & operating Poorly _____
procedures)

2. If not perfectly, what problems were observed?

3. What improvements should be made?

SECTION III: EFFECTS ON OPERATIONAL PERFORMANCE

Does system improve or detract from operational performance of your unit, and why?

<u>AREA OF OPERATION</u>	<u>DOES SYSTEM</u>		<u>WHY? COMMENT</u>
	<u>IMPROVE?</u>	<u>DETRACT?</u>	
Use of personnel time			
Processing of defendants			
Paper work processing & flow			
Other (state)			

SECTION IV: COMMENT ON VALUE OF SYSTEM

SPECIAL EVALUATION REPORT

DISTRICT ATTORNEY'S OFFICE

2300 CENTRE SQUARE WEST
PHILADELPHIA, PENNSYLVANIA 19102F. EMMETT FITZPATRICK
DISTRICT ATTORNEY

February 16, 1977

Mr. Donald F. Blumberg
Special Consultant to the
District Attorney
City of Philadelphia
Philadelphia, Pennsylvania 19102

Dear Don:

It appears that the CCTV System will be of great benefit to this Office in providing us with an instrument by which early evaluations of criminal cases can be made. An initial review of the paperwork generated during the pilot phase of this project revealed that the Police Department and the District Attorney's Office agree on the nature and grading of the charges in the majority of arrests. However, in a significant number of instances the Assistant District Attorney assigned to the project either reduced or expanded the charges based upon the facts as presented to him. Certainly, one of the major beneficial incidents of this program is the opportunity given to the Assistant District Attorney to speak to victims and witnesses shortly following the investigation by the detectives. Furthermore, this is done at a time when we can best determine their credibility, intelligence, recollection, and usefulness for purposes of prosecution with a maximum saving of manhours and a minimum of inconvenience to all parties concerned.

I am especially pleased that the system affords us the opportunity of having the initial reactions and thoughts of the Assistant District Attorney screening the case available in printout form to those persons who will later have the responsibility preparing the case for trial. Such information will be of great advantage to the prosecuting attorney and may in many instances lead to a more thorough and expeditious preparation for trial.

I see other benefits from the CCTV Early Case Screening Program. Given the opportunity to properly assess the nature of the offense and determine its grading, there will be fewer over charged cases appearing as felony matters at the preliminary hearings. Thus, matters which are in the nature of mis-

Mr. Donald F. Blumberg
Special Consultant

February 16, 1977

demeanor will be quickly and properly routed to Municipal Court for trial at the first instance. In other cases we might find that charges should be upgraded to the felony level and the case will be properly disposed of at the preliminary hearing and subsequently in Common Pleas Court.

Some attention should also be given to the fact that the District Attorney's Office will have an opportunity to recommend to the Police Department that further investigation would be necessary if the Commonwealth is to make out a proper case against the defendant or co-defendants. In this regard, I understand that the Police Department has been concerned that the District Attorney's suggestions might in effect constitute orders to the detectives to engage in further investigation. Such a situation, they believe, would lead to a deterioration of the chain of command within the Police Department. However, I do not believe that the apprehensions of the Police Department are well founded. I explained to Inspector Spiewak that this Office would offer recommendations only but would not issue directives or orders to the Police compelling them to engage in further investigation.

In reviewing the paperwork, it appears that the average time spent to review a given case over the CCTV System was excessive - about 10 to 15 minutes. Much of this delay can be attributed to the fact that the participants were not fully acclimated to this communications medium. Also, there were numerous, small technical problems which caused delay in the processing. There is, however, no question that the presence of a Police Lieutenant is not required. Detectives are quite capable of relaying their information and investigative material to the assigned Assistant District Attorney without the assistance of the Police Lieutenant. Unquestionably, some time was consumed while awaiting the presence of the supervisor before beginning to screen and evaluate a given arrest. Such a requirement imposed upon the Lieutenants in the Districts will result in a waste of their time and render them available for other administrative duties. At this point, I would urge that a study be made to determine how quickly this system might be put into effect throughout the City.

Mr. Donald F. Blumberg
Special Consultant

February 16, 1977

Given the staff of senior attorneys to review cases and advise the Police, CCTV can become a valuable tool in the prosecution of cases while at the same time lessening the burdens upon the Criminal Justice System and result in savings to the taxpaying citizens of the City of Philadelphia.

Very truly yours,

Barry K. Robinson
Deputy District Attorney
Pre-Trial Division

cc: F. Emmett Fitzpatrick
John W. Morris

END

7-11-1950